





KING COUNTY

2020

Strategic Climate Action Plan



Acknowledgments

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Frequently Used Abbreviations and Acronyms

For a complete list of defined key terms used throughout the SCAP, please refer to Appendix I: Glossary of Key Terms.

BIPOC	Black, Indigenous, and People of Color
CECTF	Climate Equity Community Task Force
COVID-19	coronavirus disease of 2019
CWHH	Clean Water Healthy Habitat
DCHS	Department of Community and Human Services
DES	Department of Executive Services
DHR	Department of Human Resources
DLS	Department of Local Services
DNRP	Department of Natural Resources and Parks
ESJ	equity and social justice
FMD	Facilities Management Division
Fleet Services	Fleet Services Division
GHG	greenhouse gas
HEAL	Healthy Eating Active Living Unit
K4C	King County-Cities Climate Collaboration
KCEO	King County Executive Office
KCIT	King County Information Technology
LCI	Land Conservation Initiative
LFI	Local Food Initiative
Metro	King County Metro Transit
MTCO2e	metric tons of carbon dioxide equivalent
OEM	Office of Emergency Management
OESJ	Office of Equity and Social Justice
OPSB	Office of Performance, Strategy and Budget
Parks	Parks Division
Public Health	Public Health—Seattle & King County
PSCPC	Puget Sound Climate Preparedness Collaborative
Roads	Roads Division
SCAP	Strategic Climate Action Plan
SRFC	Sustainable & Resilient Frontline Communities
SWD	Solid Waste Division
WLRD	Water and Land Resources Division
WTD	Wastewater Treatment Division



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Letter from King County Executive Dow Constantine

King County Residents,

Climate change is a paramount challenge with fundamental and far-reaching consequences, a threat multiplier exacerbating inequities and intensifying natural hazards – flooding, wildfires, and extreme heat – that put our people, economy, and environment at risk.

The 2020 Strategic Climate Action Plan (SCAP) defines the County's next wave of commitments that advances King County's leadership in equitable climate solutions, creates opportunity for all residents, and protects the natural environment for everyone who lives here today and for all those who will follow us.

I am excited about the path the SCAP outlines to sharply reduce greenhouse gas emissions. It builds on deep partnerships and technical analysis to recommend specific actions to reach shared overarching goals. Actions to reduce emissions are comprehensive and ambitious and include new Countywide energy programs, strategies to achieve zero waste, expanded action to protect forests and farms, and targets to plant, protect, and preserve 3 million trees across the County.

Current events highlight that meaningful and equitable progress on climate change requires addressing the impacts of systemic racism and achieving racial justice. The SCAP adds a new section – *Sustainable & Resilient Frontline Communities* – a community-driven framework for addressing climate equity developed by communities that are disproportionately impacted by climate change, and historic and current inequities. We must ensure that frontline communities benefit from the transition to a clean energy economy, have the knowledge, skills, resources, capacity, and the social and political capital to prepare for the impacts of climate change, and can equitably recover, adapt, and thrive in a changing climate.

The final section of the SCAP is an expanded climate preparedness section that establishes the framework for preparing our region for the impacts of climate change. This will produce both immediate and long-range benefits - it helps reduce the damage to homes, businesses, and infrastructure while protecting human health, improving water quality, and supporting salmon recovery.

The guiding principles that shape the SCAP identify our core beliefs and approach for climate action. We value the expertise of our communities, base decisions on the best available science, embrace innovation, and lead with racial justice and equity. These principles will guide our work as we implement the SCAP.

This moment requires more than setting ambitious goals. It requires the courage to transform entire systems to tackle huge challenges. Together we can and must build a more resilient, sustainable, and equitable King County.

Sincerely,

Dow Constantine,
King County Executive



Letter from the Climate Equity Community Task Force

Dear King County Executive Dow Constantine and members of the Metropolitan King County Council,

Thank you for the opportunity to serve on the Climate Equity Community Task Force (CECTF) in support of the Sustainable & Resilient Frontline Communities (SRFC) section of the 2020 Strategic Climate Action Plan (SCAP). This groundbreaking initiative, rooted in the leadership of frontline communities, shapes community-driven priorities around climate change and works towards equitable climate solutions. **Our communities are on the frontlines of climate change and are facing disproportionate impacts** due to institutional racism and the legacy of historic injustices that have resulted in disproportionate outcomes and access to resources and opportunity. While members of the CECTF have a common belonging to and duty to represent our respective "frontline communities," we are not a monolith, and each of us brings unique experience and expertise to climate resilience strategies. The community-based solutions included in the SCAP reflect the needs and aspirations of the communities we represent.

This is a time for a fundamental shift—an opportunity to take part in building a comprehensive response to climate change that provides stronger support to frontline communities and a more sustainable future for all, which will only be achieved with a commitment to racial justice and accountability to the most impacted communities.

There cannot be climate justice without racial justice. Systemic social, environmental, racial, and economic inequities in our Black, Indigenous, and People of Color (BIPOC) communities will only be exacerbated as climate impacts occur and contribute to the risk of our communities being left out of the transition to a sustainable future. Decades of systemic and environmental racism implemented through discriminatory policies and practices set by governments and institutions has resulted in BIPOC communities experiencing poverty, incarceration, and death at higher rates. The COVID-19 pandemic further underscores the inequities in our systems, structures, and communities, and illustrates the link between one's experience of an emergency and their access to resources, housing, wealth, a living wage job, and healthcare.

We appreciate the commitment to **addressing the "upstream" systemic inequities** that intensify the climate burden on frontline communities and limit their access to a sustainable and green economy. We must continue to have frontline communities contribute their expertise in decision-making processes and allow us to lead through community-driven practices and processes. Throughout the development of the SRFC section, we recognized the importance of uplifting climate actions that promote equity, reduce harm, eliminate barriers, and recognize intersectionality as guiding principles in meaningful climate action. We are excited to support **innovative and intersectional climate solutions that build community resilience** and recognize connections between climate change and issues like affordable housing, anti-displacement, and food security.

We want to thank Executive Constantine, the members of the King County Council, and the King County Climate Leadership Team for supporting this transformative community task force. We are proud of this work and look forward to continued collaboration in prioritizing equity and the community-based actions outlined in the SCAP. With guidance and leadership of frontline communities, this model can continue to be a regional and national leader in just and equitable climate action

Sincerely,
Members of the Climate Equity Community Task Force
For a full list of participants and affiliations, please see Acknowledgments *or the* SRFC section

2020 SCAP Executive Summary

King County's Strategic Climate Action Plan (SCAP) is a five-year blueprint for County climate action, integrating climate change into all areas of County operations and work with King County cities, partners, communities, and residents. The SCAP outlines King County's priorities and commitments for climate action for decision-makers, employees, partners, and the public.

The SCAP is a living document that is updated every five years to reflect the County's continuous learning approach to climate action and associated priority actions. The updates to the 2020 SCAP are rooted in the fundamental understanding that climate change is an urgent local and global challenge. The 2020 SCAP updates are also rooted in the understanding that climate change is a threat multiplier that creates complex challenges, particularly for communities affected by historic and current inequities and who have limited resources to adapt.

The 2020 SCAP is driven by best available science and data, local community experiences and expertise, internal and external partner relationships, and global to local best practices and technological advances. Recognizing the importance of taking a holistic approach to climate action, King County has adopted internal operational goals and priorities as well as external countywide goals and priorities. This approach reflects the fact that robust collaborative actions inclusive of the voices, experiences, and expertise of all partners and communities are needed to fully realize climate action successes.

What Is New in the 2020 SCAP

The 2020 SCAP continues King County's focus on reducing greenhouse gas (GHG) emissions and preparing for climate change impacts while strengthening the County's commitment to lead with equity, engage communities, and reduce health disparities. New content includes:

- Guiding principles developed by the Climate Action Team, with input from stakeholders, and adopted by the King County Climate Leadership Team.
- A new section entitled "Sustainable & Resilient Frontline Communities," which brings the voice, experiences, and expertise of frontline communities disproportionately affected by climate change to the SCAP
- Updated targets and supporting actions in all GHG focus areas that together achieve overarching GHG goals
- A new strategic framework for climate preparedness, including a vision of success, strategies, and performance measures for evaluating progress

2020 SCAP Guiding Principles

- Act with urgency and intention.
- Lead with racial justice and equity.
- Respond to community needs and priorities.
- Use and develop best available science.
- Seek systemic solutions.
- Build partnerships.
- Lead through local action.
- Prioritize health and co-benefits.
- Be transparent and accountable.



King County used collaborative processes to ensure the 2020 SCAP reflects input and direction from a diverse range of people and partners.

Developing the 2020 SCAP

Oversight

Including diverse voices was a focus for the 2020 SCAP update. King County sought input and direction from County partners, community leaders, County staff, frontline communities, and the public. Frontline communities are those communities that often experience the most acute impacts of climate change, face historic and current inequities, and have limited resources and/or capacity to adapt. The 2020 SCAP commits King County to continued collaboration with these groups, including the new Climate Equity Community Task Force.

The 2020 SCAP was developed by the County Executive, with oversight by the King County Council. Ongoing implementation guidance for the SCAP is provided by the interdepartmental Climate Leadership Team representing leadership from different King County departments and agencies. Progress on meeting SCAP commitments is reported every two years through a biennial report available at kingcounty.gov/climate.

Building on Accomplishments Since 2015

King County is regionally and nationally recognized as a leader in innovation and investment in climate action. The 2020 SCAP builds upon the significant progress made toward 2015 SCAP targets and outcomes. Actions in the 2020 SCAP continue work on these priorities while expanding the County's commitments, particularly in the new SRFC section. Highlights of accomplishments since 2015 include:

- Launched the Frontline Community Climate Partnerships program to support climate literacy, language access, and leadership development in communities of color.
- Contributed to stabilizing countywide GHG emissions and an 11 percent reduction in per person emissions over the last decade.
- Led the country with the fastest growth rate in transit riders in 2017, growing total ridership by 14 million annual trips from 2015 to 2019, and positioned King County Metro Transit as the nation's leader in transitioning to fleets powered by clean, renewable energy.
- Continued to focus more than 98.5 percent of new residential development and growth in urban areas connected to the region's growing transit and trail systems.
- Launched the Land Conservation Initiative, accelerating the pace to permanently protect the last, best open space lands, farmlands, forestlands, urban green spaces, and trails.
- Created a partnership that planted 1 million trees throughout King County and made King County the nation's first local government to offer certified carbon credits that protect local forests.
- Supported countywide residential green building with a total 50 percent increase in green building certifications from 2015 to 2019, and surpassed energy efficiency goals in County operations, reducing internal energy use by more than 20 percent since 2007.
- Through the King County-Cities Climate Collaboration (K4C), led efforts of cities representing 80 percent of King County's 2.25 million residents to advance transformational state energy policies that will result in stronger building and appliance efficiency, conservation requirements for fossil fuel gas, and 100 percent clean electricity.
- Advanced the Local Food Initiative, supporting local farmers and making access to locally grown, nutritious food more equitable.
- Strengthened land use codes and developed adaption strategies to address sea level rise.
- Launched the Puget Sound Climate Preparedness Collaborative, developed in partnership with neighboring counties, cities, and partner organizations to enhance coordination and improve the climate preparedness outcomes in the Puget Sound region.

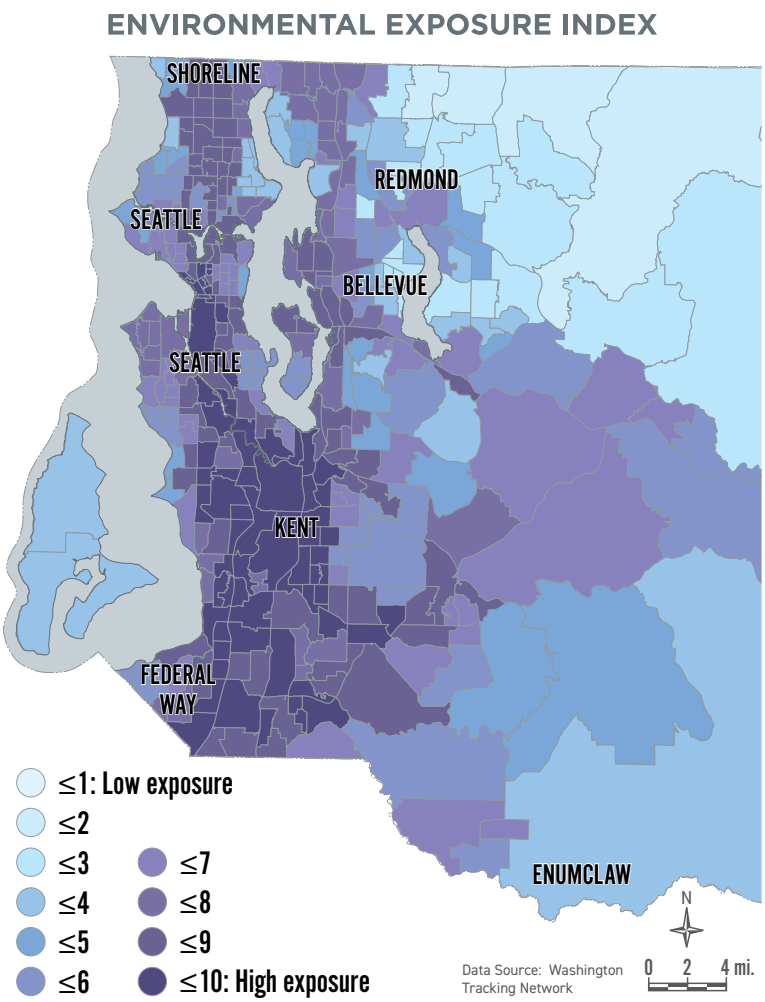
Stakeholder Engagement

The 2020 SCAP used a collaborative process for co-development of climate actions and targets, rooted in an understanding of climate science and progress on previous climate actions.

Including diverse voices was a focus for the 2020 SCAP update. King County staff pursued an equitable engagement process, receiving input and direction from County partners, frontline communities, community leaders, County government staff, and the public. Public engagement efforts included residents from communities across King County, environmental organizations, BIPOC and youth serving organizations, businesses, labor representatives, affordable housing professionals, state and local jurisdiction representatives, scientists, and others. The process included many stakeholder engagement strategies (see box) and different types of involvement. Attention was paid to language access, getting diverse feedback, going to communities, meeting in accessible locations, and providing a collaborative space for solution development and feedback.

Stakeholder Engagement Strategies

- Climate Equity Community Task Force
- Topic-based convenings
- Youth workshops
- Public Workshops
- King County Comprehensive Plan meetings
- Community presentations
- King County employee engagement
- Online information and survey



Current Context: GHG Emissions, Climate Impacts, Climate Change and Equity

As the 2020 SCAP was developed, the County used best available research to analyze the current context of climate drivers and impacts in the region. Data about sources and trends in GHG emissions inform the priorities of the Reducing GHG Emissions section. Science about current and projected climate impacts in the Puget Sound region and the effects on local communities supports the Preparing for Climate Change section. Knowledge about disproportionate risks, health vulnerabilities, historic and current social inequities, and environmental exposure guides work and investments to reduce GHG emissions, support sustainable and resilient communities, and reduce climate change risks and impacts.

This Environmental Exposure Index is one example of how the 2020 SCAP is using best available data and research to analyze the current context of climate drivers, equity implications, and impacts in the region. This map and others show that areas with less opportunity, higher pollution exposure, existing inequities, and lower health and economic wellbeing outcomes are often concentrated in south King County. This type of information guides work and investments outlined in the SCAP.

2020 SCAP Section Introductions, Focus Areas, and Highlights

The updated 2020 SCAP consists of three core sections:

- **Section I, Reducing GHG Emissions**: Includes strategies, priority actions and performance measures to reduce GHG emissions countywide and from County government operations.
- **Section II, Sustainable & Resilient Frontline Communities**: Focuses on climate equity and community-driven actions, as identified by the Climate Equity Community Task Force.
- **Section III, Preparing for Climate Change**: Identifies climate preparedness actions that help King County government and communities prepare for the impacts of climate change and increase climate resilience.

An introduction to each section, its focus areas, and highlights of 2020 SCAP commitments are presented on the following pages.

Section I
Reducing Greenhouse Gas Emissions



Section II
Sustainable & Resilient Frontline Communities



Section III
Preparing for Climate Change



The Reducing GHG Emissions section includes strategies, priority actions and performance measures to reduce GHG emissions countywide and from County government operations. Focus areas were determined based on major GHG emissions sources and opportunities for reductions and carbon sequestration. All focus areas include commitments that advance both GHG emissions reductions and racial justice and equity, as part of the SCAP's commitment to lead with this guiding principle.

Overarching Goals

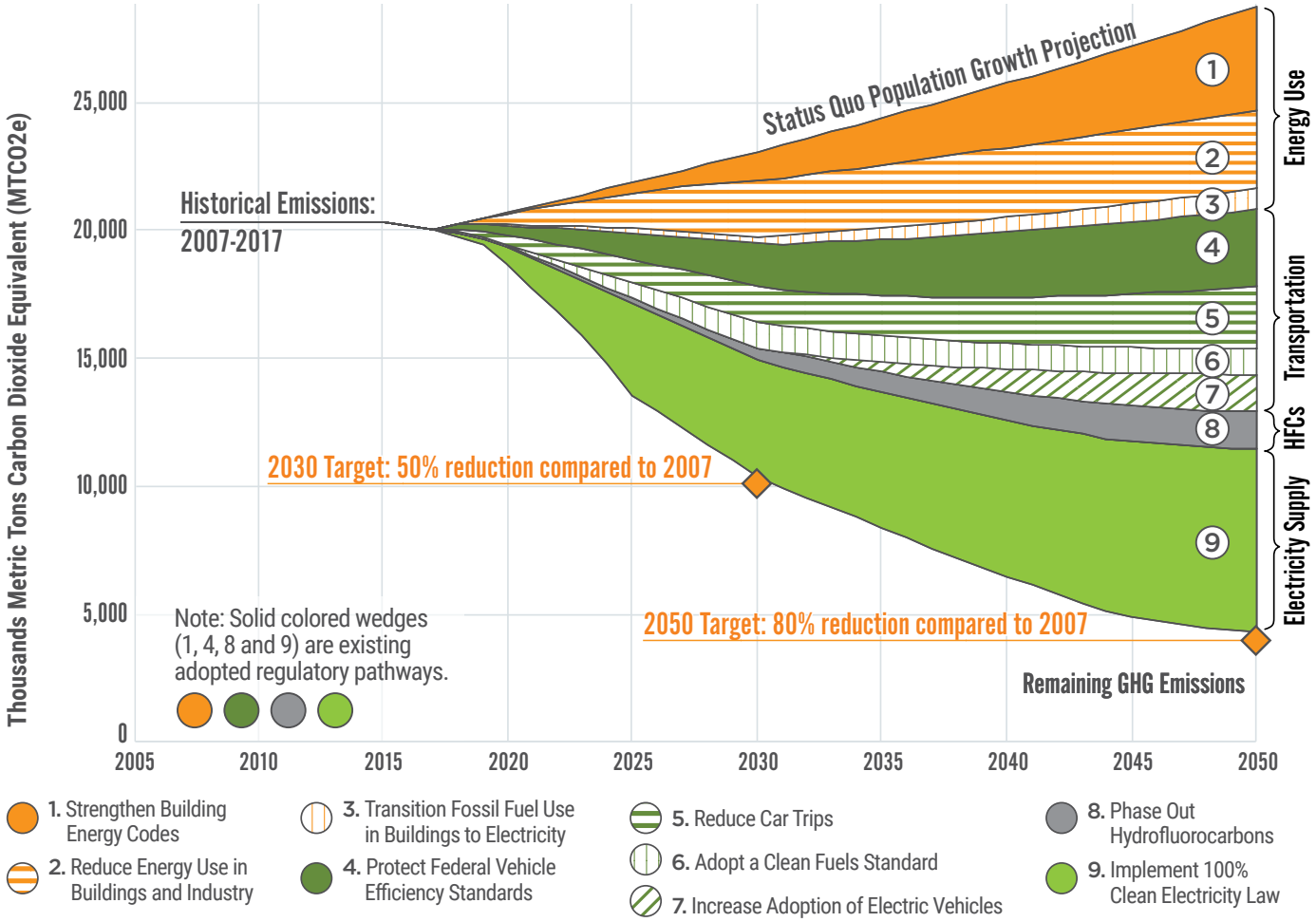


Reduce Emissions

Reduce countywide sources of GHG emissions, compared to a 2007 baseline, by 25 percent by 2020, 50 percent by 2030, and 80 percent by 2050. Pursue additional goals and actions to sequester carbon and reduce emissions from consumption of goods and services.

Many targets and commitments in this section were co-developed with partners of the K4C. These actions are also reflected in the K4C's Joint Climate Action Commitments (2019) which represent a shared vision for countywide progress to reduce GHG emissions. Countywide targets also build on technical analysis completed to support the 2020 SCAP update that assessed recent trends in countywide GHG emissions and identified major opportunities for reductions.

GHG Reduction "Wedge" Pathways to Achieve Overarching Countywide Goals



The Reducing GHG Emissions section builds on technical analyses that define key opportunities and pathways to achieve emissions reduction goals. The "wedge" analysis illustrated here defines the nine key pathways the County and K4C partners will pursue to reach the 2030 and 2050 countywide GHG emission reduction goals. The 2020 SCAP also builds on a parallel analysis about opportunities and strategies to reduce GHG emissions from County operations as identified in the King County Carbon Neutral Implementation Plan.

Section I Focus Areas & Highlights: Reducing Greenhouse Gas Emissions

1. **Greenhouse Gas Targets and Policies** – Advances new pathways, strategies, and targets to reduce countywide GHG emissions by 50% by 2030 and 80% by 2050 while accelerating the County's government operations GHG reduction commitments by 20 years to reduce emissions by 80% by 2030.



2. **Transportation and Land Use** – Commits to a three-part strategy to reduce car trips through (1) sustained and increased use of transit; (2) focusing almost all new development in urban areas; and (3) developing vehicle usage pricing strategies that are equitable, while also reducing emissions from County-owned vehicles by 45% by 2025.



3. **Building and Facilities Energy** – Targets reducing countywide energy use by 25% and fossil fuel use by 20% by 2030, including developing efficiency programs and proposing a financing program for commercial and multi-family building efficiency, renewable energy, and resiliency upgrades. For County operations, extends strong efficiency targets, eliminates fossil fuel use in new facilities, and recommits the County to use 100% carbon-free electricity.



4. **Green Building** – Advances countywide green building codes and a more sustainable commercial energy code toward net zero GHG in new buildings by 2031; implements the highest green building, sustainable development, and equity and social justice standards in King County government capital projects, including 20 Zero Energy or Living Building Challenge projects by 2025.



5. **Consumption of Goods and Materials** – Advances a countywide circular economy framework, including achieving zero waste of resources and zero edible food waste by 2030; commits to increased purchasing of sustainable and recycled products, including materials with low carbon impact in King County construction projects.



6. **Forests and Agriculture** – Highlights the new 30-Year Forest Plan; advances the Land Conservation Initiative, including a new commitment to invest $25 million by 2025 to improve access to urban green space and support immigrant and refugee farmers; expands work to plant, protect and prepare 3 million trees by 2025.



Related major plans and initiatives for this section: K4C; King County Comprehensive Plan; METRO CONNECTS (King County Metro Transit's vision for the next 25 years); Regional Equitable Development Initiative Fund and related transit-oriented development programs; Living Building Challenge; 30-Year Forest Plan; SWD Comprehensive Plan.

Section II Introduction: Sustainable & Resilient Frontline Communities

As part of King County's commitments to action on climate change and equity and social justice, the 2020 SCAP includes a new Sustainable & Resilient Frontline Communities (SRFC) section focused on climate equity and community-driven policy.

The SRFC framework was developed through a community-driven process where leaders of frontline communities, as part of the Climate Equity Community Task Force (CECTF), established the goals and identified the priority areas for climate action based on climate justice values and community needs. Frontline communities are those communities that often experience the earliest and most acute impacts of climate change, face historic and current inequities, and have limited resources and/or capacity to adapt.

Vision

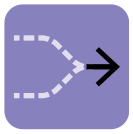


Climate Equity

Frontline communities are centered in developing climate solutions and have the knowledge, skills, resources, capacity, and social and political capital to equitably adapt, lead, and thrive in a changing climate.

Key Strategies of the SRFC Framework:

The SRFC framework uses the following six crosscutting strategies across eight focus areas to advance climate and equity in frontline communities:



Build Equitable Practices

1. Build King County and community capacity to prioritize climate equity.



Language Access

2. Prioritize collaborative language access in partnership with trusted community partners.



Community Leadership

3. Advance frontline community leadership by investing in long-term community and tribal partnerships, community capacity development, and improved infrastructure for community driven policy and decision-making.



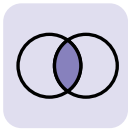
Solutions for Root Causes

4. Address root causes of climate vulnerability by prioritizing comprehensive solutions co-developed with frontline communities that reduce systemic inequities and have co-benefits.



Equitable Climate Future

5. Advance an equitable climate future and outcomes by investing in climate solutions and opportunities with and for frontline communities.



Aligning Initiatives

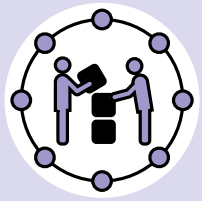
6. Align with and elevate actions in related County plans and programs that support frontline communities and climate resilience.

Section II Focus Areas & Highlights: Sustainable & Resilient Frontline Communities

1. **Community Leadership and Community-Driven Policy-Making** – Invest in long-term community partnerships, leadership development, and improved structures for equitable and racially just community-driven policy and decision-making. Provide frontline communities with access to knowledge, leadership development, and policy-making processes regarding climate change.



2. **Community Capacity Development** – Invest in and build capacity to advance climate literacy, increase community capacity around climate equity, and elevate youth leadership. Prioritize language access and climate education for community leaders, youth, and organizations.



3. **Equitable Green Jobs and Pathways** – Build partnerships across sectors to develop an equitable green jobs strategy that advances racial equity and climate action. Create pathways to green jobs that increases BIPOC representation, including in leadership positions. Support workers and green skill development in the transition to a more regenerative economy.



4. **Community Health and Emergency Preparedness** – Support frontline communities and small businesses to prepare for, and have adequate resources to respond and bounce forward from emergency events and climate-related health impacts. Partner with frontline communities on data and health indicators to inform climate actions to equitably reduce impacts of extreme events, including urban heat.



5. **Food Systems and Food Security** – Support strengthened healthy and culturally relevant food access, expanded nutrition incentive programs, and improved land access and technical assistance. Collaborate to maintain the health of ecosystems and water ways that support food systems, cultural practices, and tribal sovereignty. Support a just food economy that is regenerative, sustainable, zero waste, and prioritizes worker health.



6. **Housing Security and Anti-Displacement** – Align County agencies, community partners, and other stakeholders to support green, healthy, and affordable housing that fosters stable and resilient frontline communities. Advance equitable development with BIPOC community-centered anti-displacement strategies and resources that support climate-resilient infrastructure.



continued on next page

Section II Focus Areas & Highlights: Sustainable & Resilient Frontline Communities

7 **Energy Justice and Utilities** – Provide frontline communities with energy education, tools, and resources, to increase access to energy-efficiency and utility assistance programs, and assist in affordably transitioning to renewable energy alternatives, and influencing energy policy decisions.



8 **Transportation Access and Equity** – Improve transit options and infrastructure in frontline communities with the greatest need for sustainable public transportation. Support transit design processes that prioritize climate equity, and meaningful, inclusive, and community-driven planning approaches that engage BIPOC community members.



Related major plans and initiatives for this section: King County Equity and Social Justice Strategic Plan; King County Blueprint for Addressing Climate Change and Health; King County Metro Mobility Framework, King County Local Food Initiative; Open Space Equity Cabinet Report; Regional Affordable Housing Task Force Five-Year Action Plan

Some members of the Climate Equity Community Task Force at a meeting in Tukwila; this group of 22 community leaders led development of the 2020 SCAP's new section, Sustainable & Resilient Frontline Communities, which is focused on climate equity, BIPOC communities, and community-driven policy.



Section III Introduction: Preparing for Climate Change

The Preparing for Climate Change section identifies climate preparedness actions, organized under a new strategic framework, that help King County government and communities prepare for the impacts of climate change and increase climate resilience. The actions represent important next steps in an ongoing and necessary pivot toward becoming a more climate-resilient King County.

Vision

Climate Preparedness

King County creates, supports, and implements policies and actions that reduce climate change vulnerabilities equitably and increase the resilience of King County communities, natural systems, and the built environment.

King County's climate preparedness actions address a range of climate impacts, including those related to heavier rain events, hotter summers, lower snowpack, increased flooding, sea level rise, and changes in the potential for wildfire. Because climate change exacerbates many existing environmental, health, and safety challenges, the actions the County takes now to prepare for climate change will also create near-term benefits.

A key objective in the 2020 climate preparedness section is mainstreaming climate action by making it part of daily work at King County. Climate preparedness will be operationalized through the development of methods and guidelines that incorporate climate considerations into day-to-day agency processes such as policy development, strategic planning, capital planning, and project implementation.

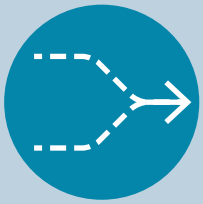
Addressing health and equity disparities is another priority embedded throughout the climate preparedness section. All climate preparedness actions will be implemented with a focus on connections to health and equity. Actions specifically targeting climate change-related inequities and health impacts on frontline communities are also included in Strategy 3 of the Preparing for Climate Change section. This work will include coordination and collaboration with the priorities and activities identified in the SRFC section.

Other strategic focal points include building technical capacity, strengthening partnerships to increase resilience across King County, and investing in outreach and engagement. A new performance measurement framework for climate preparedness will be implemented as part of the 2020 SCAP, helping to ensure that King County is making progress on its climate preparedness strategies and overall vision of success.



Section III Focus Areas & Highlights: **Preparing for Climate Change**

1. **Mainstream Climate Preparedness** – Updates King County policies, plans, practices, and procedures to account for climate impacts, and commits to implementing climate-resilient decisions. Adapts centralized and program-based capital planning processes to include consideration of climate impacts when designing and building infrastructure; incorporates climate change into operations and program delivery.



2. **Technical Capacity** – Invests in the development and use of best available science and other technical information to inform climate preparedness work at King County. Includes developing a climate change resource hub and guidance to inform County climate preparedness activities across County departments and programs; expands research on the impacts of heavy rain events and sea level rise in King County to support long-term planning and infrastructure design.



3. **Health and Equity** – Commits to prioritizing health and equity in climate preparedness actions and activities. In partnership with additional preparedness actions in the SRFC section, takes steps to reduce the impacts of extreme events, including urban heat, on frontline communities; develops inclusive and equitable climate and health messaging, resources, and guidance.



4. **Community and Organizational Partnerships** – Strengthens collaborations and partnerships to address climate impacts and increase regional resilience. Works with internal and external partners to reduce risks related to wildfire, flooding, landslides, and drought; deepens and expands partnerships that advance climate preparedness across King County, including through the Puget Sound Climate Preparedness Collaborative.



5. **Outreach and Education** – Invests in public outreach, engagement, and technical assistance related to climate preparedness. Increases opportunities for sharing information about climate impacts and preparedness in outreach and engagement activities; supports technical assistance to the public and partners related to wildfire, agricultural impacts, and hazard mitigation planning.



Related major plans and initiatives for this section: Puget Sound Climate Preparedness Collaborative; K4C; King County Comprehensive Plan; King County Hazard Mitigation Plan; Land Conservation Initiative; Clean Water Healthy Habitat Initiative; Clean Water Plan; Stormwater Strategic Plan; Flood Hazard Management Plan; 30-Year Forest Plan; Blueprint for Addressing Climate Change and Health.

Commitment to Action and the COVID-19 Pandemic

The COVID-19 pandemic and related economic and County budget impacts will affect how fast 2020 SCAP commitments are implemented. However, climate action has been, and will continue to be, a top County priority. In the near term, County agencies are making climate action part of core work and budgets and reviewing how existing resources can be used to implement the SCAP. In the long term, the County's ability to deliver on 2020 SCAP commitments is dependent on additional investments in climate strategies, including transit, energy efficiency, community partnerships, public health, and resilient public infrastructure.

Conclusion

As global GHG emissions continue to accelerate and climate impacts grow, the urgency to act on climate change increases. King County and many partners have made important progress, but there is much more to be done.

The 2020 SCAP is the County's comprehensive and bold blueprint to reduce GHG emissions; develop a clean energy economy; elevate the voices and lived experiences of frontline communities; and ensure that King County residents, natural systems, and the built environment are resilient in the face of a changing climate.

The 2020 SCAP defines the County's guiding principles for climate action and near- and long-term goals and commitments, with a focus on actions through 2025. The 2020 SCAP builds on progress from the 2015 SCAP, technical analysis, extensive public input, and collaboration with diverse stakeholders to recommend specific actions to reach shared overarching goals.

King County can't accomplish these goals on its own, however. Partnership with businesses, non-governmental organizations, other governments, community leaders, and county residents is essential to success.

Climate progress requires more than setting ambitious goals. It requires the courage to transform entire systems and tackle huge challenges. The 2020 SCAP defines King County's role in this transformation and is part of King County's commitment to build a more resilient, sustainable, and equitable region.



1. Introduction to SCAP Sections

King County's 2020 Strategic Climate Action Plan (SCAP) presents a bold blueprint for a more sustainable, resilient, and equitable King County. While countywide greenhouse gas (GHG) emissions have fallen slightly overall, the King County region is falling short of shared targets. Similarly, while the County has taken steps to better understand and reduce climate impacts, more work is needed to fully respond to climate risks. If not addressed, these impacts will threaten the health and safety of local communities, the economy, and the environment.

Since the 2015 SCAP was developed, the Puget Sound region's population has grown significantly and disparities in the health and well-being of Black, Indigenous, and People of Color (BIPOC) communities and people living with low incomes continue to grow. It is critical that efforts to tackle climate change are designed in partnership with disproportionately affected communities to ensure that the benefits from climate action are equitable. This work includes targeted investments to address disparities and systemic inequities that increase climate risks to frontline communities, and prioritizing co-benefits of solutions.

The 2020 SCAP will guide and inform policy and investments at King County through 2025, to support stronger health and well-being outcomes for County residents, preserve and protect ecosystems, and transition to an equitable and inclusive clean energy economy. The updated 2020 SCAP consists of three core sections, each of which includes a set of focus areas and priority actions:

Section I
Reducing Greenhouse Gas Emissions



Includes strategies, priority actions and performance measures to reduce GHG emissions countywide and from County government operations.

Section II
Sustainable & Resilient Frontline Communities



Focuses on climate equity and community-driven actions, as identified by the Climate Equity Community Task Force.

Section III
Preparing for Climate Change



Identifies climate preparedness actions that help King County government and communities prepare for the impacts of climate change and increase climate resilience.

2. Guiding Principles

The three sections of the 2020 SCAP are connected by the following guiding principles, which were developed by the Climate Action Team with input from stakeholders and adopted by the Climate Leadership Team (see Appendix III: King County's Approach to Climate Action for more information on these teams). These principles guide the 2020 SCAP, implementation of its commitments, and broader County climate work as it evolves and advances in coming years.

2020 SCAP Guiding Principles

- Act with urgency and intention.
- Lead with racial justice and equity.
- Respond to community needs and priorities.
- Use and develop best available science.
- Seek systemic solutions.
- Build partnerships.
- Lead through local action.
- Prioritize health and co-benefits.
- Be transparent and accountable.

Act with Urgency and Intention

Climate change is a paramount challenge with fundamental and far-reaching consequences for the economy, environment, and public health and safety. The next decade is critical for reducing the severity of global and local impacts. The County must necessarily act with a sense of urgency and intention. The 2020 SCAP contains commitments shared by the County and its partners that respond to this urgency. These commitments include accelerating the County's own 80 percent GHG emissions reduction target by 20 years from 2050 to 2030 through investments such as energy efficiency and vehicle electrification, and committing to partner with cities in 2021 to update shared countywide targets toward net carbon neutrality.

Lead with Racial Justice and Equity

Systemic racism has led to social, environmental, health, and economic inequities that are exacerbated by climate change, disproportionately impacting BIPOC communities. Climate change is not experienced equally, amplifying existing disparities and threatening to leave BIPOC communities at risk of being left out of the transition to a sustainable future. King County commits to work in ways that advance racial justice, equity, and the leadership of BIPOC communities in creating just climate solutions. The County will prioritize and elevate the needs of BIPOC communities, immigrants and refugees, people living with low incomes, people with disabilities, limited-English-speaking communities, and other frontline communities in climate action. The vision, priority actions, and goals of the 2020 SCAP are guided by the advancement of the King County Equity and Social Justice Strategic Plan and the King County Blueprint for Addressing Climate Change and Health. The new Sustainable & Resilient Frontline Communities (SRFC) section is dedicated to achieving climate equity and community-driven solutions for frontline communities.

Respond to Community Needs and Priorities

King County is committed to continued authentic and equitable engagement with communities, residents, and stakeholders around climate action. The 2020 SCAP process brought together a diversity of voices and input from topic-based convenings, youth workshops, community presentations, the CECTF, K4C, public workshops, and online surveys. The County is committed to being responsive to the ways that communities identify with and experience climate change, and fostering partnerships that exemplify equitable engagement.

Use and Develop Best Available Science

King County is committed to a comprehensive and data-driven approach to climate action that is informed by the best available science. The 2020 SCAP has developed ambitious and feasible quantitative pathways to achieve overarching GHG targets. For climate preparedness, the 2020 SCAP invests in applied research on the impacts of climate change on heavy rain events and the implications

for stormwater, wastewater, and river flooding. King County will continue to support research, data systems advancements, technical studies, equity indicators and qualitative measures, and other analyses to inform implementation of SCAP actions.

Seek Systemic Solutions

The 2020 SCAP recognizes that climate change issues and causes span jurisdictional, organizational, and neighborhood boundaries, and are rooted in systemic economic and societal challenges including structural racism and income inequality. Each SCAP section calls for specific policy changes to be developed and advanced with internal and external partners that work toward systemic level changes and solutions that address root causes.

Build Partnerships

Climate change is a complex problem that cannot be solved by one entity alone. Climate change solutions necessitate a broad range of partnerships from the project level to the regional level to ensure impactful action on climate change. King County is committed to action at multiple levels, including action on issues that the County does not have full control over. This broad approach makes the SCAP unique. The 2020 SCAP positions the County to advance meaningful climate action work through many partnerships, including with the CECTF, K4C, and Puget Sound Climate Preparedness Collaborative.

Lead through Local Action

Climate change impacts people where they live, work, and play, and many solutions require changes at the local scale. The 2020 SCAP leverages the progress and successes of the 2015 SCAP to further the County's long-term commitments to innovation and leading through local action.

Prioritize Health and Co-Benefits

The 2020 SCAP recognizes and prioritizes actions that simultaneously address climate change; advance racial and social equity; and support environmental, health, and public safety benefits. The 2020 SCAP is directly linked to Public Health—Seattle & King County's (Public Health) Blueprint for Addressing Climate Change and Health. Examples in the 2020 SCAP include commitments that prioritize transit improvements in areas with greatest needs, invest in improved access to urban green space, reduce current and projected risks associated with flooding and wildfire, and support increased farmer participation in federal disaster insurance programs.

Be Transparent and Accountable

King County publicly and transparently reports on progress toward its SCAP commitments. The 2020 SCAP reports on progress since the 2015 SCAP, showing when the County is on track or not and why. The 2020 SCAP also expands on performance measurement for GHG emissions to include a new performance measurement framework for climate preparedness. This commitment to transparency is critical to building community trust and informing future work, budgets, and policies.

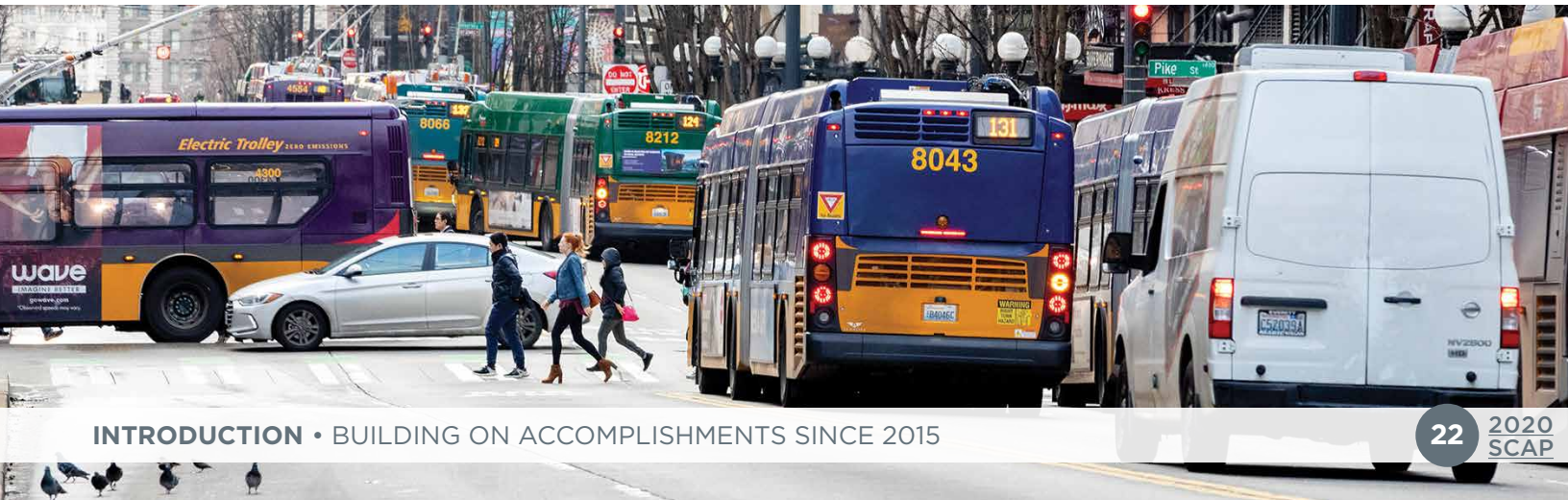


3. Building on Accomplishments Since 2015

The 2020 SCAP builds upon the significant progress made toward 2015 SCAP targets and outcomes. Actions in the 2020 SCAP continue work on these priorities while expanding it in important ways, particularly in the new SRFC section. Highlights of 2015 SCAP accomplishments are provided below, with many more details in Appendix IV: 2015 Strategic Climate Action Plan Accomplishments.

Selected Accomplishments: Reducing GHG Emissions

- Contributed to stabilized countywide GHG emissions and an 11 percent reduction in per person emissions over the last decade.
- Led the country with the fastest growth rate in in transit riders in 2017, growing total ridership by 14 million annual trips from 2015 to 2019, and positioned King County Metro Transit as the nation's leader in transitioning to fleets powered by clean, renewable energy.
- Continued to focus more than 98.5 percent of new residential development and growth in urban areas connected to the region's growing transit and trail systems.
- Partnered with cities, businesses and utilities to help develop new renewable electricity resources such that more than 99 percent of King County government's electricity use now comes from renewable or carbon-free sources.
- Surpassed 2015 SCAP energy-efficiency goals for government operations, reducing energy use by more than 20 percent since 2007, saving taxpayers more than $4.1 million per year.
- Supported countywide residential green building with a total 50 percent increase in green building certifications from 2015 to 2019, while 82 percent of all County-owned projects achieved Platinum-level green building standards in 2019.
- Registered 11 Zero Energy or Living Building Challenge government owned projects, surpassing the goal of 10 projects by 2020.
- Launched the Land Conservation Initiative, accelerating the pace to permanently protect the last, best open space lands, farmlands, forestlands, urban green spaces, and trails.
- Advanced the Local Food Initiative, supporting local farmers and making access to locally grown, nutritious food more equitable.
- Created a partnership that planted 1 million trees throughout King County and made King County the nation's first local government to offer certified carbon credits that protect local forests.
- Through the King County-Cities Climate Collaboration, led efforts of cities representing 80 percent of King County's 2.25 million residents to advance transformational state energy policies that will result in stronger building and appliance efficiency, conservation requirements for fossil fuel gas, and 100 percent clean electricity.



Selected Accomplishments: Sustainable & Resilient Frontline Communities

In recent years, King County has increased partnerships with frontline communities on critical issues such as mobility, open space, housing, and homelessness. These vital partnerships are leading toward advances in environmental equity, increasing access to parks and open space, improving transit service in communities with the greatest needs, and investments in affordable housing.

With respect to climate action, since the 2015 SCAP, King County has been focused on relationship and capacity building with frontline communities and organizations to set the stage for authentic climate partnerships. Work over this period laid the foundation for valuable partnerships that the County relied upon in creating the SRFC section, developed by and for BIPOC and frontline communities.

Important accomplishments since 2015 include:

- Launched frontline community climate partnerships program and supported leadership development trainings, community panels for environmental conferences, and climate literacy in frontline communities through community workshops.
- Hired a Climate Engagement & Community Partnerships Specialist with expertise in climate and environmental justice and community building to lead climate equity work and build partnerships with under-represented frontline communities.
- Partnered on transcreation projects that developed climate materials in Spanish, Chinese, Arabic and Samoan (2018–2019).
- Started a climate internship and mentorship program. Hosted ten interns in three years and supported other programs for emerging BIPOC climate leaders.
- Built framework for community-driven climate policy-making, including formation of the CECTF.

Selected Accomplishments: Preparing for Climate Change

- Strengthened King County land use codes and developed adaptation strategies to address sea level rise.
- Updated King County's landslide hazard mapping, providing a public resource tool for evaluating landslide risks; updated the King County Regional Hazard Mitigation Plan.
- Evaluated how heavier rain events affect flooding and stormwater in King County; explored implications for design standard changes.
- Developed King County's first Public Health climate action plan, Blueprint for Addressing Climate Change and Health; produced two public education comics about climate change and health.
- Launched the Puget Sound Climate Preparedness Collaborative; worked with public and private partners via the Collaborative to jointly accelerate climate change preparedness in the Puget Sound region.



4. Stakeholder Engagement

Stakeholder engagement was a top priority in the development of the 2020 SCAP. The County's Climate Action Team utilized equitable engagement strategies and aligned 2020 SCAP actions with foundational County plans, including the Equity and Social Justice Strategic Plan and the Blueprint for Addressing Climate Change and Health.

Building on lessons learned from the 2015 SCAP, the County took multiple approaches to stakeholder engagement and partnering with frontline communities. The 2020 SCAP used a collaborative process for co-development of climate actions and targets, rooted in an understanding of climate science and progress on previous climate actions.

Recognizing that not all community stakeholders can participate in the same way in engagement events, County staff developed an overall engagement strategy that included a wide spectrum of participation opportunities, from an online comment tool to in-person community workshops and public meetings. Specific examples include:

- ***Climate Equity Community Task Force.*** The task force, composed of 22 community leaders, met regularly for over a year and a half to co-create the new Sustainable & Resilient Frontline Communities section.
- ***Topic-based convenings.*** Hosted deep-dive discussions into specific areas of the SCAP with subject matter experts from the public and private sectors.
- ***Youth workshops.*** County staff conveyed foundational information about climate change trends, regional impacts, and current strategies to address climate change, and provided a forum for community youth to express their climate-related concerns and priorities.
- ***Public workshops.*** Hosted three public workshops in Bellevue, Seattle–University District, and the Highline urban unincorporated area to gather community feedback on climate priorities. Two workshops featured separate youth-led breakout discussions.
- ***King County Comprehensive Plan meetings.*** The Climate Action Team participated in a series of Comprehensive Plan public meetings in 2019, providing climate-related input to the planning process, and collecting information for the SCAP.
- ***Community presentations.*** Interest groups requested climate change presentations and workshops through the King County website. County staff tailored presentations to the needs, requests, and the audience for each individual organization.
- ***King County employee engagement.*** Employees across the County participated in lunch-and-learns, open houses, deep-dive meetings, and advisory committees.
- ***Online information and survey.*** Available to stakeholders and the public via email distributions and a climate website; both communications platforms directed users to an online public input survey through which 650 public comments were received.

Highlights of themes resulting from the County's stakeholder engagement efforts are included in each 2020 SCAP section and summarized in Appendix VI: Community Engagement Summary. Additionally, 2020 SCAP priority actions that align with public input are designated as such with icons throughout the plan.

5. Commitment to Action and the COVID-19 Pandemic

Most 2020 SCAP commitments were developed before the COVID-19 pandemic, including staff, public, and community identified priorities. These commitments, developed over a two-year update process, are considered the most impactful and important "next step" actions that the County should take to address climate change.

The County did not weaken the 2020 SCAP commitments due to the COVID-19 pandemic. The pandemic and developing budget impacts to King County government will affect how fast some SCAP actions are implemented, however. The economic implications of the pandemic are unknown and may take several years to be realized.

The County will continue to prioritize SCAP commitments, taking into consideration the potential resource impacts from COVID-19, as follows:

- Commitments with "unmet resource needs" are labeled as such in the 2020 SCAP for transparency to the Council, staff, and partners.
- King County agencies are working to incorporate action on climate change into day-to-day decision making processes and budgets. This includes a recognition that implementing some SCAP commitments will require reprioritizing existing staff and resources.
- The scope and scale of some SCAP commitments, and the timeframe to deliver on SCAP commitments, may be impacted. The severity of those impacts is dependent on the magnitude and duration of the pandemic-triggered recession.

County leadership recognizes that near-term budget impacts related to the pandemic will affect SCAP implementation, but a commitment to climate action has been, and will continue to be, a top County priority.





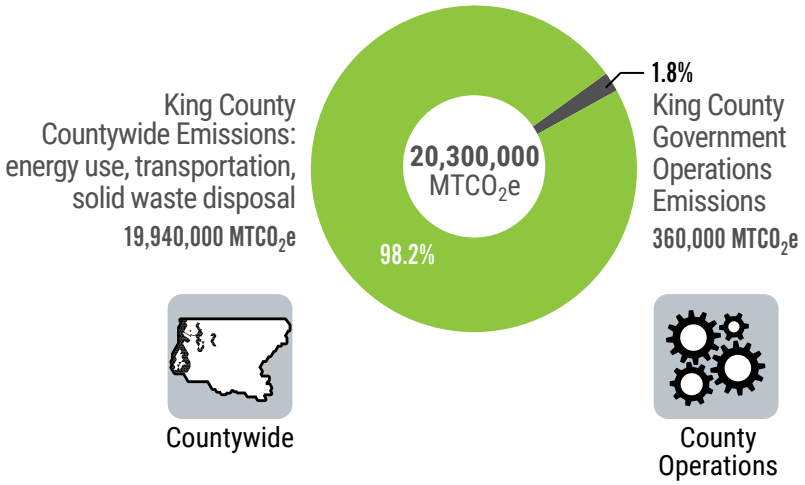
Current Context: GHG Emissions, Climate Impacts, Climate Change and Equity

As the 2020 SCAP was developed, the County sought best available data and research to understand the current context of climate drivers and impacts in the region. The following information describes relevant background and data on GHG emissions, climate impacts, and climate equity. This context helps form the basis of SCAP's goals, strategies, priority actions, and performance measures. Although the 2020 SCAP identifies the actions necessary to achieve the County's climate goals, significant gaps in funding remain. Taking advantage of new and creative funding sources at the local, state, and national level will be essential to achieving these goals.

Greenhouse Gas Sources and Trends

King County's work to reduce emissions comes at two scales: countywide emissions, which encompass the emissions across all King County communities, and County operations emissions, which are produced by the County government's daily services such as Metro buses and wastewater treatment. The 2020 SCAP includes commitments to work at both scales: to both seek systemic and transformative solutions to reduce countywide GHG emissions and to lead by example to reduce operational GHG emissions.

TOTAL KING COUNTY GHG EMISSIONS (2017)



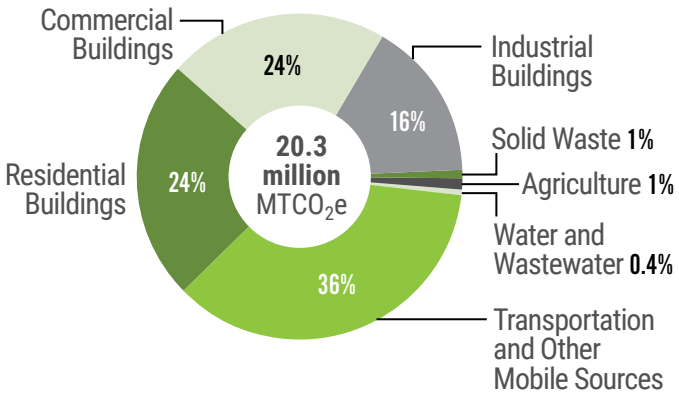
Countywide GHG Emissions


Countywide

To understand the full picture of countywide emissions, King County quantifies both geographic emissions and consumption-based emissions.

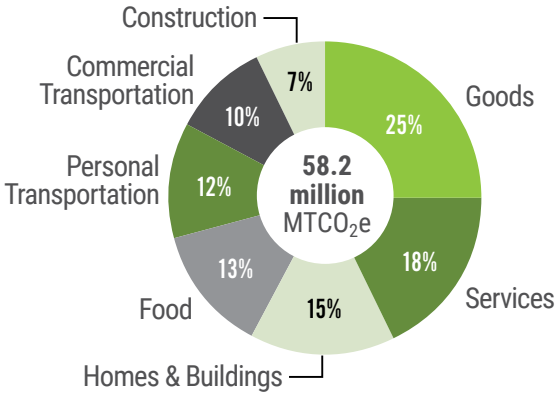
Geographic emissions are those which occur directly within the borders of the County; for instance, these are vehicle emissions or emissions associated with buildings within the County. The figure below shows the main sources of "geographic-plus" emissions, which include the emissions that occur within the County's borders plus emissions associated with electricity used in the County regardless of where the electricity is generated.

SOURCES OF GEOGRAPHIC-PLUS BASED GHG EMISSIONS FOR KING COUNTY (2017)



Consumption-based emissions are emissions associated with the production, transportation, use, and disposal of the goods, foods, and services that are consumed in King County. Consumption-based emissions are more than double the geographic-based emissions and occur all over the world.

SOURCES OF CONSUMPTION-BASED GHG EMISSIONS FOR KING COUNTY (2015)



WHY HAVE EMISSIONS CHANGED (2008–2017)?

Biggest Factors in **Increasing Emissions**



+6.4%
Population Growth

+1.2%
Commercial Development



Biggest Factors in **Decreasing Emissions**

–2.9%
Vehicle Fuel Efficiency Standards

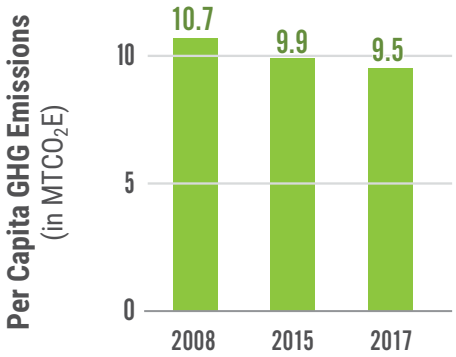
–1.8%
Building and Industrial Energy Efficiency

–1.1%
Fewer Car Trips Per Person

Progress has been made toward the countywide emission reduction goal over the past decade, but work remains to be done. Per capita geographic-plus emissions have declined from 10.7 metric tons of carbon dioxide equivalent (MTCO2e) per year in 2008 to 9.5 MTCO2e in 2017, an 11.2 percent reduction. However, the overall countywide emissions have decreased by only 1.6 percent during that same time period due to rapid population growth and regional economic expansion.

KING COUNTY GHG EMISSIONS (PER CAPITA)

Key trend: Reduction of 11% between 2008 and 2017

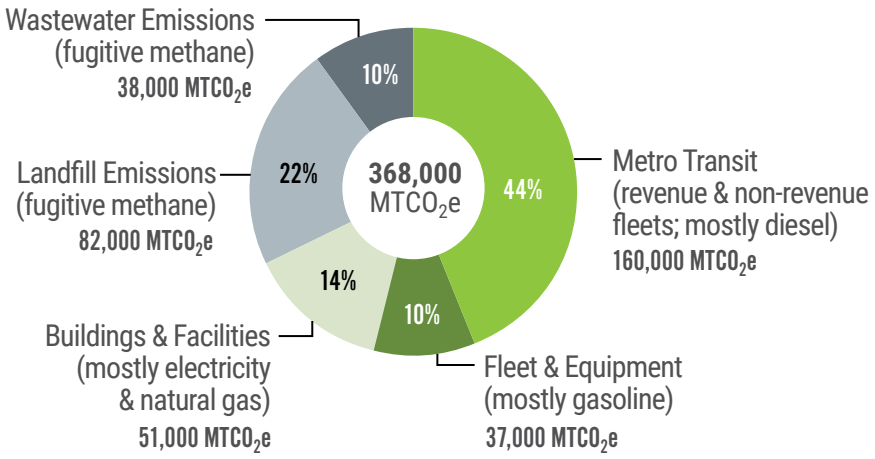


Operational Emissions

County Operations

Operational GHG emissions are those associated with King County government's daily operations and the services that it provides to the community. These include wastewater treatment plants, Metro buses, County buildings, County fleet services, and more. Operational GHG emissions have decreased by 1.5 percent from 2007 to 2019, despite a 21.6 percent increase in countywide population[1] and related growth of County government services. Operational emissions will further decline in 2020 when electricity use is transitioned to Puget Sound Energy's Green Direct program.

KING COUNTY OPERATIONAL GHG EMISSIONS BY SECTOR (2019)



To support the 2020, SCAP the County has completed quantitative analysis charting out pathways to achieve its ambitious GHG reduction targets. These pathways and supporting actions are presented in the GHG Focus Area 1: *Greenhouse Gas Targets and Policies*.

Climate Impacts in the Puget Sound Region

Human activities are rapidly increasing the amount of heat-trapping GHGs in the atmosphere, driving changes in the global climate system that have wide-ranging impacts on people, places, and the environment.

Since 1900, average annual air temperature in the Puget Sound region has increased 1.3 degrees Fahrenheit.[2] Heavy rain events are getting heavier,[3] the region is experiencing a long-term decline in snow and ice in the Cascades and Olympic mountains,[4] sea level is rising,[5] and ocean chemistry is changing in ways that are harmful to local marine species like shellfish and salmon.[6] Increased mortality on extreme heat days has also been observed in King County.[7] These changes will accelerate unless there is a sharp reduction in global GHG emissions, and the urgency to make these reductions is growing.[8] A 2018 report from the Intergovernmental Panel on Climate Change concluded that deep reductions in GHG emissions over the next decade are required in all sectors (including energy, buildings, transportation, industry, agriculture and forestry) in order to keep global warming below temperature thresholds that could trigger long-lasting or irreversible changes.[9]

Climate change is expected to have wide-ranging impacts on King County communities and the Puget Sound region (see figure, page 30) . Some impacts will emerge over time as a result of evolving climate conditions, such as warming temperatures, rising sea levels, and declining snowpack. Other impacts will be experienced more suddenly in the form of extreme events, such as flooding, heat waves, wildfire, or drought. While these types of extreme events are not new to the Puget Sound region, climate change affects the frequency, intensity, and duration of extreme events, creating new challenges for how we manage risks. The severity of these impacts is dependent on global trends in GHG emissions. If society reduces emissions, less severe impacts will be experienced.

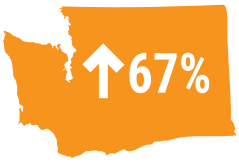
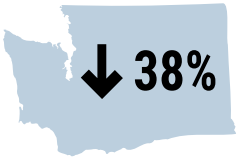
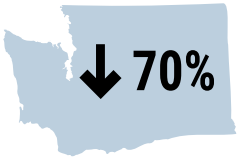
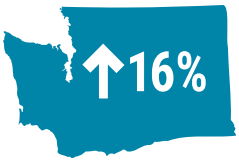
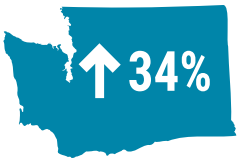
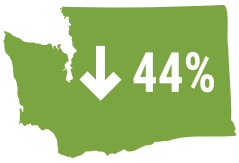
For more information on regional climate change impacts, see State of Knowledge: Climate Change in Puget Sound (2015), No Time to Waste: The Intergovernmental Panel on Climate Change's Special Report on Global Warming of 1.5°C and Implications for Washington State (2019), and the Northwest Chapter of the U.S. National Assessment on Climate Change (2018).

King Tide at Alki, January 2019



Projected Impacts of Climate Change

Projected changes in very hot days, snowpack, and streamflow in Washington State with up to 5.4°F of warming globally. This amount of warming is currently expected as soon as the 2060s (2050–2079) under a high GHG emission scenario. Higher amounts of warming are possible (up to 8.6°F globally) by 2100 under the high GHG scenario. Changes in hot days are relative to 1976–2005; all others are relative to 1970–1999.

	Change with 2.7°F (1.5°C)	Change with 5.4°F (3.0°C)	Risks
More very hot days (above 90°F)			• Heat-related illness and deaths • Warmer streams stressing salmon • More frequent harmful algal blooms
Reduced snowpack (April 1st snow water equivalent)			• Reduced water storage • Irrigation shortages • Winter and summer recreation losses
Higher winter streamflow (October–March)			• River flooding • Costly stormwater management and flood protection • Negative effects on salmon populations
Lower summer streamflow (April–September)			• Reduced summer hydropower • Challenges to water supplies • Negative effects on salmon populations

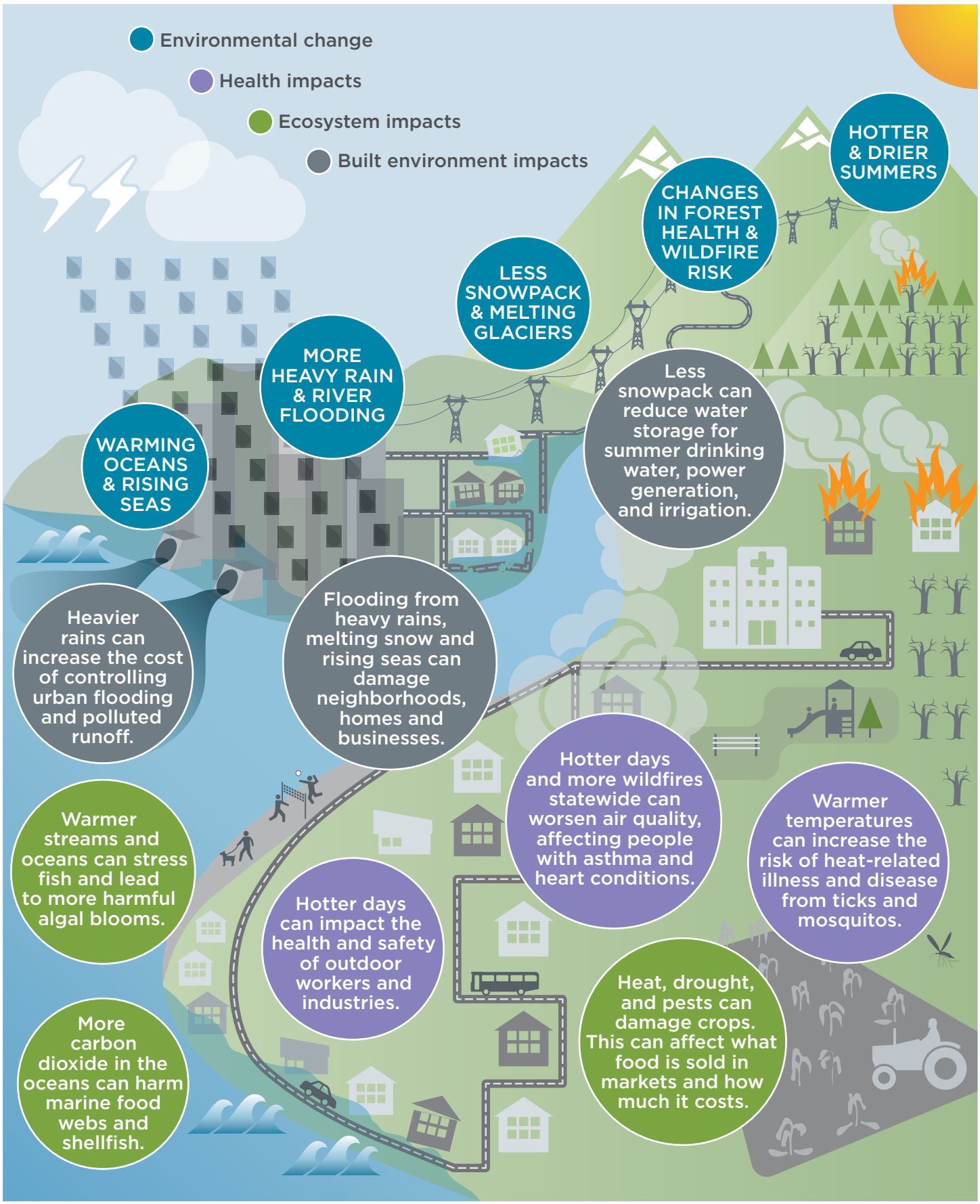
Adapted from UW Climate Impacts Group (Snover et al. 2019)[7]

Projected change in sea level rise in 2100, relative to 1991–2009, for King County for a low and high GHG emission scenario. Values are the median estimates and likely range, and do not include +3 feet of storm surge. Higher amounts of sea level rise (up to 5 feet) are possible by 2100 under the high GHG scenario.

Sea level rise in King County	**Low GHG scenario, 2100:** 1.9 feet (likely range: 1.3–2.5 feet) **High GHG scenario, 2100:** 2.3 feet (likely range: 1.7–3.1 feet)	• Coastal flooding and inundation • Damage to coastal infrastructure and communities • Bluff erosion

Adapted from UW Climate Impacts Group (Snover et al. 2019); Sea level rise values from Miller et al. 2018[4]

Climate Change Affects our Local Communities



Source: King County, with support from the UW Climate Impacts Group

Climate Change and Equity

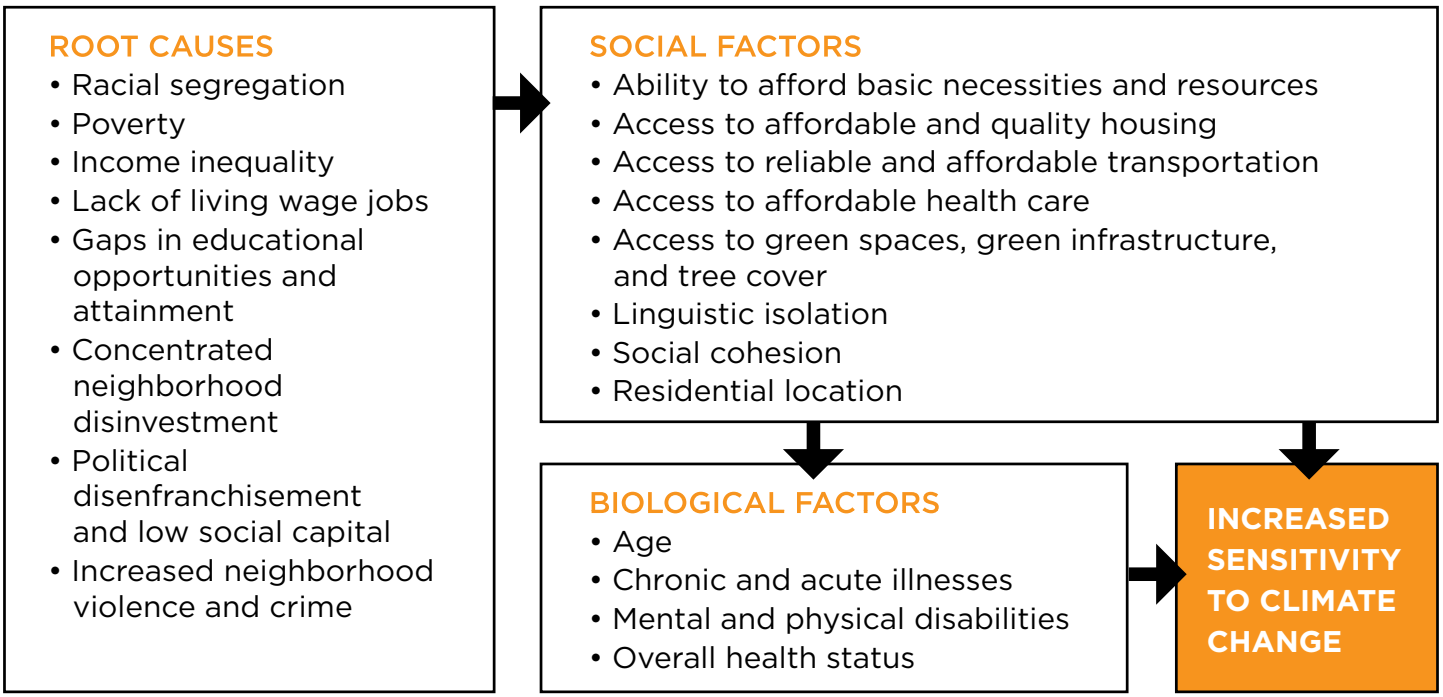
Climate change is a threat multiplier that exacerbates existing social and economic inequities. Climate impacts from more frequent heat events to more intense heavy rain events are projected to have disproportionate impacts on many sub-populations, including people living with low incomes, BIPOC communities, immigrants, limited-English-proficient groups, indigenous peoples, children, pregnant women, the elderly, persons with disabilities, and persons with chronic medical conditions.[10] These communities—who are more likely to experience some of the earliest and most acute impacts of climate change, carry the legacy of historic and current inequities, and often have limited resources and/or capacity to adapt—are on the "front lines" of climate change. How much risk a community faces from climate change depends on their exposure to climate-related hazards, and their vulnerability due to historic and current social inequities, environmental exposure, health, and access to information and resources to prepare for and adapt to these hazards.

Although everyone is vulnerable to climate impacts, frontline communities will face a larger burden due to the cumulative effects of existing and historic racial, social, environmental, and economic inequities. These inequities are the root cause of other factors, including social and biological factors that, in turn, create an increased sensitivity to climate change in certain groups, as illustrated below. These same factors can limit opportunities to benefit from solutions to climate change, including clean energy and urban greening projects. Effectively addressing climate change also requires understanding and addressing how underlying systemic and environmental racism implemented through discriminatory policies and practices by governments and institutions has resulted in disparate outcomes for frontline communties.

CLIMATE EQUITY ensures that all people have access and opportunity to benefit from climate solutions, while not bearing an un-equal burden of the impacts of climate change. This requires a holistic approach to equity in climate work that divides the burden of responding to climate change amongst those who contribute the most to the issue, while sharing the opportunities and benefits that equitable climate action presents with those that are most impacted.

Adapted from ICLEI[11] and WRI[12]

Root Causes and Factors Affecting Sensitivity to Climate Change



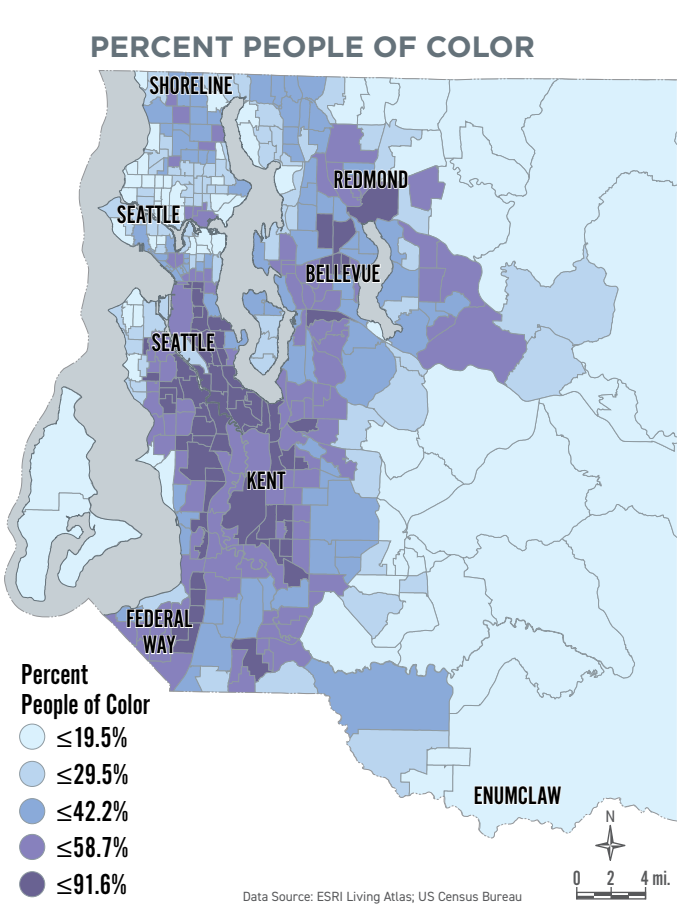
Source: Adapted from "Root Causes and Factors Affecting Sensitivity to Climate Change" in Urban Sustainability Directors Network Guide to Equitable, Community-Driven Climate Preparedness Planning [13]

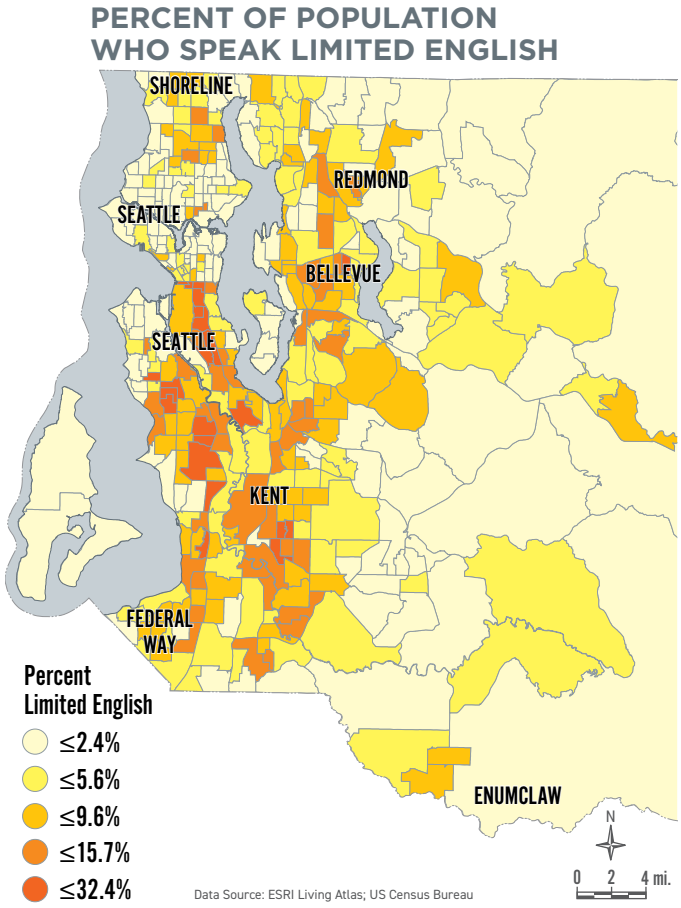
Historic and Current Social Inequities

Historic and existing social inequities impact the ability of people and communities to respond, recover, and be resilient in the face of climate-related hazards. Environmental injustice, institutional racism, economic inequality, and the disparities that result continue to impact BIPOC communities, making them more vulnerable to climate change.

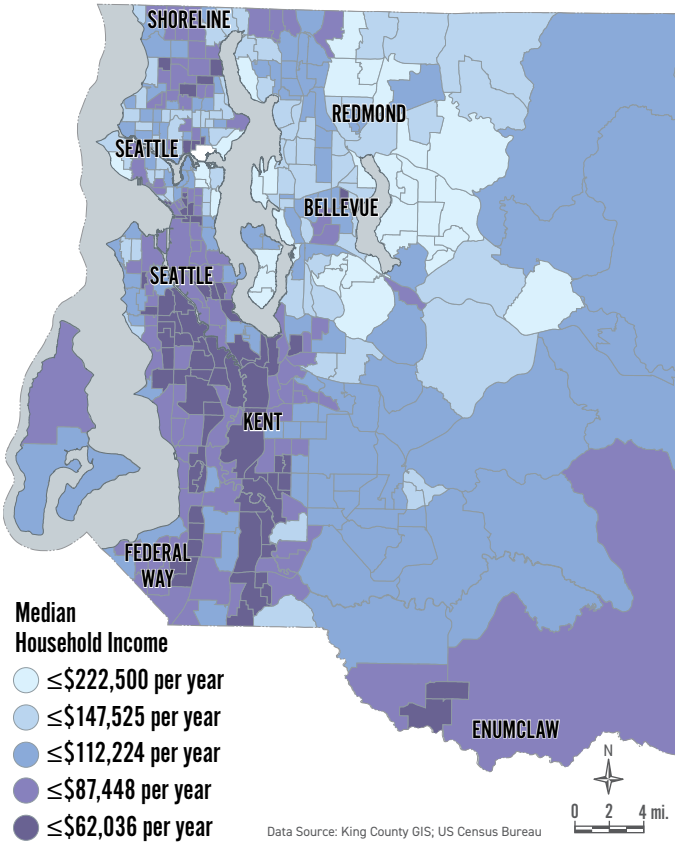
There are many factors that have contributed to the landscape of inequities across King County, including historic discriminatory policies and economic inequities that have been exacerbated by rising housing prices. Historic redlining, racial restrictive covenants, marginalization have negatively impacted access to housing and opportunities to build generational wealth for BIPOC communities. Many areas that were historically redlined are also areas that now have higher concentrations of people living with low incomes, people of color, limited-English-speaking communities, and immigrant/refugee communities in south King County.[14] These geographic areas, many of which are concentrated in south King County, simultaneously experience a lack of access to green space, and easy access to public transit; fresh, healthy, and culturally relevant foods; affordable housing; healthcare; educational resources; social services; and more. It is evident that current and historic racial injustice, housing discrimination, and inequitable neighborhood investment contribute to a cascade of disparities for BIPOC communities, including in access to economic opportunities, health, wealth, and education. These structural inequities result in a cumulative impact of fewer resources and lower capacity for frontline communities to adapt to a changing climate.

As we work toward clean energy solutions, some of the solutions and benefits such as solar panels or electric vehicles have been out of reach for people living with low incomes, renters, and more. Frontline communities are supportive and interested in taking action on climate change and transitioning to a green economy, but face barriers in making these changes in their own homes or communities. As climate impacts are experienced, the increasing cost burden of basic needs, including energy bills and fresh foods, contributes to BIPOC communities and low-income communities spending a

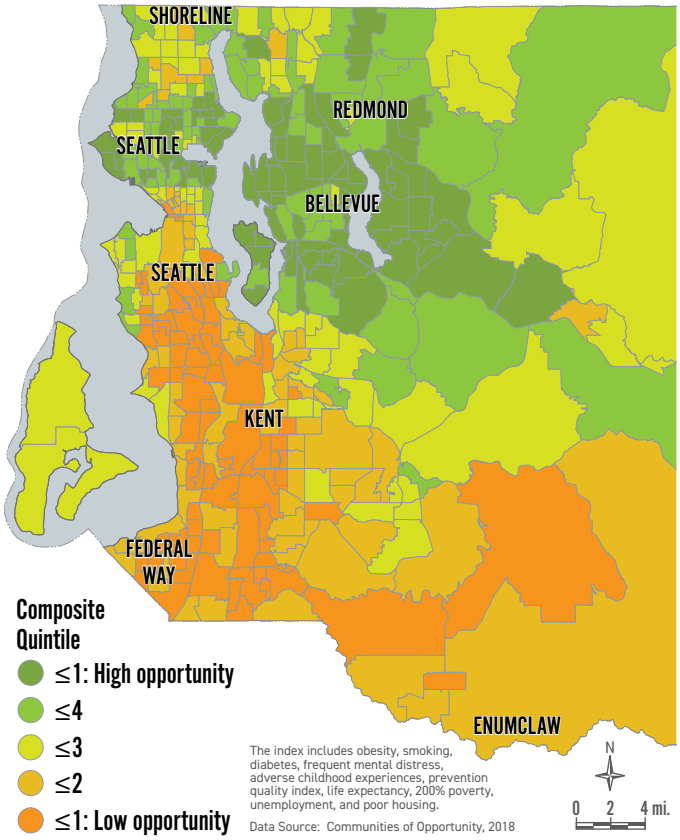




MEDIAN HOUSEHOLD INCOME



HEALTH AND ECONOMIC INDEX



disproportionate amount of their incomes on basic needs and unable to invest in climate-resilient solutions for their families.

Another impact of climate change has been loss of cultural resources and traditional practices. For indigenous communities, climate change is contributing to the loss of cultural sites and ability to engage in traditional harvest practices. For example, the viability of salmon, a culturally significant key species for many Washington tribes, is being threatened by warming stream temperatures and other environmental changes. There is also a sense of cultural loss within immigrant and refugee communities who have left homelands experiencing extreme changes in climate, leaving behind family and cultural resources and practices tied to specific landscapes and places.

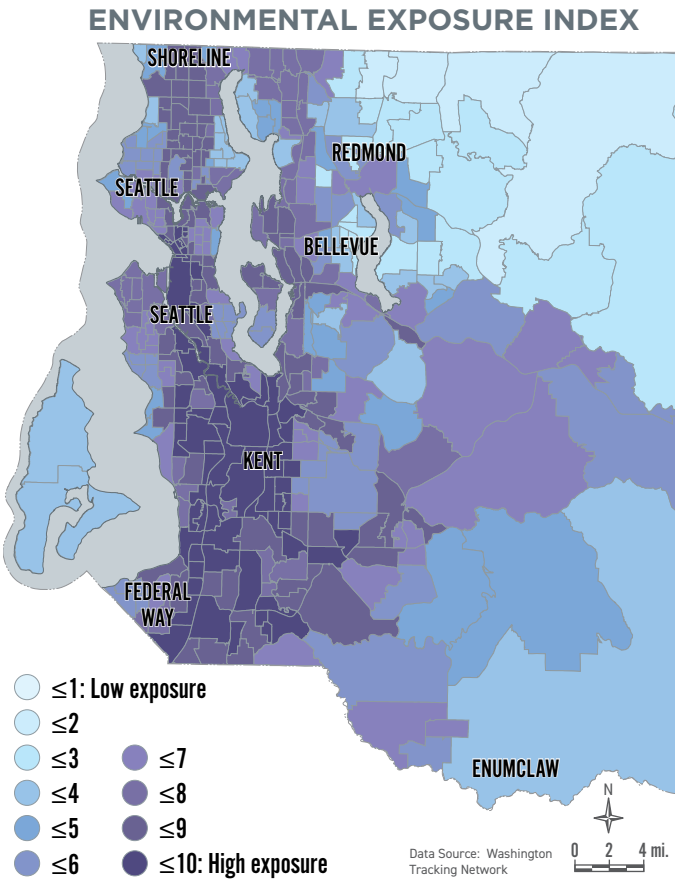
Environmental Exposure

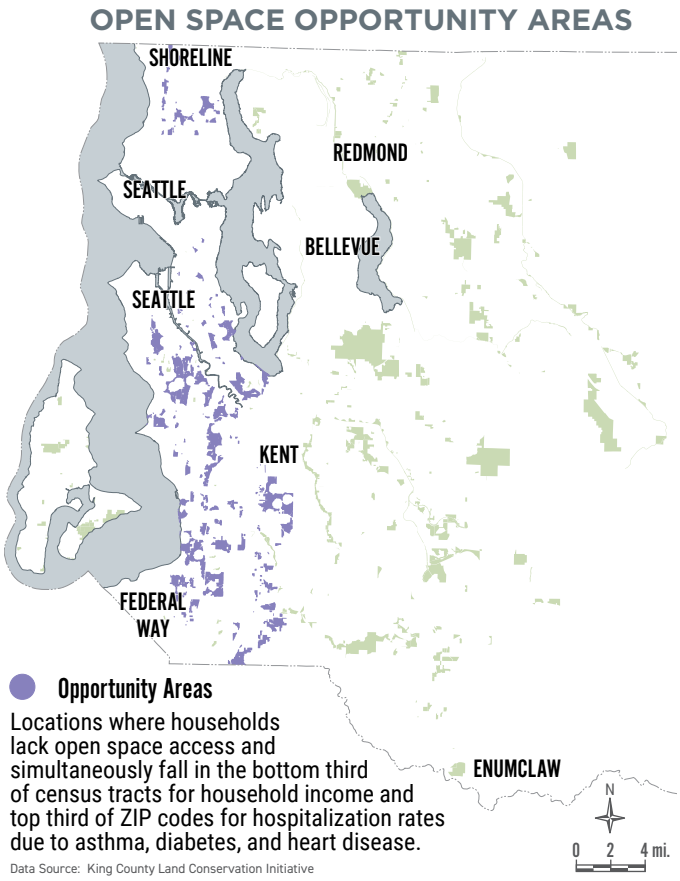
Exposure to a climate-related hazard is the extent to which people or communities encounter or experience the climate hazard. Exposure is typically influenced by geographic factors such as where you live, work, and play, but can also be influenced by occupation type. For example, outdoor workers like those who work in agriculture or construction will face greater exposure to hazards such as air pollution and heat events.

Certain geographic areas in King County experience greater exposure to environmental hazards. These communities are focused in south King County as can be seen in the map with Washington Tracking Network's Environmental Exposure Index, which shows diesel emissions, ozone concentration, PM2.5 (particulate matter) concentration, populations near heavy traffic roadways, and toxic releases from facilities.[15] The underlying conditions and disparities in environmental exposures contribute to disparate outcomes in health and sensitivity levels to climate change impacts.

Furthermore, these neighborhoods continue to face historic and current environmental injustices that have led to increased exposure, including underinvestment in public infrastructure that could reduce their exposure to environmental hazards. For example, neighborhoods that lack green space or tree

cover face greater exposure to climate-related impacts such as the urban heat island effect or air pollution. King County's Land Conservation Initiative produced a geographic analysis of green spaces across King County and identified opportunity zones based on the communities that have the least access to green space and have high rates of adverse health impacts (such as asthma and diabetes). This map shows that the concentration of the neighborhoods that lack access to green space are in south King County, which overlaps with where many communities of color, immigrant and refugee communities, and limited-English-speaking communities live.



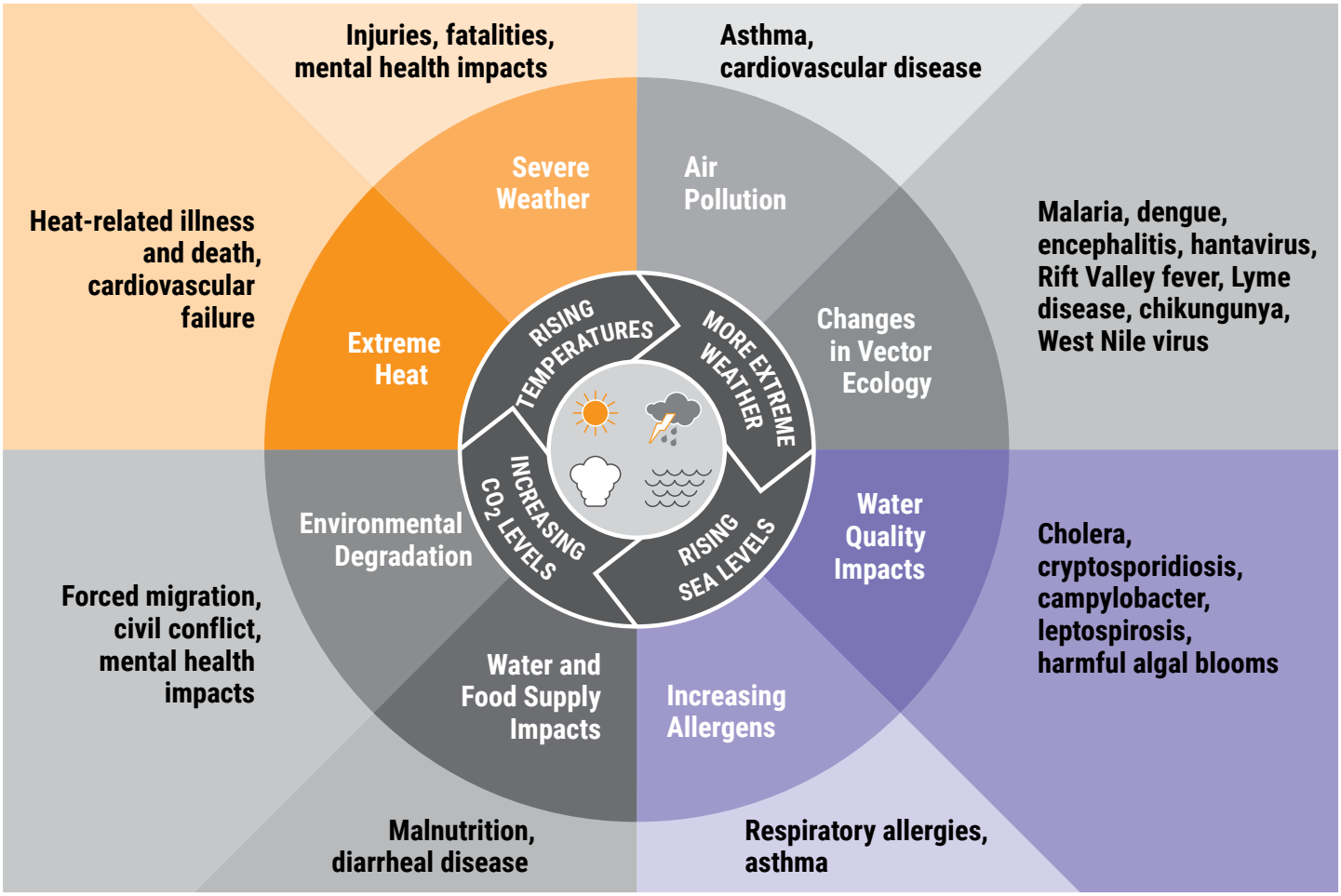


Health Vulnerabilities

Existing environmental and health vulnerabilities describes the extent to which people or communities will be adversely affected when experiencing a climate impact.[16] The maps displaying the Environmental Exposure Index and the demographics across King County illustrate that the areas with disproportionate exposure to environmental hazards overlaps with the areas that have the highest concentrations of communities of color and immigrant and refugee populations.

Public Health produced the Blueprint for Addressing Climate Change and Health to identify actions they could take to address climate change health impacts and confront the disproportionate health burden of climate impacts on communities of color. Historic environmental and social injustices have led to BIPOC communities experiencing higher rates of asthma and less access to affordable healthy foods, facing more barriers to quality healthcare, being more likely to live in flood-prone areas and areas with higher exposure to toxics, and having more difficulty evacuating during emergencies.[17] More recently, in June 2020, Public Health declared that racism is a public health crisis and committed to disrupting and dismantling systemic racism to protect the health and well-being of BIPOC communities.[18]

Impact of Climate Change on Human Health



Source: Adapted from Centers for Disease Control and Prevention: cdc.gov/climateandhealth/effects

Striving for Climate Equity in the 2020 SCAP

King County is committed to taking action on climate change and equity and social justice (ESJ). The SCAP guiding principles highlight how King County is prioritizing equity throughout all three sections of the 2020 SCAP and in future climate work. Knowledge about disproportionate risks, health vulnerabilities, historic and current social inequities, and environmental exposure guides work and investments to reduce pollution, support sustainable and resilient communities, and reduce climate change risks and impacts. Equitable climate solutions must aim to reduce environmental exposure, increase access to resources and opportunities, and increase capacity to adapt for frontline communities that are disproportionately impacted by climate change. King County's commitment to community partnerships, ESJ, and an upstream approach to addressing the root causes of climate change sensitivity are more critical than ever.

Introduction Endnotes

1 U.S. Census Bureau. (2019). QuickFacts King County, Washington.

2 See Chapter 2 in Mauger, G.S., J.H. Casola, H.A. Morgan, R.L. Strauch, B. Jones, B. Curry, T.M. Busch Isaksen, L. Whitely Binder, M.B. Krosby, and A.K. Snover. (2015). State of Knowledge: Climate Change in Puget Sound. Report prepared for the Puget Sound Partnership and the National Oceanic and Atmospheric Administration. Climate Impacts Group, University of Washington, Seattle. doi:10.7915/CIG93777D

3 Rath, J., S. Roy, J. Butcher. (2017). Intensity Duration Frequency Curves and Trends for the City of Seattle. Technical Memorandum prepared for Seattle Public Utilities.

4 Mote, P.W., Li, S., Lettenmaier, D.P. et al. (2018). Dramatic declines in snowpack in the western US. *npj Clim Atmos Sci* 1, 2. https://doi.org/10.1038/s41612-018-0012-1.

5 Miller, I.M., Morgan, H., Mauger, G., Newton, T., Weldon, R., Schmidt, D., Welch, M., Grossman, E. (2018). Projected Sea Level Rise for Washington State – A 2018 Assessment. A collaboration of Washington Sea Grant, University of Washington Climate Impacts Group, University of Oregon, University of Washington, and US Geological Survey. Prepared for the Washington Coastal Resilience Project. updated 07/2019

6 Bednaršek, N., R. A. Feely, J.C. Reum, B. Peterson, J. Menkel, S.R. Alin, and B. Hales. (2014). Limacina helicina shell dissolution as an indicator of declining habitat suitability owing to ocean acidification in the California Current Ecosystem. *Proceedings. Biological Sciences*, 281(1785), 20140123. doi:10.1098/rspb.2014.0123.; see also Washington Marine Resources Advisory Council. 2017. 2017 Addendum to Ocean Acidification: From Knowledge to Action, Washington State's Strategic Response. EnviroIssues (eds). Seattle, Washington.

7 Isaksen TB, Fenske RA, Hom EK, Ren Y, Lyons H, Yost MG. (2016). Increased mortality associated with extreme-heat exposure in King County, Washington, 1980-2010. *Int J Biometeorol*. 60(1):85-98. doi:10.1007/s00484-015-1007-9

8 Snover, A.K., C.L. Raymond, H.A. Roop, H. Morgan. (2019). No Time to Waste. The Intergovernmental Panel on Climate Change's Special Report on Global Warming of 1.5°C and Implications for Washington State. Briefing paper prepared by the Climate Impacts Group, University of Washington, Seattle. Updated 02/2019.

9 IPCC (2018). Summary for Policymakers. In: Global Warming of 1.5°C. An IPCC Special Report on the impacts of global warming of 1.5°C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change, sustainable development, and efforts to eradicate poverty. [Masson-Delmotte, V., P. Zhai, H.-O. Pörtner, D. Roberts, J. Skea, P.R. Shukla, A. Pirani, W. Moufouma-Okia, C. Péan, R. Pidcock, S. Connors, J.B.R. Matthews, Y. Chen, X. Zhou, M.I. Gomis, E. Lonnoy, T. Maycock, M. Tignor, and T. Waterfield (eds.)]. World Meteorological Organization, Geneva, Switzerland, 32 pp.

10 U.S. Global Change Research Program. (2016). The Impacts of Climate Change on Human Health in the United States: A Scientific Assessment. Ch. 9: Populations of Concern.

11 ICLEI USA. (2020). Climate Equity.

12 World Resources Institute. (2020). Climate Equity.

13 Urban Sustainability Directors Network. (May 2017). Guide to Equitable Community-Driven Climate Preparedness Planning.

14 University of Washington. (2018). Segregated Seattle.

15 Min, E., Gruen, D., Banerjee, D., Echeverria, T., Freelander, L., Schmeltz, M., Saganić, E., Piazza, M., Galaviz, V.E., Yost, M., Seto, E.Y.W. (2019). The Washington State Environmental Health Disparities Map: Development of a Community-Responsive Cumulative Impacts Assessment Tool. Int. J. Environ. Res. Public Health, 16(22), 4470.

16 UW Climate Impacts Group, UW Department of Environmental and Occupational Health Sciences, Front and Centered and Urban@ UW. (2018). An Unfair Share: Exploring the disproportionate risks from climate change facing Washington state communities.

17 Public Health—Seattle & King County. (2018) Blueprint for Addressing Climate Change and Health.

18 Public Health Insider. (June 2020). Racism is a Public Health Crisis: The Transformation Starts Here, It Starts with Us.

Maps

The use of the information in the maps in this report is subject to the terms and conditions found at: www.kingcounty.gov/services/gis/Maps/terms-of-use.aspx. Your access and use is conditioned on acceptance of these terms and conditions. Unless noted otherwise, data is from King County GIS.



Section: Reducing Greenhouse Gas Emissions

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GHG Section Highlights and Priorities

Focus Area		Goal	Highlights and Priorities
Greenhouse Gas Targets and Policy 	COUNTYWIDE 	Reduce countywide sources of GHG emissions, compared to 2007: 25% by 2020, 50% by 2030, and 80% by 2050.	• Establishes updated targets in all focus area that together achieve overarching GHG goals. • Recommends partnering with Cities to work towards a net carbon neutral target. • Recommends developing pathways and strategies to reduce consumption-based emissions.
	OPERATIONS 	Reduce total GHG emissions from government operations, compared to 2007, at least 25% by 2020, 50% by 2025, and 80% by 2030.	• Accelerates the County's 80% reduction target by 20 years. • Expands use of an operational "cost of carbon."
Transportation and Land Use 	COUNTYWIDE 	Reduce passenger car trips and vehicle emissions.	• Adopts three-part strategy to reduce car trips through: – Sustaining and increasing transit service – Focusing development in urban areas and centers – Implementing vehicle usage pricing equitably • Focuses on reducing vehicle emissions through clean fuels and electric vehicles.
	OPERATIONS 	Increase the efficiency of County vehicle fleets and minimize their GHG emissions.	• Establishes targets and supporting actions - such as transitioning to electric vehicles - to reduce fleet GHG emissions by 45% by 2025 and 70% by 2030.
Building and Facilities Energy 	COUNTYWIDE 	Reduce energy and fossil fuel use in the built environment and increase the use of clean energy supplies and technology.	• Targets reducing energy use by 25% and fossil fuel use by 20% by 2030, including to: - Partner to develop efficiency programs - Convert oil and propane heated homes to clean sources - Propose a Commercial Property Assessed Clean Energy program • Supports equitable implementation of the Washington State Clean Energy Transformation Act.
	OPERATIONS 	Reduce energy use in County facilities, make investments to reduce building fossil fuel use, and produce more renewable energy	• Extends strong energy efficiency targets • Commits to reduce fossil fuel use in existing facilities, and eliminate it in new facilities • Recommits the County to use 100% carbon free electricity and advances new solar and biogas strategies

GHG Section Highlights and Priorities *continued*

Focus Area		Goal	Highlights and Priorities
Green Building 4	COUNTYWIDE 	Reduce energy use and GHG emissions associated with new construction, additions, retrofits and remodels in all buildings built in King County.	• Works with partners to advance state green building code amendments • Recommends updated building codes in unincorporated King County to contribute to countywide energy and GHG targets • Commits to improving commercial energy code to reach net zero goals by 2031
	OPERATIONS 	Build, maintain and operate County facilities consistent with the highest green building and sustainable development practices.	• Implements the highest green building and sustainable development standards • Commits to 20 Net Zero or Living Building Projects by 2025 • Commits to integrating equity and social justice into all capital projects
Consumption and Materials Management 5	COUNTYWIDE 	Achieve a circular economy, whereby waste is minimized through prevention, reuse and recycling, and materials stay in use longer.	• Commits to achieve zero waste of resources and zero edible food waste by 2030, by: – Spurring and supporting new recycling markets – Implementing a regional organics plan – Prioritizing food waste reduction strategies • Continues recycling improvements at County owned transfer stations
	OPERATIONS 	Minimize operational resource use, maximize reuse and recycling, and choose products and services with low environmental and carbon impacts.	• Increases the purchase of sustainable and recycled content products • Ramps up use of low-embodied carbon materials in construction projects
Forests and Agriculture 6	COUNTYWIDE 	Protect high-value forests and farmland; expand total area of forest cover and actively farmed land; and restore health, viability and resilience of forests and farmland.	• Highlights the new 30-Year Forest Plan • Implements the Land Conservation Initiative, investing $25 million by 2025 to improve access to urban greenspace • Supports immigrant and refugee farmers
	OPERATIONS 	Manage and restore County-owned parks, natural lands and farmlands to maximize biological carbon storage and increase climate resilience.	• Expands work to Plant, Protect and Prepare 3 Million Trees by 2025 – Plant 500,000 trees, guided by equity and ecological priorities – Protect 6,500 acres of forests and natural areas (2 million trees) – Prepare and restore by doubling the County's pace of restoration (500,000 trees)

Introduction

The Reducing GHG Emissions section includes strategies, priority actions and performance measures to reduce GHG emissions countywide and from County government operations. Focus areas were determined based on major GHG emissions sources and opportunities for reductions and carbon sequestration. All Focus areas include commitments that advance both GHG emissions reductions and racial justice and equity, as part of the SCAP's commitment to lead with this guiding principle.

The preceding *Highlights and Priorities* summary tables introduce this section's six focus areas and overarching goals, and provide highlights and priorities for the section.

Please refer to the Introduction section, which articulates the plan-wide approach for climate action. This includes the 2020 SCAP's Guiding Principles that guide the County's work to reduce GHG emissions, implementation of the section's commitments, and broader County climate work as it evolves and advances in coming years.

Many targets and commitments in this section were co-developed with partners of the King County-Cities Climate Collaboration (K4C). These actions are also reflected in the K4C's Joint Climate Action Commitments (2019) which represent a shared vision for countywide progress to reduce GHG emissions. Countywide targets also build on technical analysis completed to support the 2020 SCAP update that assessed recent trends in countywide GHG emissions and identified major opportunities for reductions. This "wedge" analysis defines the nine key pathways the County and K4C partners will pursue to reach the 2030 and 2050 countywide GHG emission reduction goals. The 2020 SCAP also builds on parallel technical analysis about opportunities and strategies to reduce GHG emissions from County operations as identified in the King County Carbon Neutral Implementation Plan.

Leading with Racial Justice and Equity in Reducing GHG Emissions

The 2020 SCAP adds a new Sustainable & Resilient Frontline Communities (SRFC) section. The SRFC section was developed in partnership and with the leadership of representatives from frontline communities in King County that are disproportionately impacted by climate change. The section provides timely analyses of equity and racial justice that intersect with climate change issues and actions through the voice of people with the most valuable lived experience and insights concerning the intersections and solutions. There are eight focus areas in the SRFC that ground equity and health parity throughout the SCAP. Accordingly, the SRFC focus areas that provide parallel analysis to focus areas of this section should be accessed for an in-depth discussion of equity.



Priority Actions in this section include commitments that are connected to the work of the SRFC section and Climate Equity Community Task Force (CECTF) recommendations, and are labeled with a Climate Equity icon. Priority Actions that align with recommendations of Public Health— Seattle & King County's Blueprint for Addressing Climate and Health are also highlighted.

While the SRFC section should be accessed for an in-depth discussion of equity, additional highlights of actions in this section that advance both GHG reductions and equity include the following:

GHG Focus Area		Equity Highlights And Connections
	**Focus Area 1: Greenhouse Gas Targets and Policies**	Commits the County to partner to strengthen long-term GHG targets to help avoid the worst impacts of climate change—impacts that would disproportionately affect communities of color.
	**Focus Area 2: Transportation and Land Use**	Advances equitable access to transit; guided by Metro's Mobility Equity Cabinet and Mobility Framework.
	**Focus Area 3: Buildings and Facilities Energy**	Includes a focus on efficiency and renewable energy access and opportunities for Black, Indigenous, and People of Color (BIPOC) communities and people living with low incomes, such as through community solar and in the transition from fossil fuel use in buildings.
	**Focus Area 4: Green Building**	Supports the development of, and equitable access to, green affordable housing and requires integration of equity and social justice into all King County developed capital projects.
	**Focus Area 5: Consumption and Materials Management**	Leads the way to a circular economy including a focus on spurring new recycling markets and food waste reduction strategies such as increasing food donation.
	**Focus Area 6: Forests and Agriculture**	Advances recommendations of the Open Space Equity Cabinet, including committing to invest at least $25 million and acquire at least 25 equity open space opportunity sites by 2025 as part of work to improve access to urban green space.

Key Themes of Public Input

Key themes of partner and public input are summarized in the Appendix VI: Community Engagement Summary with some highlights also provided in each focus area. Themes for this section include::

- **Equity:** prioritize transit access and affordability; resources to support clean energy; green, affordable housing; and access to open space for BIPOC communities and people living with low incomes;
- **Health:** weave health throughout all climate work;
- **Collaboration**: support for the King County-Cities Climate Collaboration (K4C); push to strengthen its commitments, accountability and staff capacity;
- **Focus Area 1: Greenhouse Gas Targets and Policies** – strengthen overarching GHG emission reduction targets;
- **Focus Area 2: Transportation and Land Use** – interest in governments and partners working together on mobility and transit;
- **Focus Area 3: Buildings and Facilities Energy** – focus on reducing fossil fuels in buildings; more renewable energy;
- **Focus Area 4: Green Building** – develop a comprehensive approach (codes, incentives, financing, certifications);
- **Focus Area 5: Consumption and Materials Management** – work throughout the supply chain; sustainable purchasing; and
- **Focus Area 6: Forests and Agriculture** – support conservation of forests and natural lands; collaborate with the agricultural community.

2020 SCAP public workshop at the wəɬəb?altxʷ – Intellectual House on the University of Washington, Seattle campus



How to Read this Section

In the Reducing GHG Emissions Section, actions and commitments are organized at two scales:

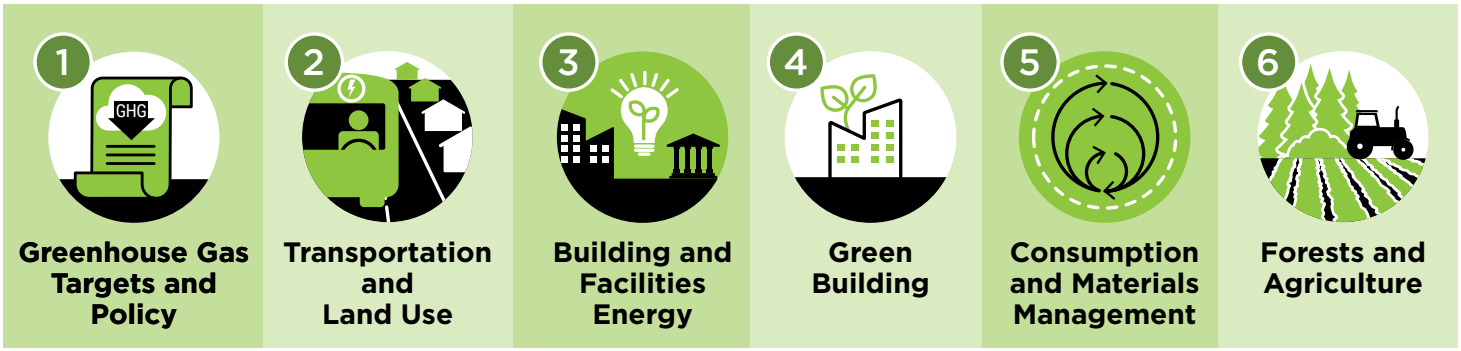

Countywide

Countywide. Used to describe actions that require partnerships to advance and which provide direct benefits to King County residents. Examples of countywide commitments in the 2020 SCAP include to support community-led projects or programs, provide services such as transit, and act to implement statewide policies and programs; and


County Operations

County Operations. Used to describe internal actions focused on King County government operations. In the GHG section, these are commitments focused on reducing emissions associated with facilities and operations.

GHG SECTION FOCUS AREAS



Each of the six GHG Focus Areas is organized in the following format:

- **Key Takeaways**, which provides a high-level summary of the focus area;
- **Introduction**, which includes background and context;
- **Key Themes of Public Input**, which summarizes priorities identified through the 2020 SCAP engagement process;
- **Goal**, which provides a high-level statement of intended outcomes;
- **Categories, Strategies and Priority Actions**, which are presented in a table format with supporting information about accountable agencies, the role of King County, and connections and considerations (see table below); and
- **Performance measures**, which support and track progress over time:
  - *Performance Measure* – short description
  - *Target* –time bound target of performance
  - *Status* – recent progress and status
  - *GHG Emissions Reduction* – current or projected GHG emissions benefits.

How to Read Priority Action Tables in the GHG Emissions Section

CATEGORY: A GROUPING OF RELATED PRIORITY ACTIONS

Strategy: a method in support of the focus area

GHG 1.1.1

Action Number

Priority Action details and *responsible agencies*.

Priority Action: a near term action that King County will take in support of broader goals and strategies. Actions will occur by 2025, unless otherwise noted, and many include earlier deadlines. The Executive reports to the King County Council on progress related to each Priority Action every 2 years.

Icon(s)

King County Role: the County's role(s) in delivering each Priority Action

Icon(s)

Connections and Considerations throughout the SCAP

King County Role



Implement

An action where King County has a lead role in carrying out the activity—may include cases where the County has direct control over an outcome and possesses or can acquire the necessary tools/staffing to make progress on an action.



Convene

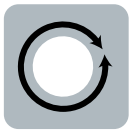
An action where King County needs external partners and collaborators to complete the action and King County is taking an active role in that work by convening partnerships for collective climate action.



Support/Advocate

An action where King County's primary role is supporter and/or advocate for the action. This includes actions that would need to be undertaken by other entities or where King County does not have control over the activities necessary to complete an action.

Connections and Considerations



K4C: Aligns with commitments made in collaboration with the King County-Cities Climate Collaboration (K4C).



Public Priority: Responds to a recurring theme heard in 2020 SCAP public engagement process.



Fast Start: Priority action to be accomplished by the end of 2022.



Carbon Neutral: Consistent with the County's Operational Carbon Neutral Implementation Plan.



Climate Equity: Consistent with the priorities of King County's Climate Equity Community Task Force (CECTF).



Health Blueprint: Consistent with the priorities of Public Health—Seattle & King County's Blueprint for Addressing Climate Change and Health.



Resource Need: Commitments where there are pending or unmet resource needs to accomplish the work.



Climate Preparedness: Consistent with priorities identified in the Preparing for Climate Change section.

Focus Area 1
Greenhouse Gas Targets and Policy

Key Takeaways

Countywide:

- **Data-Led Policy.** Developed in partnership with the K4C, the 2020 SCAP includes new pathways to reduce local GHG emissions by at least 50 percent by 2030 and 80 percent by 2050.
- **Recommends Partnering with Cities to Develop a Carbon Neutral Target.** Commits to partner with the 39 cites in King County to analyze pathways to update existing targets, based on science and public input, including working with partners to adopt a new shared carbon neutral target.
- **Commits to Develop New Pathways to Reduce Consumption Emissions.** The County will conduct new technical analysis and develop leadership pathways that outline what it will take to reduce consumption-based emissions, such as those associated with food and purchased goods, by 80 percent and net carbon neutral goals.

County Operations:

- **Sets Stronger GHG Targets for Operations.** Establishes new leadership targets and supporting actions for operations consistent with County's Carbon Neutral Implementation Plan to reduce GHGs by 50 percent by 2025 and 80 percent by 2030.
- **Expands Use of an Operational Cost of Carbon.** King County will use internal carbon pricing strategies to evaluate projects and, in certain cases, to fund GHG reduction projects.
- **Establishes GHG Emissions, Carbon Offset, and Renewable Energy Policies.** The 2020 SCAP includes new principles and policies that will guide the County's operational GHG emissions reductions and guide the use, purchase, sale, and reinvestment of carbon offsets and renewable energy generated by King County.

Elected officials in October 2019 after a King County Cities Climate Collaboration (K4C) Elected Official Work Session. Partnering through the K4C is an important way the County is working to achieve shared GHG targets developed in partnership with all cities in King County. As of early 2020, the K4C includes 18 partners that together represent more than 80% of the County's population.



Front Row, Left to Right: *(1) Renton Councilmember Ryan McIrvin; (2) Kirkland Councilmember Kelli Curtis; (3) Bellevue Deputy Mayor Lynne Robinson; (4) King County Executive Dow Constantine; (5) Bellevue Councilmember Janice Zahn; (6) Sammamish Councilmember Pam Stuart; (7) Mercer Island Councilmember Wendy Weiker; (8) Kirkland Deputy Mayor Jay Arnold; (9) Mercer Island Councilmember Benson Wong; (10) Carnation Mayor Kimberly Lisk; (11) Lake Forest Park Councilmember Mark Phillips;* ***Back Row, Left to Right:*** *(1) Burien Deputy Mayor Austin Bell; (2) Normandy Park Councilmember Sue-Ann Hohimer; (3) Bothell Councilmember James McNeal; (4) Kenmore Deputy Mayor Nigel Herbig; (5) Seattle Councilmember Abel Pacheco; (6) Snoqualmie Mayor Matt Larson; (7) Snoqualmie Councilmember James Mayhew; (8) Shoreline Councilmember Betsy Robertson; (9) Mercer Island Councilmember Bruce Bassett*

Introduction

In 2014, King County and all 39 King County cities came together to develop shared, countywide GHG emissions reduction targets. The targets were unanimously adopted by the King County Growth Management Planning Council, a regional planning body that develops countywide policies to help guide local comprehensive plans throughout King County. The formal adoption of a shared, community-scale GHG target by local governments is relatively unusual and provides a strong foundation and guidepost for countywide efforts to reduce GHG emissions.

The shared near- and long-term targets are ambitious and achievable, and consistent with what climate science says needs to be done in order to avoid the worst impacts of climate change. Developed in partnership with the K4C, the 2020 SCAP includes new pathways to reduce local GHG emissions by at least 50 percent by 2030 and 80 percent by 2050.

Although King County government's contributions to communitywide and global GHG emissions are relatively small, the County is committed to reducing its operational GHG footprint while implementing climate solutions to achieve environmental, equity, economic, and health benefits. In February 2019, King County Executive Dow Constantine transmitted the King County Carbon Neutral Implementation Plan to the King County Council. The Carbon Neutral Implementation Plan recommended that King County's 2020 Strategic Climate Action Plan (SCAP) establish new goals for government operations that are more ambitious than those of the 2015 SCAP and accelerate the 80 percent reduction target by 20 years to 2030. This recommendation was informed by modeling of technically feasible, but ambitious strategies that would collectively achieve the new goals.

The Carbon Neutral Implementation Plan outlines the preliminary assessment of requirements of the County (in terms of staff, resources, strategic planning) as well as external factors (e.g., market for new technology) that would be needed to achieve these goals. Meeting these accelerated goals requires financial and policy choices on a host of actions, from vehicle electrification to energy efficiency to waste prevention.

Key Themes of Public Input

A recurring theme of 2020 SCAP public input was that overarching GHG targets should be strengthened. At stakeholder and public workshops held in the fall of 2019, participants recommended strengthening the overarching GHG emission reduction targets. At that time, the County held stronger goals than the state. In early 2020, the Washington State Legislature passed updated statewide emission reduction targets that achieve deeper GHG emissions reductions in the long term and include a net carbon neutral goal by 2050.

Public input highlighted that consumption-based GHG emissions (i.e., those associated with all resident purchases) are a significant and sometimes overlooked source of emissions. There was recurring public input that King County should be inclusive of these types of emissions in its climate strategies and chart out how to reduce them consistent with existing County and K4C GHG reduction targets.

COUNTYWIDE

Goal

Reduce countywide sources of GHG emissions, compared to a 2007 baseline, by 25 percent by 2020, 50 percent by 2030, and 80 percent by 2050. Pursue additional goals and actions to sequester carbon and reduce emissions from consumption of goods and services.

K4C

Category

- Climate Policy and Accountability

What's New with King County's Countywide GHG Goal? What's Next?

Broaden the Scope: The 2020 SCAP updates the countywide GHG goal to support additional goals and actions that sequester GHG emissions (e.g., through tree planting and forest protection) and also provides direction to reduce consumption-based GHG emissions from sources such as food and goods consumed by King County residents.

Partner for Deeper Reductions: Priority Action GHG 1.1.2. commits the County to work with cities to update shared GHG goals and targets toward a net carbon goal. Priority Actions GHG 1.1.3. and GHG 1.2.2. commit the County to measure, plan, and develop new resources to reduce consumption-based GHG emissions.



CLIMATE POLICY AND ACCOUNTABILITY

Strategy GHG 1.1. Support strong federal, regional, state and local climate policy.

	Priority Actions	King County Role	Connections and Considerations
GHG 1.1.1	**Advocate for comprehensive federal, regional, and state science-based limits and a market-based price on carbon pollution and other GHG emissions.** A portion of revenue from these policies should support local GHG reduction efforts that align with the K4C's Joint County-City Climate Commitments, such as funding for transit service, renewable energy and energy-efficiency projects, green building, and forest protection and restoration initiatives. *(KCEO)*		 
GHG 1.1.2	**Strengthen long-term countywide GHG targets to reflect public input and science.** In light of public input that the County's target should be strengthened, emerging science of what is needed globally to avoid the worst climate impacts, and reflecting new statewide targets, King County commits to work with cities and partners to analyze pathways to more ambitious targets, including a 2050 carbon neutral target, and to develop recommendations to shared GHG reduction targets as part of the next update to Countywide Planning Policies, planned for 2021. *(Climate Action Team; KCEO)*	  	  
GHG 1.1.3	**Quantify and develop pathways to achieve GHG targets for consumption-based emissions.** To support broader and deeper GHG reduction strategies, King County commits to develop a consumption-based GHG emissions wedge analysis that charts out key pathways and strategies to achieve deep reductions in consumption-based GHGs for both countywide and operational emissions, in alignment with existing GHG emission reduction targets. *(Climate Action Team; SWD)*	 	  

CLIMATE POLICY AND ACCOUNTABILITY

Strategy GHG 1.1. Support strong federal, regional, state and local climate policy.

	Priority Actions	King County Role	Connections and Considerations
GHG 1.1.4	**Partner with Puget Sound Regional Council, the Puget Sound Clean Air Agency, King County-Cities Climate Collaboration (K4C), and other partners to advocate for a regional approach to aircraft transportation planning in the Puget Sound Region that reduces aircraft GHG emissions.** As part of this work King County will 1) share comprehensive data about local and regional aircraft GHG emissions and 2) partner with the Puget Sound Clean Air Agency and the Puget Sound Regional Council to expand aviation sector GHG emissions accounting to develop more comprehensive accounting and transparency for Kitsap, Pierce, and Snohomish counties. *(Executive Office)*	 Implement  Convene  Support/ Advocate	 Public Priority

CLIMATE POLICY AND ACCOUNTABILITY

Strategy GHG 1.2. Measure and report GHG emissions.

Priority Actions		King County Role	Connections and Considerations
GHG 1.2.1	**Assess and publicly report on countywide GHG emissions** associated with resident, business, and other local government activities, and conduct countywide GHG inventories that quantify all direct local sources of GHG emissions as well as emissions associated with local consumption, consistent with King County Comprehensive Plan Policy E-202. *(Climate Action Team; SWD)*	 Implement	 K4C
GHG 1.2.2	**Renew the consumption-based emissions inventory and develop a community toolkit to drive action.** When King County residents, businesses and governments purchase and use products and services, there are emissions from their manufacture, transport, use and disposal that occur across the world. A consumption-based inventory estimates all emissions no matter where they physically occur, giving a comprehensive emissions picture. This information can be used to inform targeted actions to reduce consumption-based emissions. By 2021, King County will update consumption-based emissions inventories—both a the countywide scale and for government operations—and, by 2022, develop a new online toolkit providing ideas and guidance on choosing low-carbon, pro-equity healthy products and services so everyone can understand and play their part in reducing global consumption-based emissions. *(Climate Action Team; SWD)*	 Implement  Convene	 K4C  Fast Start

CLIMATE POLICY AND ACCOUNTABILITY

Strategy GHG 1.2. Measure and report GHG emissions.

Priority Actions	King County Role	Connections and Considerations
GHG 1.2.3 **Convene Joint Aircraft Emission Technical and Community Task Force.** The purpose of this task force is to centralize and disseminate data that will aid King County in effectively measuring aircraft greenhouse gas emissions and creating policies that may reduce aircraft greenhouse gas emissions in impacted communities. The task force will consist of technical experts, climate action organizations, impacted communities, local government agencies, public health and Board of Health representatives, airport representatives from King County International Airport, Renton Airport, and SeaTac Airport. By the end of 2022, the task force shall complete the following: 1) Review various methodologies to accurately account for aircraft emissions in King County's GHG emission inventories and recommend a baseline aircraft emission level to include in King County's GHG emission to be reported in the 2023 biennial SCAP progress report. 2) Evaluate effectiveness and feasibility of strategies to reduce aircraft emissions, including but not limited to: a) Sustainable aviation fuels and technologies such as electric battery and hydrogen powered planes; b) Pollution mitigation strategies and funding options; c) Travel policies for county workforce; d) State and federal carbon pricing that includes regulation of aviation section GHG emissions; and e) Directing solid waste from County facilities to the Port of Seattle sustainable for conversion into sustainable jet fuel and other fuels. f) The task force shall report its findings and recommendations in the 2023 Biennial SCAP Progress Report. (*Climate Action Team, Executive Office, Public Health*	 Convene	 Public Priority  Resource Need  Fast Start
GHG 1.2.4 **Update King County's 2020 SCAP emissions reductions targets, including the GHG Gas Pathways "Wedge" analysis shown on page 52 to specifically include a target for reducing emissions from aircraft.** The target shall be developed by the Public Health Climate Health Action Team and King County's interdepartmental Climate Action Team in consultation with Joint Aircraft Emission Technical Community Task Force, Climate Equity Community Task force and reviewed by the Board of Health. *(Climate Action Team)*	 Implement	 Public Priority  Fast Start

Performance Measure GHG 1 – Countywide GHG Emissions		
Target	Reduce countywide sources of GHG emissions, compared to a 2007 baseline, by 25% by 2020, 50% by 2030, and 80% by 2050. Pursue additional goals and actions to sequester carbon and reduce emissions from consumption of goods and services.	K4C
Current Status	The *Countywide GHG Reduction "Wedge" Pathways* graphic on the next page shows recent trends in community scale emissions through 2017 and sector specific pathways to achieve overall GHG targets.	
Quantifying GHG Reductions	Of the projected 50% reduction by 2030, roughly one-third is dependent upon reductions will come from improved transportation outcomes, such as decreased single-occupant vehicle trips and increased transit ridership; the County's detailed goals and activities for the transportation sector are included in Focus Area 2: Transportation and Land Use. Another one-third of the needed reductions will come from the energy sector; the County's plan to achieve these reductions is laid out in Focus Area 3: Building and Facilities Energy and Focus Area 4: Green Building. The final one-third of reductions are projected to come from regulatory pathways that are Washington State Law to phase out hydroflourocarbons (HFCs) and to implement the Washington State Clean Energy Transformation Act. GHG reduction strategies to complement the wedge reduction strategies are covered in the remaining Focus Areas of this section of the SCAP.	

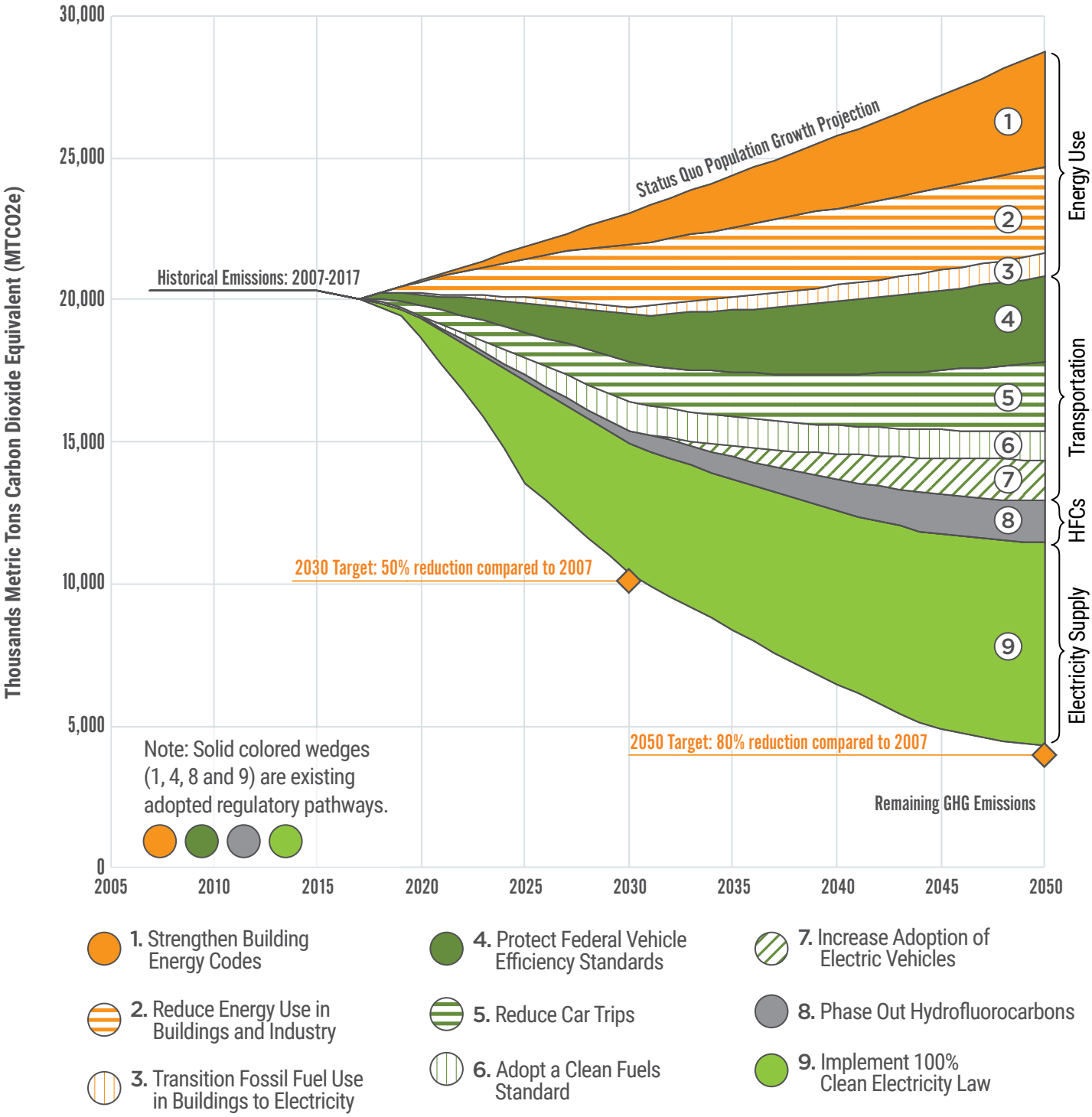
The 2020 SCAP goals aim to reduce energy use in existing commercial and residential buildings across the County, and to create a framework for more efficient new buildings.



GHG Reduction "Wedge" Pathways to Achieve Overarching Countywide Targets

In 2019, in partnership with the K4C, the County commissioned a study to assess recent trends and identify major opportunities for GHG emissions reductions to meet shared countywide climate targets. This "wedge analysis" shows the nine key pathways which the County will pursue to reach the 2030 and 2050 reduction targets at the countywide scale.

The upper curve of the analysis shows the projected path of emissions if no action is taken to change course ("Status Quo Population Growth Projection"). However, if the County and its partners implement a combination of regulatory and community-based strategies, the analysis shows that the targets are achievable.



COUNTY OPERATIONS

Goal

Reduce total GHG emissions from government operations, compared to a 2007 baseline, by at least 25 percent by 2020, 50 percent by 2025, and 80 percent by 2030.

Category

- Climate Policy and Accountability

What Is Changing with King County's Operational GHG Goal? What's Next?

New Stronger Target: The 2020 SCAP adopts a significantly stronger overarching target to reduce operational GHG emissions, in line with the King County Carbon Neutral Implementation Plan and best practices such as the Carbon Neutral Cities Alliance.

Achieving 100% GHG Reductions beyond 2030: With continued work, additional reductions beyond 2030 are possible. Some future reductions are dependent on technology advances, such as development of medium and heavy-duty electric vehicles. Actions to achieve a 100% reduction in emissions that build on strategies in the 2020 SCAP would likely include the following:

- Replacement of all remaining hybrid and diesel buses with battery electric buses or electric trolley buses.
- Replacement of all remaining County vehicles, including heavy duty solid waste and biosolids hauling trucks, with electric vehicles.
- Converting all remaining building heating and energy systems from natural gas to electricity or powering them with GHG neutral biogas.
- Sourcing all electricity with renewable and/or clean energy sources.
- Achieving additional reductions in landfill waste disposal and increased recycling, especially of organic materials.
- Maintaining and implementing best practices to reduce fugitive methane emissions at County-owned landfills and wastewater treatment facilities.
- Purchasing additional forest lands and keeping associated carbon benefits from these lands in County ownership.

The 80% reduction target by 2030 and strategies to achieve it will transform County government operations to a low carbon future. The strategies will also put the County on a path toward longer-term, deeper GHG reductions beyond 2030.

CATEGORY: CLIMATE POLICY AND ACCOUNTABILITY

Strategy GHG 1.3. Lead by example with strong climate policy and programs in government operations.

	Priority Actions	King County Role	Connections and Considerations
GHG 1.3.1	**Expand use of King County's operational cost of carbon.** King County will continue to use a cost of carbon to evaluate GHG reduction related projects and will continue to use internal carbon and energy fees, in certain cases, to help incentivize and fund energy and GHG reduction projects. King County will refine its application of a shadow cost of carbon, including for use in capital project planning, selection of construction methods and materials, and other large investments. The dollar value ($74 USD in 2020) to be used for a shadow cost of carbon will be defined by Washington State's Utilities and Transportation Commission, which also sets values used by Washington's energy utilities to comply with the Washington State Clean Energy Transformation Act. Additionally, in 2022, King County will evaluate and recommend updates, as needed, to the internal carbon and energy fee programs established by Fleet Services, FMD, and DNRP. *(OPSB; All Agencies)*	 Implement	 Fast Start
GHG 1.3.2	**Establish GHG emissions, carbon offset, and renewable energy policies.** The 2020 SCAP includes new principles and policies to guide the County's operational GHG emissions reduction strategies and the use, purchase, sale, and reinvestment of carbon offsets and renewable energy generated by King County government. See Strategy A.16 in the Appendix V: Operational Energy and GHG Guidance. *(Climate Action Team)*	 Implement	 Fast Start
GHG 1.3.3	**The Department of Natural Resources and Parks, including the Wastewater Treatment Division, Solid Waste Division, Parks and Recreation Division, and Water and Land Resources Division, shall achieve at minimum net carbon neutrality on an annual, ongoing basis.** *(DNRP)*	 Implement	
GHG 1.3.4	**The Wastewater Treatment Division and Solid Waste Division shall each independently achieve carbon neutral operations by 2025.** *(WTD; SWD)*	 Implement	

CATEGORY: CLIMATE POLICY AND ACCOUNTABILITY

Strategy GHG 1.3. Lead by example with strong climate policy and programs in government operations.

	Priority Actions	King County Role	Connections and Considerations
GHG 1.3.5	**Integrate aircraft emission targets developed by the Joint Aircraft Emission Technical and Community Taskforce into King County International Airport plans and operational decisions where KCIA has jurisdiction.** *(Climate Action Team, KCIA)*	 Implement	 Public Priority

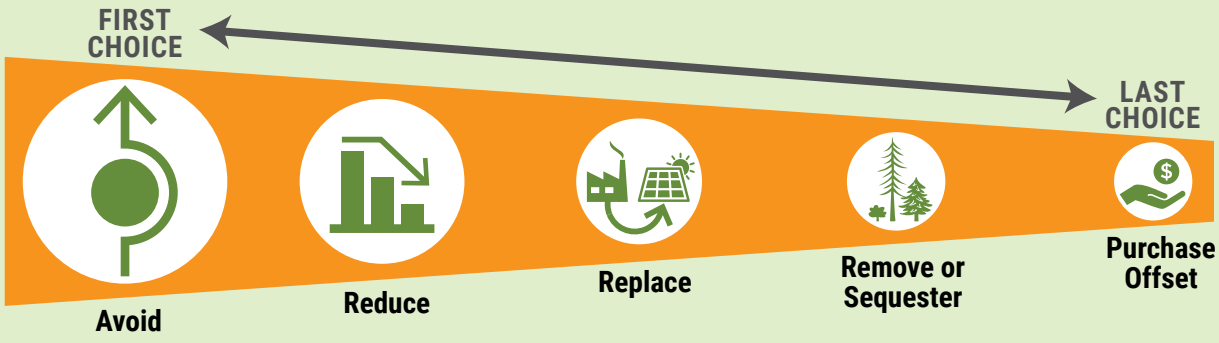
Strategy GHG 1.4. Measure and report GHG emissions			
Priority Actions		**King County Role**	**Connections and Considerations**
GHG 1.4.1	**King County shall assess and publicly report on its normalized and total energy usage and total GHG emissions associated with county operations,** consistent with King County Comprehensive Plan Policy E-202. *(Climate Action Team)*	Implement	
GHG 1.4.2	**Establish operational GHG measurement principles.** To clarify what and how King County will measure GHG emissions toward adopted operational targets, the 2020 SCAP includes new guidance on GHG measurement principles as Strategy A.17 in the Appendix V: Operational Energy and GHG Guidance. *(Climate Action Team)*	Implement	Fast Start
GHG 1.4.3	**Collaborate to set transparent standards to account for the net energy and GHG emissions impacts of government actions** such as constructing transportation infrastructure and providing services such as recycling and transit and shall assess and publicly report these impacts as practicable, consistent with King County Comprehensive Plan Policy E-203. *(Climate Action Team)*	Implement	

Priorities for Reducing GHG Emissions from Government Operations

To achieve its operational GHG emissions, energy, and fuel goals, King County prioritizes strategies that

- are the most cost-effective.
- achieve transformative and long-term GHG reductions.
- advance equity, public health, and other environmental benefits such as clean water.

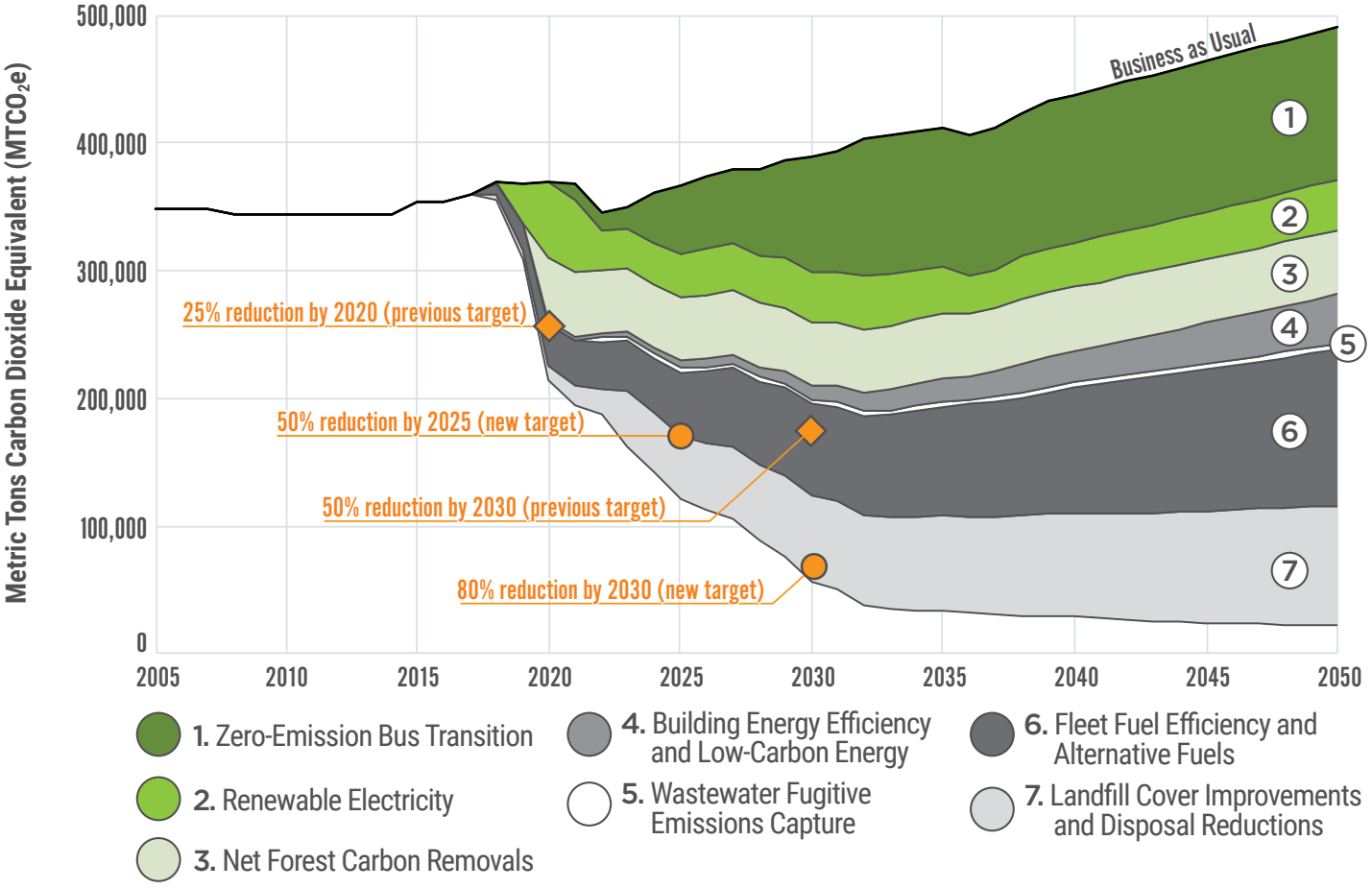
With the 2020 SCAP, the County clarifies its priorities for GHG emissions reduction tactics and is including guidance and policy related to the County's sale and use of renewable energy, carbon offset, and related attributes. Details are included in Strategy A.16 of the Appendix V: Operational Energy and GHG Guidance.



Performance Measure GHG 2: Operational GHG Emissions	
Target	King County shall reduce total GHG emissions from government operations, compared to a 2007 baseline, by at least 25% by 2020, 50% by 2025, and 80% by 2030.
Current Status	Operational GHG emissions have decreased by 1.4 % from 2007 to 2019, despite a 21.6% increase in countywide population and related growth of County government services such as transit. Operational emissions will further decline in 2020 when electricity use is transitioned to Puget Sound Energy's Green Direct program.
Quantifying GHG Reductions	To better understand its opportunities for reducing operational emissions, King County commissioned a wedge analysis in as a part of its 2019 "Implementation Plan for a Carbon Neutral King County Government." The graph shows trends in operational emissions through 2017. The upper curve of the graph shows projected emissions if no action is taken to reduce the footprint; as the County's population continues to grow, the emissions that it takes to operate County government services would grow with it. However, the County has already set several plans in motion to begin achieving the wedge reductions in emissions depicted below.

GHGs by 2030 Carbon Neutral

GHG Reduction "Wedge" Pathways to Achieve Overarching Operational Targets



While the County had previously adopted a 50% reduction goal by 2030, modeling and analysis in the "Implementation Plan for a Carbon Neutral King County Government" showed that much larger reductions are ambitious and achievable; this finding led to the new recommendation that the County adopt an 80% reduction target by 2030. Throughout the focus areas in this section, the County's plans to achieve this 80% reduction by 2030 are described in detail and are tagged with the Carbon Neutral Implementation Plan icon.

Focus Area 2
Transportation and Land Use

Key Takeaways

- Transportation is the region's largest source of GHG emissions, accounting for more than one third of all GHG emissions.
- The 2017 GHG emission inventory only includes 10 percent of direct (tailpipe) aviation emissions and fails to account for the full life cycle GHG impact of aviation emissions.
- King County is growing rapidly, with 300,000 new residents between 2010 and 2019—more than the combined population of Bellevue and Kent.
- King County is Washington's economic hub; public transportation helps connect people with job centers across the region while also reducing air pollution, improving the health of local communities, and increasing access for all residents to jobs, schools, housing and services.
- Per capita GHG emissions associated with transportation have started to decline.
- Accelerating the adoption of electric vehicles will help reduce harmful air pollution from exhaust emissions, including GHG emissions.
- Land use and transportation decisions are critically linked and, together, can have significant impacts on both improving community health and reducing GHG emissions.
- Housing prices are increasing in King County, resulting in displacement of people living with low incomes, immigrant communities, and BIPOC communities, with associated impacts when households must move farther from work, school, and other destinations, to places that are often less in-demand, less dense, and, therefore, less served by transit.
- King County has led the nation in transitioning to an all-electric bus fleet and, in 2017, committed to power these vehicles with renewable energy.
- King County recognizes that people living with low incomes, immigrant communities, and BIPOC communities are disproportionately impacted by air pollution and climate change and has committed to prioritizing initial deployment of its battery bus fleet in south King County.
- Although new mobility services, such as on-demand rideshare, ride-hailing, bike-hailing, and car sharing services, offer opportunities, they need to be integrated into traditional, fixed-route transit to help more people move quickly and seamlessly throughout the region and avoid increasing car trips.
- Significant increases in regional transit service investments, land use density, and implementation of vehicle usage pricing equitably will be required to meet the County's goals to reduce countywide vehicle miles traveled.
- Accelerating the electrification of the County-owned fleets will require significant investments in charging infrastructure, code and policy changes, partnerships with energy utilities, and the availability of vehicle technology.



Multiple modes of regional transportation meet at Tukwila International Boulevard station, a busy hub for riders.

Key targets for this focus area are as follows:

Countywide:

- Expand regional transit ridership on King County Metro Transit, Sound Transit, and City of Seattle services by 2040 to 378 million annually.
- Reduce total passenger vehicle miles traveled 20 percent by 2030 and 28 percent by 2050 against 2017 baseline.
- Adopt a clean fuels standard to reduce transportation-fuel GHG emissions intensities by at least 20% by 2030, compared to 2017 levels.
- Implement Vision 2050 growth management strategy, including limiting new growth in rural King County to less than 1.5 percent of countywide total.
- Strategies and performance measures in Transportation and Land Use Focus Area were modeled to reduce countywide GHG emissions from personal and commercial vehicles by approximately 50% by 2030 and 90% by 2050 compared to 2017 levels. See 2020 SCAP "Performance Measure GHG 1 – Countywide GHG Emissions" for additional details on transportation related pathways recommended in the SCAP as part of technical analysis to support progress towards shared countywide GHG emissions reduction targets.

County Operations:

- Reduce fleet GHG emissions by 45 percent by 2025 and 70 percent by 2030.
- Electrify the fleet and build out electric vehicle charging infrastructure.

Key priority actions for this focus area are as follows:

- **Collaborate with local elected leaders and community members to develop a decision package and regional ballot funding measure** to help sustain transit service and capital programs and move toward METRO CONNECTS. Achieving regional vehicle miles traveled goals will require transit service investments, land use density, and vehicle usage pricing above and beyond what is currently proposed in METRO CONNECTS, ST3, and Vision 2050.
- **Update Metro's policies, including Service Guidelines and METRO CONNECTS, to reflect service priorities in routes that will reduce GHG emissions, balancing ridership and climate priorities** with equity and other identified investment needs. Ensuring adherence to climate goals will require service priorities that focus on higher ridership services.
- **Develop corridor prioritization to invest in speed and reliability improvements that benefit public transit in areas with greatest needs.** Partner with local jurisdictions to develop plans for transit corridors that provide safe and reliable transit services.

- **With K4C and regional partners, continue to advocate for funding and enabling legislation at state, regional, and federal levels to reduce vehicle emissions,** including clean fuels and zero-emission vehicle standards.
- **Develop and implement both a countywide and a Metro-specific Equitable Transit-Oriented Communities (ETOC) policy and implementation plan** and related processes to support a strategic and robust ETOC program. Incorporate land use and equitable transit-oriented development (ETOD) considerations in alignment and planning for high-frequency transit routes. Conduct predevelopment and planning work to support Kenmore and Burien ETOD projects.
- **Transition County fleets to electric vehicles and alternative fuels to reduce GHG emissions.**
- **Pursue fleet and workforce efficiencies such as right-sizing vehicles, pooling equipment, and expanding employee teleworking options**

Introduction

King County is growing and changing. Between 2010 and 2019, the County gained nearly 300,000 new residents. More than half of that growth occurred in dense areas with high concentrations of jobs, including Seattle and downtown Bellevue. King County also expects one million more people and 850,000 new jobs by 2040. King County's growth and demographic changes are shaping mobility needs in communities across the County.

Transportation generates more than one-third of GHGs in King County. Nearly three-quarters of transportation emissions continue to come from passenger vehicles. Reducing transportation emissions will require a combination of reduced vehicle use, coupled with lower-emitting vehicles for those that remain on the road. The County's regional networks of fixed-route public transportation and new transportation services that can get people where they want to go, when they want to get there, are essential to meeting these goals.

For more information about strategies connected to the Transportation and Land Use focus area identified by the Climate Equity Community Task Force, please see the Transportation Access and Equity focus area of the SRFC Section.

Climate Equity

Integration of fixed-route link light rail and bus networks at Mt. Baker Transit Center.



Supportive land uses are also a critical component of the equation. Compact, mixed land use supported by high-capacity and frequent transit is one of the important factors for reducing transportation emissions. This type of land use allows residents to access easy transit to travel to work, schools, day care, shopping, and healthcare services.

King County has seen great success in increasing use of public transportation in the region. While total transportation emissions in the County have remained relatively steady since 2008, from 2008 to 2017, per person emissions from driving have started to decrease. These trends are driven by a combination of growing population, improved fuel standards, increased adoption of electric vehicles in the market, and a reduction in single occupancy vehicle miles traveled (VMT). Despite this progress, the region will fall short of climate goals without a greater reduction in single occupancy vehicle trips and a reduction in vehicle emissions. An increase in teleworking as the region recovers from the pandemic will reduce commute trips, though the trend over the long-term is uncertain. Meeting these goals will require people to use public transportation for more of their daily trips and create an overall environment that encourages people to take transit, bike, and walk for their transportation needs.

Transportation choices are changing rapidly, and transit riders' travel patterns and expectations are changing just as quickly. The addition of ride-hailing services such as Uber and Lyft, flexible on-demand transit such as Via to Transit, and micro-mobility options such as bike and scooter share programs have given people new ways to get to the jobs and services they need. Understanding how new mobility options are changing travel behavior will help the region develop an approach to partnerships and leverage the benefits of these new mobility options. Although these new services can complement existing transit in some ways, there is a growing body of evidence that these services, in particular ride-hailing services, may be taking riders from traditional transit modes and increasing miles traveled with deadheading, potentially resulting in higher per-trip emissions than driving a private car.



Passengers aboard King County Metro Transit.

King County is responsible for developing growth management and land-use regulations that encourage efficient land-use patterns by encouraging density and appropriate land uses within the Urban Growth Area. The County has been a leader in adopting strategies that have concentrated the growth of population, employment, and development within the designated Urban Growth Area. Regional jurisdictions must work together to provide dense, mixed-use, affordable land use near transit so that it is easier and more cost-effective to provide accessible transit that connects people to opportunities and can compete with single occupancy vehicle travel.

About one third of total GHG reductions to achieve countywide GHG targets are planned to come from the transportation sector (see Countywide Wedge Analysis). King County Metro's long-range plan,

METRO CONNECTS, envisions that Metro will help remove 300,000 cars from roadways daily, reducing GHG emissions by 1.7 million metric tons per year. This would represent an overall emissions reduction of 8 percent, compared with a 2007 baseline. Vision 2050, the regional growth management plan for the Puget Sound region, if realized, is projected to achieve a 22 percent reduction in per person vehicle miles traveled and a 16 percent reduction in GHG emissions from land use and transportation alone. Vision 2050 incorporates a transit-focused land use strategy, service improvements through Sound Transit 3, and goals in METRO CONNECTS.

Metro Transit conducted scenario modeling of what it would take to achieve these targets for reduced car trips. It found that an integrated approach of regional transit investments and urban/suburban land use densities above and beyond levels in Vision 2050, combined with equitable pricing vehicle travel are needed. This means King County, local jurisdictions, and regional transit providers need additional strategies to achieve the countywide climate goals and vehicle miles traveled reduction targets. Those strategies include more service, increased density, transportation demand management, parking policies, and vehicle usage pricing.

The emergence of the COVID-19 pandemic in early 2020 presents a large challenge to growing transit ridership, at least in the near-term. Public health, via social distancing, has taken priority over other objectives, such as growing transit ridership, and the impacts are likely for many months to come. The pandemic has also created uncertainty about future economic growth, travel patterns, land use changes, and tax revenues to support transit growth underpinning many of the transportation and land use goals of the SCAP. As a result, the transit boarding targets in the SCAP, particularly for 2025, may be difficult to achieve. Transportation policies that support the reduction in transportation emissions, such as demand management, parking policies, and vehicle usage pricing, are more important now than ever.

Executive Dow Constantine (center) is joined by King County Councilmembers Jeanne Kohl-Welles (to the Executive's right) and Rob Dembowski (far right) to announce the County's agreement to purchase 40 battery-electric buses from New Flyer of America, Inc., in January 2020.



At the government operations scale, King County is committed to reducing vehicle emissions in its own operations. In 2020, the King County Council adopted Ordinance 19052 to accelerate the adoption of electric vehicles. The ordinance established the following goals for King County fleet electrification: a 100 percent zero-emission revenue bus fleet by 2035; a 67 percent zero-emission Americans with Disabilities Act of 1990 (ADA) paratransit fleet by 2030; a 100 percent zero-emission rideshare fleet by 2030; installation of 125 chargers at King County-owned park-and-rides by 2030; 50 percent of light-duty County fleet vehicles to electric by 2025 and 100 percent by 2030; 50 percent of medium-duty vehicles are transitioned to electric by 2028 and 100 percent by 2033; 50 percent of heavy-duty vehicles are transitioned to electric by 2038 and 100 percent by 2043; and installation of 150 chargers by 2030 in County facilities.

Metro and the Department of Executive Services are conducting analysis of cost and implementation feasibility to achieve the electric vehicle legislation goals, among other targets. The revenue implications of the COVID-19 pandemic will delay efforts to transition to an electric fleet. Using this information, the County is working to develop a strategic approach for transitioning King County fleets to zero-emission operations. The County will also pursue alternative lower-emission fuel options, as well as fleet and workforce efficiencies to reduce GHG emissions. For example, the Fleet Services Division has partnered with Transit Non-Revenue Vehicles, the King County International Airport, and the Solid Waste Division to implement an enterprise-wide Automatic Vehicle Location (AVL) System for non-revenue vehicle to enhance public service delivery and increase efficiency in King County government. The AVL System has automated and expanded data collection to drive decisions on issues such as right-sizing the fleet, minimizing fuel consumption and GHG emissions, and leaner management of field operations.

In March 2020, the County quickly pivoted to alternative service delivery methods to mitigate the impacts of the COVID-19 pandemic. Many King County buildings were closed to public visits and County agencies adopted new approaches to operate online or by phone. Before March 2020, 5 percent of the workforce teleworked. As of April 2020, approximately 30 percent of all County employees are teleworking. With the 25 percent increase in teleworking, the County has seen reductions in operational GHG emissions, particularly in building energy savings and reduced travel.



Thank you to Metro drivers during the COVID-19 pandemic (2020).

This experience has demonstrated that meaningful work to serve the residents of King County can be accomplished remotely. Initial customer and employee survey results show a positive response to telework and remote service delivery. Work is underway to measure effectiveness, efficiency, customer satisfaction and environmental benefits of remote service delivery to aid decision-maker's consideration of broad-scale, ongoing use of telework. In addition to promoting telework for County employees, opportunities for countywide telework and improved transportation demand management are of high priority for future work.

Increased Transit Service, Land Use Density, and Vehicle Usage Pricing all critical components to achieve reductions in car trips

To inform establishing long-term goals for the SCAP and identify specific priority actions for the next five years, King County modeled what levels of transit service, land use density and vehicle usage pricing would be required to reduce car trips by 28% by 2050. The purpose of the analysis was to illustrate the scale of action needed not to identify specific implementation strategies. The analysis used the PSRC Vision 2050 Transit-focused land use scenario as the starting point. Vision 2050 assumes build out of Sound Transit 3 and METRO CONNECTS, at least 98.5% of new countywide residential construction inside the Urban Growth Area, and a $0.13 per mile road usage and carbon fee. With Vision 2050 as a baseline, an increase in transit service, an increase in land use density focused in urban and transit-oriented suburban areas, and vehicle usage pricing were each modeled, along with a scenario that combined an increase in transit service and vehicle usage pricing.

The analysis found that attempting to achieve the targets through increased transit service or vehicle usage pricing alone was likely cost prohibitive and increased land use density alone did not achieve the target. **Results showed that increased transit service, land use density and vehicle usage pricing equitably implemented are all critical components, and a combined scenario is the best approach for achieving the target.** Increasing land use density and affordable housing near transit is a key component of Vision 2050 and is critical to achieving long-term goals. Transit service levels above and beyond what is planned in Sound Transit 3 and Metro Connects will be required. Pricing vehicle travel either via congestion pricing, tolling, road usage charge, parking pricing, or similar tools are necessary components to realistically achieve targets. Equitably implementing any pricing strategy presents a real challenge and is critical to ensure it aligns with the ESJ commitments and does not result in an inequitable economic burden.

A coordinated approach with regional and local agencies is needed to achieve targets. Based on this work, two SCAP priority actions were identified:

- **Advocate and engage** in regional conversation to evaluate **options for vehicle usage pricing that is equitable.**
- **Advocate and engage** in regional conversation on **transit service growth and service funding** to achieve County climate goals.

Vision 2050 is the regional growth management plan for the Puget Sound region, providing a framework for how and where development occurs and how the region supports efforts to manage growth.

SCENARIOS TESTED TO MEET CAR TRIP REDUCTION TARGETS

— Same as Vision 2050

↑ Greater than Vision 2050

	INPUTS/ASSUMPTIONS			OUTCOMES	
	Transit Service Levels	Population and Jobs Growth	**Vehicle Usage Pricing Level**	**Percentage of Trips Walk, Bike, Transit, Roll** (% Non-Single Occupancy Vehicle Trips)	**Achieves SCAP target for Reduction in Car Trips** (% reduction in VMT from 2017)
Vision 2050	Sound Transit 3 & Metro Connects	Adopted Regional Growth Strategy	$0.13/mile	57%	✕
Transit Investment Focused	↑	—	—	↑	✓
Land Use Focused	—	↑	—	—	✕
Vehicle Pricing Focused	—	—	↑	↑	✓
Combined Scenario	↑	—	↑	↑	✓

Key Themes of Public Input

Countywide



The countywide goals and priority actions outlined in this focus area were guided by King County Metro's Mobility Framework, which envisions a regional network of traditional and new transportation services that get people where they want to go, when they want to get there. The Mobility Framework was a community-led effort co-created with the King County Metro Mobility Equity Cabinet, a group of 23 community leaders representing riders and a variety of countywide organizations and people living with low and no incomes; BIPOC communities; immigrants and refugees; people with disabilities; and limited-English-speaking communities. The group met regularly from May through December 2019 and considered the feedback received from the stakeholder workshops as well as travel trends and demographic data and examples of national and international best practices to develop their recommendations.

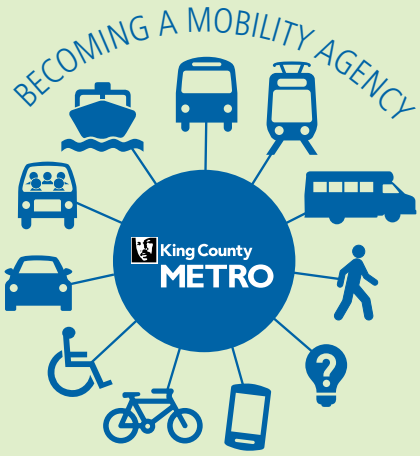
In addition to engaging with the Mobility Equity Cabinet, Metro conducted two phases of robust engagement with community stakeholders, local jurisdictions, and King County Council members. It also conducted elected leader engagement through the King County Council Regional Transit Committee, a regional body of elected officials from King County, and King County cities to inform the development of the Mobility Framework. The team reached hundreds of residents through an online survey and direct engagement at festivals, classes, and other events.

Members of the Mobilty Equity Cabinet meet.



Metro worked closely with the Equity Cabinet to ensure the Mobility Framework incorporated stakeholder and public input into its guiding principles and recommendations, many of which influenced the countywide goals and actions. The Mobility Framework culminated in a set of guiding principles and recommendations. Most Equity Cabinet members will continue working with Metro through 2020 to update Metro's key policies in accordance with the Mobility Framework recommendations. The Mobility Framework was adopted by the Regional Transit Committee in 2019 and King County Council in 2020.

King County Metro's Mobility Framework



Metro sees mobility as a basic human right that allows communities and individuals to access the opportunities needed to thrive. Metro recognizes disparities by race and place still exist in King County. Metro also recognizes that climate change threatens the economy, environment, health, and safety. As a public agency, it is Metro's duty to ensure its mobility services support livable communities, a thriving economy, and a sustainable environment. Safety and responsible financial stewardship remain core priorities for the agency.

The Mobility Framework, which Metro co-created with community leaders on an Equity Cabinet, envisions a regional mobility system that is integrated, innovative, equitable, and sustainable. It includes guiding principles and recommendations for Metro's service allocation, investments, operations, and partnerships. The Mobility Framework guides how Metro will update existing adopted policies, and serves as the basis for the update to the Countywide Transportation section of the King County Strategic Climate Action Plan.

The Equity Cabinet includes members representing communities including, but not limited to, people living with low and no incomes, BIPOC communities, immigrants and refugees, limited-English-speaking communities, and people with disabilities. Metro also engaged with partners, stakeholders, elected officials, transit riders, and employees throughout the framework process.



Mobility Framework Guiding Principles

- Invest where needs are greatest.
- Address the climate crisis and environmental justice.
- Ensure safety.
- Innovate equitably and sustainably.
- Encourage dense, affordable housing in urban areas near transit.
- Improve access to mobility.
- Provide fast, reliable, integrated mobility services.
- Support our workforce.
- Align investments with equity, sustainability, and financial responsibility.
- Engage deliberately and transparently.

Several priorities emerged from the 2020 SCAP public engagement workshops, including to:

- Improve safe and non-motorized access to transit via walk, roll, and bike.
- Support vehicle usage pricing to reduce car trips that is equitable and socially just, such as congestion or VMT pricing that fund transit and ensure rates are reduced for people with low-incomes.
- Develop more mixed-use dense land use with affordable housing and affordable commercial space with access to high-capacity transit.
- See transit and local jurisdictions collaborate to improve speed and reliability of bus service through dedicated bus lanes and right-of-way improvements.
- Improve access to electric vehicles and charging through incentives, shared-use opportunities, and outreach.

Many residents highlighted the vision that when transit becomes the easiest, most affordable, and fastest way to get around, people will use it. King County and its local jurisdictional partners can collaborate to realize the long-term vision of supporting mobility in the region.

County Operations



In addition to feedback on countywide themes, public and employee input was gathered regarding Transportation and Land Use as they relate to County operations. The feedback was grouped into two themes: technological actions and operational actions.

- ***Technological Actions***
  - Accelerate the adoption of electric vehicles in the County's fleets, including contracted services.
  - Partner with the vehicle manufacturing industry to encourage the development of new technology for medium- and heavy-duty vehicles and equipment.
  - Expand the use of biofuels and renewable diesel.

- ***Operational Actions***
  - Expand opportunities for teleworking and alternative work schedules.
  - Optimize the use of the County's fleet by planning routes strategically, pooling vehicles, and reducing idling.
  - Incorporate the impact of employee business travel into the County's GHG emissions footprint and develop actions to reduce emissions.

COUNTYWIDE

Goal: Reduce passenger car trips and vehicle emissions.

Categories:

- Transportation Choices
- Land Use and Community Design
- Alternative Vehicles, Fuels, and Technologies

CATEGORY: TRANSPORTATION CHOICES

Strategy GHG 2.1. Invest where needs are greatest in transportation.

Priority Actions	King County Role	Connections and Considerations
GHG 2.1.1 **Collaborate with local elected leaders and community members to develop a decision package and regional ballot funding measure.** Seek additional funding to implement METRO CONNECTS to help sustain service and capital programs. Regional funding will require approval from the King County Transportation Benefit District and King County voter approval. Metro Transit, in partnership with local elected leaders, will continue to evaluate new sources of revenue, many of which may require approval from the Washington State Legislature and ensure support for public transportation is integrated into future climate policy revenue sources. *(Metro, KCEO)*	Implement Convene	Climate Equity Public Priority
GHG 2.1.2 **Identify and report on the level of additional transit investments needed to achieve the SCAP regional transit ridership and car trip reduction targets.** Report on the gap between current Metro and service levels and costs and what would be needed to achieve the SCAP goals, including potential funding sources available at the time of reporting, and as part of future conversations about funding for Metro Connects identify funding levels to cover the gap in Metro transit service levels. Regularly update the transit service levels and cost modeling in future SCAP progress reports and updates to keep up with inflation and other changing conditions. *(Metro)*	Implement	



King County Executive Dow Constantine (center) is joined by regional elected leaders Renton Councilmember Marcie Palmer (far left), King County Councilmember Dave Upthegrove (second from left), and former Renton Mayor Denis Law (far right) and City of Tukwila Mayor Jim Haggerton (third from right) to kick off the launch of the Rapid Ride F Line (2018).

Strategy GHG 2.2. Address climate crisis and environmental justice.

	Priority Actions	King County Role	Connections and Considerations
GHG 2.2.1	**Advocate and engage in regional conversation on transit service growth and service funding to achieve county climate goals.** Achieving regional vehicle miles traveled goals will require transit service investments, land use density, and vehicle usage pricing above and beyond what is currently proposed in METRO CONNECTS, ST3, and Vision 2050. *(Metro, KCEO)*	 Support/ Advocate	 K4C  Public Priority
GHG 2.2.2	**Update Metro's policies, including Service Guidelines and METRO CONNECTS, to reflect service priorities** in routes that will reduce GHG emissions, balancing ridership and climate priorities with other identified investment needs, including equity. Ensuring adherence to climate goals will require service priorities that focus on higher ridership services. *(Metro)*	 Implement  Convene	 Climate Equity  Fast Start
GHG 2.2.3	**Advocate and engage in regional conversation to evaluate and implement options for equitable options for vehicle usage pricing and management policies.** Activities include expansion of Metro Transit's park-and-ride pricing program, development of King County position on pricing tools, and identification of near-term opportunities to build incentives for pricing into transit planning and policy agreements. *(Metro, KCEO)*	 Convene  Support/ Advocate	 Public Priority

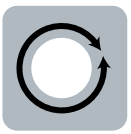
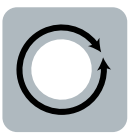
Strategy GHG 2.3. Innovate equitably and sustainably.

GHG 2.3.1	**Increase communication about Metro's services** to ensure that residents from all communities know about these services and how to use them. This includes innovative mobility services that connect to Metro's services and fare products, such as ORCA LIFT, Metro's income-based fare program. Launch at least one Transportation Demand Management campaign per year. *(Metro)*	 Convene  Implement	 K4C  Climate Equity
GHG 2.3.2	**Change Metro's adopted policies to assert the role of innovation, address new mobility services, and support innovative, integrated, equitable, sustainable mobility.** *(Metro)*	 Implement	 Climate Equity  Public Priority

Strategy GHG 2.3. Innovate equitably and sustainably.

	Priority Actions	King County Role	Connections and Considerations
GHG 2.3.3	**Investigate how strategies such as teleworking or other evolutions in the workplace could help to decrease overall VMT,** using lessons learned from the COVID-19 pandemic. *(Metro)*	 Implement	

Strategy GHG 2.4. Improve access to mobility.

GHG 2.4.1	**Develop station area passenger facilities and guidelines that prioritize passenger access and deprioritize single-occupancy vehicle access** at Metro and partner agency transit stops and stations. *(Metro)*	 Implement  Convene	 K4C  Public Priority  Climate Equity
GHG 2.4.2	**Enhance opportunities to walk, roll, and bike safely and conveniently to transit** by providing secure bike parking at transit locations and partnering with jurisdictions to design and construct pedestrian and bike connections. *(Metro; DNRP)*	 Implement  Convene	 K4C  Health Blueprint  Climate Equity  Resource Need

Strategy GHG 2.5. Provide fast, reliable, integrated mobility services.

GHG 2.5.1	**Provide a range of transit and mobility services that allow for seamless connections between modes and destinations,** including on-demand, flexible services that leverage mobility-as-a-service. *(Metro)*	 Implement	 Climate Equity  Public Priority  Resource Need

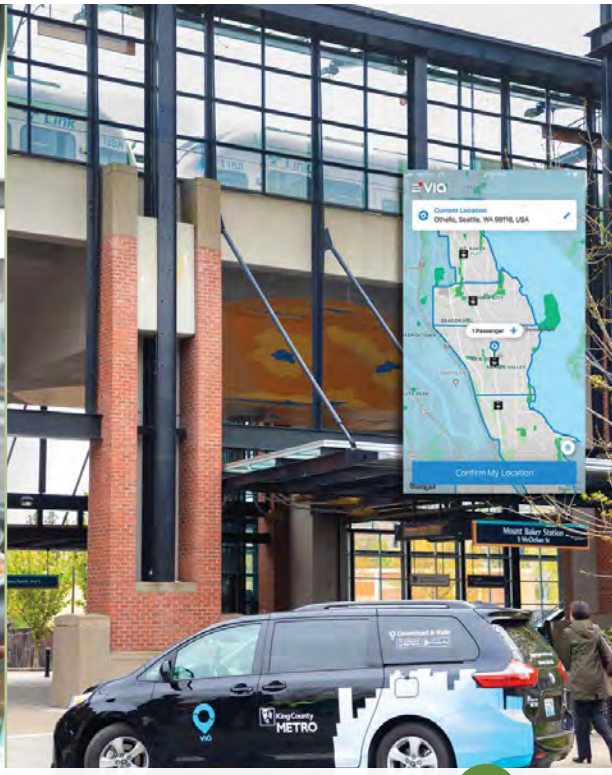
Strategy GHG 2.5. Provide fast, reliable, integrated mobility services.

Priority Actions	King County Role	Connections and Considerations
GHG 2.5.2 **Develop corridor prioritization to invest in speed and reliability improvements in areas with greatest needs.** Partner with local jurisdictions to develop plans for transit corridors that provide safe and reliable transit services. Complete a minimum of 20 spot improvements and assess needs for 2-3 corridor each biennium. *(Metro)*	Implement	K4C; Health Blueprint; Public Priority
GHG 2.5.3 **Provide sustained and increased transit frequency,** as funding allows, to make it more convenient for people to use transit get out of their cars. (*Metro*)	Implement	K4C; Resource Need; Public Priority; Climate Equity

Metro Transit operator



Launch of Via to Transit on-demand shuttle in south Seattle.

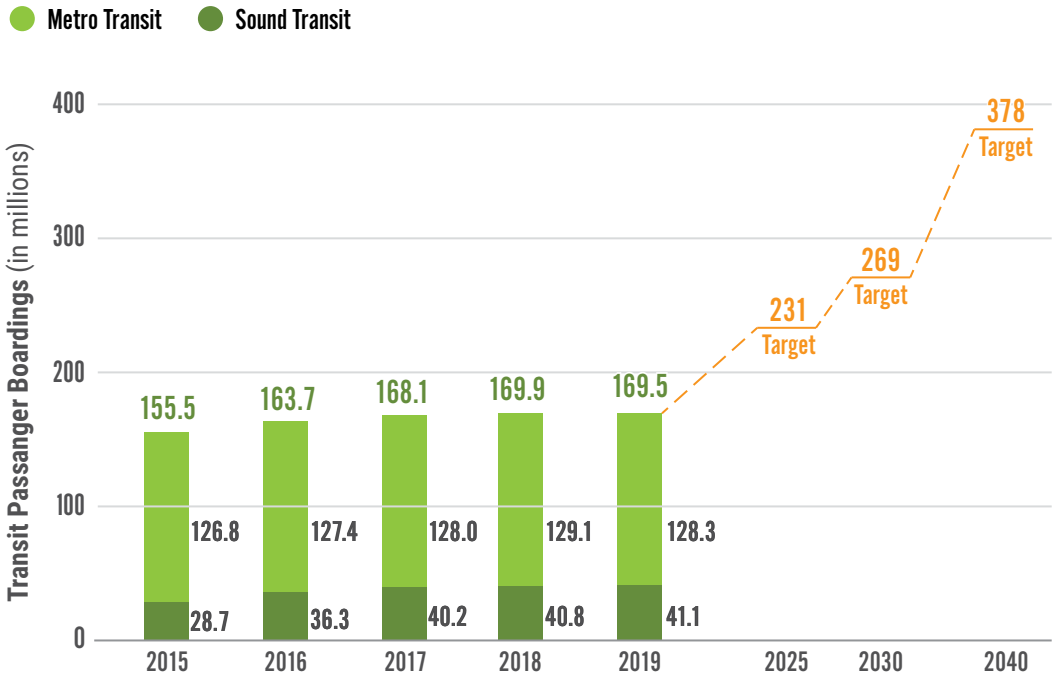


Performance Measure GHG 3: Transit	
Target	Increase annual passenger boardings on transit services in King County, including Metro Transit and Sound Transit, to • 231 million annual passenger boardings by 2025 • 269 million annual passenger boardings by 2030 • 378 million annual passenger boardings by 2040
Current Status	In 2018, regional transit boardings reached 166.6 million, 129.1 from Metro Transit and 37.5 million from Sound Transit. The 2019 boardings are estimated to be 166.2 million, slightly lower than 2018. Since 2015, regional transit boardings grew 2.3% annually; most of the growth in boardings was on Sound Transit Link light rail, which was extended to the University of Washington in 2016.
Quantifying GHG Reductions	The GHG benefits associated with this target are quantified in Countywide Wedge #5 – Reduce Car Trips. See also "Scenarios Tested to Meet Car Trip Reduction Targets" highlight in this section that shows how transit, land use and vehicle usage pricing must work in concert to meet the overall "reduce car trips" target.

TRANSIT

Annual passenger boardings on transit services in King County.

Transit ridership increased by 9% or nearly 14 million passenger boardings between 2015 and 2019.

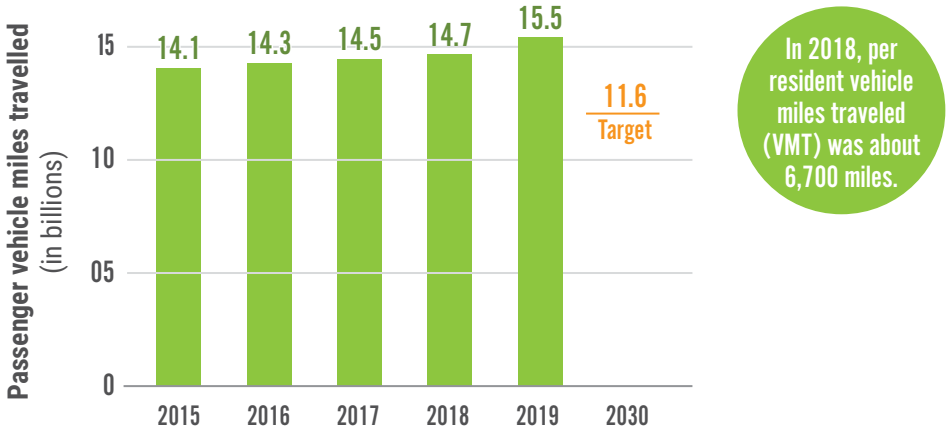


Performance Measure GHG 4: Car Trips	
Target	Reduce total vehicle miles traveled for passenger vehicle and light trucks by: • 20% below 2017 levels by 2030 • 28% below 2017 levels by 2050
Current Status	In 2018, total vehicle miles traveled from passenger vehicles and light duty trucks were 14.7 billion, a 1.4% increase over the 2017 baseline. This continues a trend of increasing VMT, with a total 7.7% increase between 2012 (13.7 billion VMT) and 2018.
Quantifying GHG Reductions	The GHG benefits associated with this target are quantified in *Countywide Wedge #5 – Reduce Car Trips.* See also "Scenarios Tested to Meet Car Trip Reduction Targets" highlight in this section that shows how transit, land use and vehicle usage pricing must work in concert to meet the overall "reduce car trips" target.

K4C

CAR TRIPS

Smart land use strategies, implementation of equitable vehicle usage pricing policies, and major investments in regional transit service are needed to achieve targets that include a 20% reduction in passenger vehicle miles traveled (VMT) by 2030 (compared to 2017).



CATEGORY: LAND USE AND COMMUNITY DESIGN

Strategy GHG 2.6. Focus development within the Urban Growth Area and reduce development pressure on rural and natural resource lands.

Priority Actions	King County Role	Connections and Considerations
GHG 2.6.1 **Update King County Countywide Planning Policies that result in local jurisdictions taking transit supportive actions,** including prioritizing right-of-way for transit, increased zoning capacity, reducing parking requirements, increasing affordable housing, and minimizing displacement near transit. *(KCEO, Metro)*	Implement Convene Support/ Advocate	K4C Public Priority Fast Start
GHG 2.6.2 **Update King County Centers Framework** to focus growth in countywide designated centers that are zoned for transit-supported densities. *(KCEO)*	Implement Convene Support/ Advocate	

Third Avenue in downtown Seattle includes dedicated bus priority zones.



Strategy GHG 2.7. Support dense, vibrant mixed-use development near high-frequency transit that provides affordable housing choices for households across the income spectrum.

	Priority Actions	King County Role	Connections and Considerations
GHG 2.7.1	**Update Metro's Service Guidelines to emphasize the role of land use in supporting transit use and in how Metro sets service levels.** A new land use section will be added to describe the land uses (densities, the mix of uses, urban form) that are supportive of each service level. Corridor household and job density factors are then used to set service levels and can provide guidance for cities updating their comprehensive plans and zoning codes. *(Metro)*	 Implement	 Fast Start
GHG 2.7.2	**Develop and implement both a countywide and a Metro-specific Equitable Transit-Oriented Communities policy and implementation plan,** and related processes to support a strategic and robust ETOC program. Incorporate land use and ETOD considerations in alignment and planning for high-frequency transit routes. Conduct pre-development and planning work to support Kenmore and Burien ETOD projects. *(Metro)*	 Implement  Support/ Advocate	 Fast Start  Resource Need  Public Priority

Strategy GHG 2.8. Maintain and expand equitable access to open space and the Regional Trails System.

GHG 2.8.1	**Plan and fund programs that connect communities to one another and to other areas of open space, such as parks and farms.** Focus on extending existing regional trails and developing major new routes, especially in historically underserved areas and communities with poor health indicators relative to the County population. Development over this period will include the design and construction of projects such as the Lake to Sound Trail through five south county cities, East Lake Sammamish Trail, Green-to-Cedar Rivers and Foothills trails in southeast King County, extension of the Green River Trail in Tukwila and south Seattle, and the Eastside Rail Corridor Trail (Eastrail) through Eastside cities. Also, support redevelopment and major maintenance of trails, bridges, and other trail facilities will be ongoing. All these projects have significant multi-jurisdictional support and participation. *(Parks)*	 Implement  Convene	 Public Priority

Strategy GHG 2.8. Maintain and expand equitable access to open space and the Regional Trails System.

Priority Actions		King County Role	Connections and Considerations
GHG 2.8.2	**Implement the Land Conservation Initiative efforts to address open space inequities.** The Land Conservation Initiative includes urban green space as a key conservation target, prioritizing areas with limited park access. Areas of greatest need include those with higher health disparities, people living with low incomes, BIPOC communities, and people living more than a 10-minute walk from a park. *(Parks)*	Implement Convene Support/ Advocate	

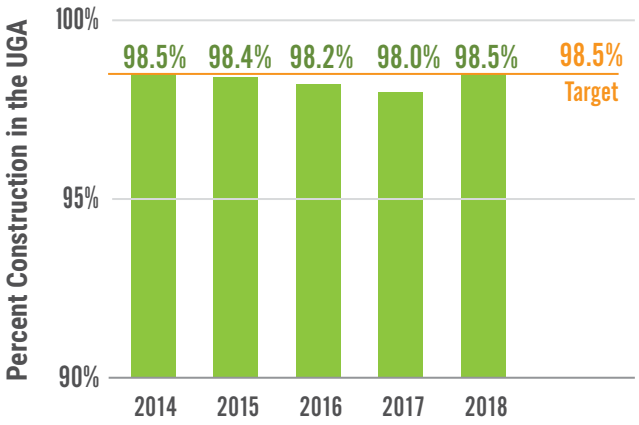
Happiness at Cine en el Parque at Steve Cox Memorial Park in White Center



Performance Measure GHG 5: Land Use	
Target	• At least 98.5% of new countywide residential construction inside the Urban Growth Area (UGA), as proposed in Vision 2050. K4C
Current Status	In 2018, 98.5% of new residential construction was within the UGA.
Quantifying GHG Reductions	The GHG benefits associated with this target are quantified in *Countywide Wedge #5 – Reduce Car Trips.* See also "Scenarios Tested to Meet Car Trip Reduction Targets" highlight in this section that shows how transit, land use and vehicle usage pricing must work in concert to meet the overall "reduce car trips" target.

NEW CONSTRUCTION WITHIN THE URBAN GROWTH AREA (UGA)

More than 98% of residential growth continues to be focused in urban areas, limiting sprawl and transportation related emissions.
Target: At least 98.5% of new residential construction within the UGA, as proposed in Vision 2050.



Farm in East Renton, WA



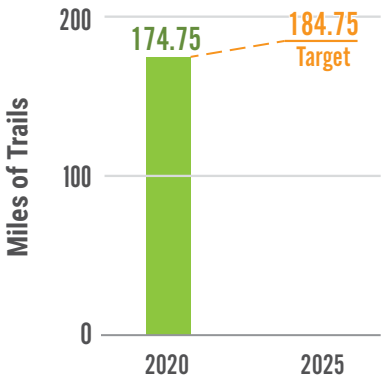
Integration of housing and transit at Federal Way Transit Center



Performance Measure GHG 6: Regional Trails	
Target	By 2025, increase the number of new regional trail miles constructed: • 10 miles of new paved or soft-surfaced interim regional trails completed; • three critical crossings (bridges or other critical crossings) completed; and • two intermodal/community to the regional trails system completed.
Current Status	From 2015 to 2019, King County added 8.3 miles to the Regional Trail System. The 2015 SCAP target was 15 miles of new trail completed or in final design.
Quantifying GHG Reductions	The GHG benefits associated with this target are quantified in *Countywide Wedge #5 – Reduce Car Trips*. See also "Scenarios Tested to Meet Car Trip Reduction Targets" highlight in this section that shows how transit, land use, and vehicle usage pricing must work in concert to meet the overall "reduce car trips" target.

REGIONAL TRAILS CONSTRUCTION

King County added 8.3 miles of trail from 2015 to 2020.
The County aims to add another 10 miles over the next 5 years.



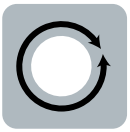
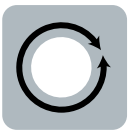
Every year, regional trails are used to make millions of bicycle and pedestrian trips.

Construction on the Lake to Sound Trail

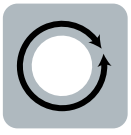


CATEGORY: ALTERNATIVE VEHICLES, FUELS, AND TECHNOLOGIES

Strategy GHG 2.9. Support state, regional, and federal policy and enabling legislation to reduce fuel and vehicle emissions.

Priority Actions	King County Role	Connections and Considerations
GHG 2.9.1 **Protect federal vehicle efficiency standards.** *(KCEO)*	 Support/ Advocate	 K4C
GHG 2.9.2 **Support the adoption of a statewide or regional low carbon fuel standard that gradually lowers pollution from transportation fuels.** Additionally, support funding and policies that advance other clean fuel and zero-emission vehicle strategies. *(KCEO)*	 Support/ Advocate	 K4C  Public Priority

Strategy GHG 2.10. Accelerate electric vehicle adoption that prioritizes environmental justice and equitable access to shared mobility solutions.

GHG 2.10.1 **Evaluate opportunities to expand publicly accessible EV charging infrastructure** at King County facilities that prioritizes equitable access to shared mobility. *(Metro, DES, Parks)*	 Implement	 Public Priority
GHG 2.10.2 **Engage in regional coordination efforts with King County Climate and Equity Community Taskforce and existing forums,** including the Regional Transportation Electrification Workgroup, to accelerate equitable distribution of benefits of electric vehicles, so communities that have experienced a disproportionate burden from air pollution see reductions first and promoting equitable access to mobility that prioritizes shared mobility solutions. *(KCEO, DES, Metro)*	 Convene  Support/ Advocate	
GHG 2.10.3 **Support engagement and partnerships with utilities and organizations to develop regional pilots to incent the transition to electric vehicle ownership** for all sectors, through development of infrastructure, education, and grants and incentives. *(KCEO)*	 Implement	 K4C  Public Priority

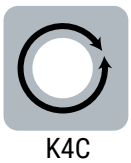
Strategy GHG 2.10. Accelerate electric vehicle adoption that prioritizes environmental justice and equitable access to shared mobility solutions.

Priority Actions		King County Role	Connections and Considerations
GHG 2.10.4	**Evaluate and consider adoption of incentives or requirements for Transportation Network Companies licensing that phases in EV adoption.** *(DES)*	Implement Convene	Public Priority
GHG 2.10.5	**Develop code revisions for unincorporated King County that** require or **incentivize EV readiness in new development.** *(DLS)*	Implement	K4C Fast Start Public Priority

Charging station in use at a King County Park & Ride



Performance Measure GHG 7: Clean Fuels	
Target	Reduce transportation fuel GHG emissions intensities by at least 20% by 2030, compared to 2017 levels 
Current Status	No update since 2017 baseline.
Quantifying GHG Reductions	The GHG benefits associated with this target are quantified in *Countywide Wedge #6 – Adopt a Clean Fuels Standard.*

Performance Measure GHG 8: Electric Vehicles	
Target	Increase percentage of new vehicles sold that are electric vehicles: • 100% of light duty vehicles by 2035; • 50% of medium duty by 2035; and • 28% of heavy duty by 2035. 
Current Status	In 2018, 7% of all new vehicles sold and 1% of all vehicles on the road were electric.
Quantifying GHG Reductions	The GHG benefits associated with this target are quantified in *Countywide Wedge #6 – Adopt a Clean Fuels Standard and Countywide Wedge #7 – Increase Adoption of Electric Vehicles.*

COUNTY OPERATIONS

Goal: Increase the efficiency of County vehicle fleets and minimize their GHG emissions.

Categories:

- Alternative Vehicles, Fuels, and Technologies
- Fleet and Workforce Efficiencies

CATEGORY: ALTERNATIVE VEHICLES, FUELS, AND TECHNOLOGIES

Strategy GHG 2.11. Develop new, standard life cycle cost analysis tools to evaluate the financial and social impact of new vehicle and fuel purchases.

	Priority Actions	King County Role	Connections and Considerations
GHG 2.11.1	**Develop standard tools and resources to guide purchasing decisions.** • Analyze and compare lease and purchase options for light-duty electric vehicles. *(DES, Metro)* • Establish and update incremental cost guidance for when to purchase electric vehicles for medium- and heavy-duty applications. *(DES, Metro, KCEO)*	 Implement	 Fast Start

Strategy GHG 2.12. Expand alternative vehicle programs and pilot new technologies to reduce fleet GHG emissions.

	Priority Actions	King County Role	Connections and Considerations
GHG 2.12.1	**Electrify King County's vehicle fleet and build out charging infrastructure:** • Upgrade existing electric vehicle (EV) chargers and expand to facilities where EV charging infrastructure is needed. *(DES, Metro)* • Develop a phased electric vehicle charging infrastructure plan for County facilities by 2021. *(DES, Metro)* • Focus on the transition of light-duty sedans to zero emission, including prioritizing the installation of EVSE (electric vehicle supply equipment) at County facilities. *(DES, Metro)* • Continue transition to a zero-emission bus fleet and install chargers at the South Base Campus to support operations in south King County. *(Metro)* • Pilot an electric Class 8 (80,000 gross vehicle weight) truck including infrastructure by 2025. *(SWD)* • Seek partnerships with other governments and utility providers to expand and leverage electric vehicle charging. *(DES, Metro)*	 Implement	 Health Blueprint  Resource Need  Carbon Neutral  Public Priority

Strategy GHG 2.12. Expand alternative vehicle programs and pilot new technologies to reduce fleet GHG emissions.

Priority Actions		King County Role	Connections and Considerations
GHG 2.12.2	**Expand the use of alternative fuels when electric vehicles are not feasible.** • Explore options to use renewable diesel and gasoline or other biofuels. *(Metro, DES, SWD)* • Explore options for expanding the use of alternative fuels, such as propane, in smaller fleets, such as ACCESS paratransit. *(Metro, DES)*	Implement	Public Priority GHGs by 2030 Carbon Neutral

King County Operations Electric Vehicle Policy (Ordinance 19052, 2/13/2020)

The following vehicle electrification goals were established by Ordinance 19052, enacted in February of 2020. Goals and priority actions in this focus area are consistent with this legislation and focused on near-term actions in support of these longer-term goals:

- 100% zero-emission revenue bus fleet by 2035;
- 67% zero-emission ADA paratransit fleet by 2030;
- 100% zero-emission rideshare fleet by 2030;
- 50% of light-duty vehicles are transitioned to electric by 2025 and 100% by 2030;
- 50% of medium-duty vehicles are transitioned to electric by 2028 and 100% by 2033;
- 50% of heavy-duty vehicles are transitioned to electric vehicles by 2038 and 100% by 2043;
- installation of 125 chargers at King County-owned park-and-rides by 2030; and
- installation of 150 chargers by 2030 in County facilities.

Plug-in hybrid minivan in Metro's Vanpool fleet.



CATEGORY: FLEET AND WORKFORCE EFFICIENCIES

Strategy GHG 2.13. Use continuous improvement principles to evaluate and update County business practices to maximize workforce efficiency, pool vehicles, and equipment and reduce idling.

Priority Actions	King County Role	Connections and Considerations
GHG 2.13.1 **Optimize use of County fleet vehicles and equipment using automatic vehicle location (AVL) technology.** Complete AVL system installations and train all agencies to use the AVL system by end of 2021. *(DES, Metro)*	 Implement	 Fast Start
GHG 2.13.2 **Evaluate operational business needs to ensure the appropriate vehicle is purchased (or not purchased) for the job.** *(DES, Metro)*	 Implement	 Fast Start
GHG 2.13.3 **Optimize zero-emission trolley bus fleet.** Explore efficiencies, enhancements, and expansion opportunities for Metro's electric trolley bus system. Metro has set targets for increasing utilization of the electric trolleys on weekends, with an initial target of 10% utilization on weekends in December 2020, and a goal of increasing utilization to 90% over the next five years. Metro is also preparing a Trolley Expansion Master Plan to identify and prioritize opportunities to expand and optimize the trolley system. *(Metro)*	 Implement	 Public Priority  Resource Need  Health Blueprint  Carbon Neutral
GHG 2.13.4 **Develop agency-specific GHG reduction action plans for the top five consuming agencies by 2022.** The plans shall include strategies to reduce non-working idling. *(Metro, SWD, WTD, Roads, Sheriff's Office).*	 Implement	 Fast Start

Strategy GHG 2.14. Educate and encourage employees to reduce emissions from employee and travel.

Priority Actions		King County Role	Connections and Considerations
GHG 2.14.1	**Teleworking.** Develop new guidance to expand operational teleworking by King County's workforce, using lessons learned by emergency teleworking that occurred in response to the COVID-19 pandemic. *(DHR)*	Implement	Public Priority
GHG 2.14.2	**Evaluate the GHG emissions associated with employee travel.** Expand data collection and reporting of indirect employee travel. To date, King County has been reporting on transportation-related GHG emissions and developing GHG reduction goals based on the emissions from County-owned vehicles and equipment. Once the County understands the scope of these sources, it can set goals to reduce emissions. *(All agencies)*	Implement	Public Priority

Battery electric buses charging at Eastgate Park-and-Ride.

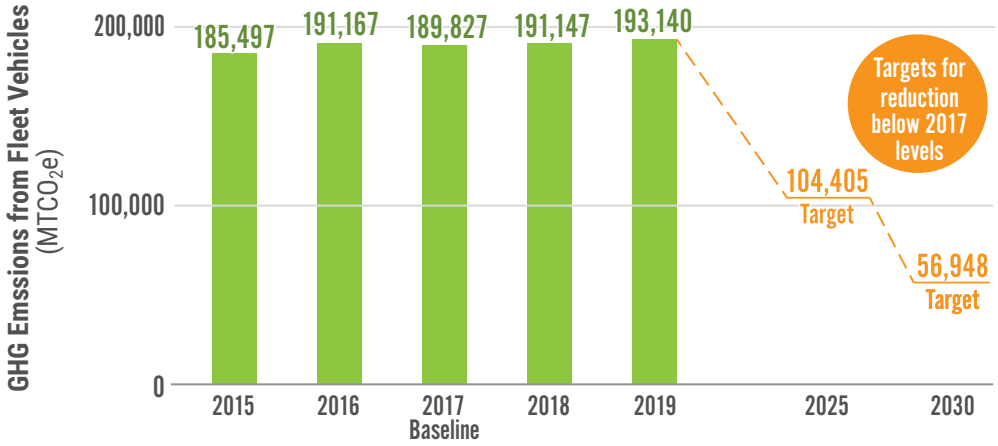


Performance Measure GHG 9: Greenhouse Gas Emissions from Vehicles	
Target	In its vehicle operations, King County will reduce GHG emissions by 45% by 2025 and 70% by 2030, compared to a 2017 baseline.
Current Status	GHG emissions for King County's fleets increased by 3.2% from 2014 through 2019. Over the longer term, between 2007 and 2019, emissions from County fleets increased by 7.5%. Although this increase in GHG emissions was less that countywide population growth (which increased 21.6% during the same time period) and similar growth in County services such as transit, it shows that there is much more work to do to achieve this target.
Quantifying GHG Reductions	The GHG benefits associated with this target are quantified in *County Operations Wedge #1 – Zero-Emission Bus Transition and County Operations Wedge #6 – Fleet Fuel Efficiency and Alternative Fuels*.

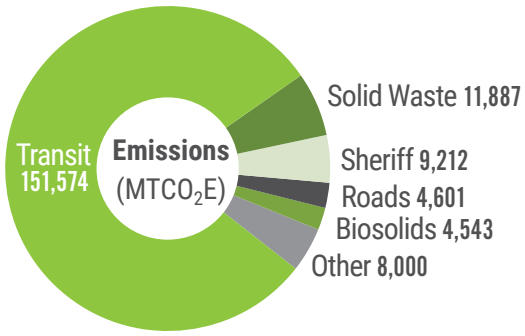
GHGs by 2030
Carbon Neutral

GHG EMISSIONS FROM KING COUNTY FLEET VEHICLES

Target: Reduction in greenhouse gas emissions from King County's fleet vehicles, 45% by 2025 and 70% by 2030, compared to 2017.



KING COUNTY VEHICLE EMISSIONS BY COUNTY AGENCY (2017)



Performance Measure GHG 10: Electrification of County-owned Vehicles

Target

Consistent with Ordinance 19052, increase percentage of County-owned vehicles that are electric vehicles, including:

- 100% zero-emission revenue bus fleet by 2035;
- 50% of light-duty vehicles transitioned to electric by 2025 and 100% by 2030; and
- 150 electric vehicle chargers installed at County facilities by 2030.



Current Status

100% zero-emission revenue bus fleet by 2035.
Metro currently owns 11 battery electric buses and 174 electric trolley buses – 14% of Metro's bus fleet. In the next two years, Metro will purchase 40 battery electric buses and fund new charging infrastructure at South Base to support an additional 260 battery electric buses by 2028. Metro has committed to purchasing only zero-emission buses after 2023.

50% of light duty vehicles are transitioned to electric by 2025 and 100 percent by 2030.
Currently Metro has 18 electric vehicles (EV) out of 420 light-duty vehicles in the non-revenue vehicle fleet. Metro has ordered 12 additional EVs, which will bring the total to 30 EVs by the end of the year. Electric vehicles will make up 7% of the light-duty fleet by the end of 2021.

Fleet Services customers have a combined total of 17 all-electric sedans. Fleet recently ordered 5 more EVs and is waiting for delivery. Including the vehicles ordered, EVs make up 1% of Fleet Services light-duty vehicles.

Installation of 150 chargers by 2030 in County facilities.
There are currently 60 chargers in the County inventory which serve public, County fleet and Metro rideshare vehicles. Fleet, Metro, and FMD are working with an electromobility consultant to develop a phased master plan for installing EV charging at 6 County facilities.

Focus Area 3
Building and Facility Energy Use



Key Takeaways

- Building and facility energy use is the region's second largest source of GHG emissions, representing nearly half of King County carbon emissions.
- As the electricity sector transitions to carbon-free power generation as a result of the Clean Energy Transformation Act and other efforts, it is critical to continue efficiency investments to reduce overall environmental impact.
- King County has successfully reduced normalized energy use in its existing facilities by over 20 percent since 2007, saving the County over $4.1 million per year on energy bills. These savings have resulted from conversions of building systems, comprehensive LED lighting installations, improved control systems, and the efforts of countless individuals to embrace efficient building operations.
- There is also reason for optimism at the countywide scale. Since 2008 there has been progress in the transition of building heating oil use to cleaner sources and a decrease in electricity and energy use in the residential and industrial sectors.
- Despite this progress, overall countywide energy use in the built environment has not dropped, largely due to growth in commercial energy use and population growth. Despite the availability and significant investments of local utility efficiency programs, varying participation rates in these programs have resulted in inequitable distribution of the benefits that include comfort, improved health, and financial savings. Similarly, state residential solar energy incentive programs have had much greater participation in more affluent communities.
- Significant increases in investments and new program offerings are necessary to drive the deep energy reductions needed to meet operational and communitywide goals. Awareness and financial barriers at the community scale must be better understood and overcome to bring efficiency and solar programs to renters and people living with low incomes.
- Future conservation efforts will require a much greater focus on reducing the on-site consumption of fossil fuels. This can be accomplished through conversions to higher efficiency electrified systems and cleaner fuels. The 2020 SCAP sets goals for the phase-out of fossil fuels for heating and water heating in both King County's operations and at the countywide scale, including operational targets of reducing fossil fuel use in existing buildings by at least 20 percent by 2030, 50 percent by 2040, and 80 percent by 2050, compared to a 2017 baseline.
- Deep investments in efficiency will be necessary as King County transitions to electrical heating and water heating to minimize the overall environmental impact that would result from the construction of new generation, including renewables. The 2020 SCAP sets goals at the countywide scale to achieve 25 percent increase in efficiency in the built environment by 2030 and 45 percent by 2050 through partnership and significant investment in education and programs.
- Ambitious operational energy reduction targets will keep County employees focused on reducing energy use in existing buildings by 12.5 percent by 2025 and 17.5 percent by 2030 (2014 baseline).

- King County continues to be a large producer of renewable energy through its landfill and wastewater methane capture and processing efforts. Solar photovoltaic installations are ongoing and expanding across the County's building portfolio. Sewer heat recovery installations are new to King County and public-private partnerships will help this resource expand
- At the countywide scale, the 2020 SCAP sets goals for renewable electricity production, storage and demand management technologies. The goal is to support an efficient, resilient, and flexible electricity grid.
- Recent experiences with teleworking on a large scale have presented the opportunity to capture energy reductions that may result from decreased use of traditional office and work spaces.

Introduction

King County has made substantial progress in the buildings and facilities energy focus area since 2015, both at the countywide scale and in County operations. In 2020, the County continued to expand its efforts, approaching new targets with creativity, increased programs, and partnerships.

For more information about strategies connected to the Building and Facility Energy Use focus area identified by the Climate Equity Community Task Force, please see the Energy Justice and Utilities Focus Area of the SRFC Section.



In 2019, the Washington State Legislature passed bills that established a framework for 100 percent clean electricity supplies by 2045 and set strong building and appliance efficiency standards. These laws complement the strengthened policies and investments that King County and the King County Cities-Climate Collaboration—a voluntary, but formal partnership between the County, 16 cities, and the Port of Seattle—have prioritized for GHG emissions reductions at the countywide scale and in government operations through the K4C Joint Commitments.

At the countywide scale, energy use in the built environment has increased 11 percent since 2015. High population growth and robust construction to meet the need for more homes and office space have increased the overall amount of energy consumed in buildings. While building and energy codes are driving many of these new buildings to be highly efficient, much work needs to be done to increase the efficiency of the existing building stock.

King County will continue to prioritize energy efficiency. Conserving energy is the cheapest, lowest impact, and generally the fastest energy resource to deploy. Conservation also provides healthier indoor air environments, more comfortable homes and facilities, and results in direct financial savings for residents and businesses through lower energy bills.

King County government operations consume a large amount of energy to support the wide variety of services that the County provides. These include wastewater treatment, public health services, transit, parks and recreation, law enforcement, and general government operations. King County government has a long history of reducing energy use in its operations, resulting in a reduction of normalized energy use by over 20 percent since 2007, saving over $4.1 million per year in energy costs. Every County agency contributes to energy reduction goals, yet opportunities remain to make more progress.

A significant amount of the energy savings in the County's operations in recent years have been the result of widespread installations of LED lighting. The once-in-a-lifetime opportunity of converting incandescent and fluorescent lighting to LED has captured both deep energy reductions (30 to 70 percent) and cost-effective utility cost savings. After comprehensive early adoption of LED lighting in the County's Department of Natural Resources and Parks facilities by the end of 2018, the rest of the County government has committed to installing LED lighting in all other facilities by the end of 2020.

Moving forward, an increasing challenge is the cost-effectiveness of energy reduction projects. This issue has become more apparent due to the significant reductions that have already been captured from the completion of numerous building system, operational process, and LED lighting projects. To address this, the 2020 SCAP sets forth a charge for the County to evaluate how decision-makers consider the life cycle cost-effectiveness of projects, factor-in a price of carbon when selecting equipment and outline the parameters under which energy-efficiency savings will be pursued when not life cycle cost-effective.

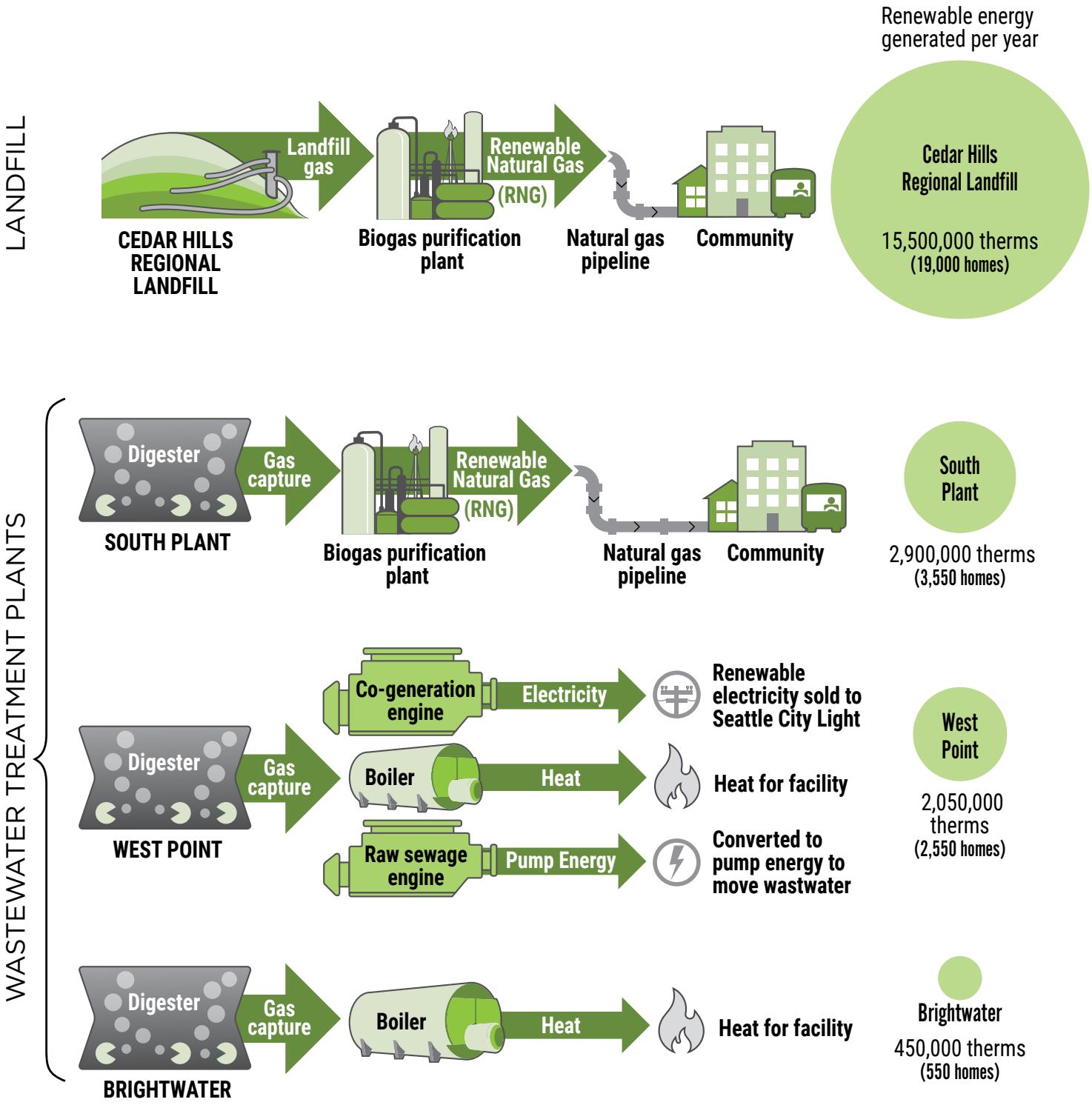
As electricity supplies become cleaner, a greater level of emphasis is being placed on reducing the consumption of carbon-based fuels through efficiency and the conversion away from natural gas, oil, and propane heating systems in homes and other buildings. Electric heat pump and heat recovery technologies to meet space conditioning and water heating needs have advanced in recent years. However, continued low prices of fossil fuels such as natural gas and propane make the economics of natural gas-to-electric heat pump conversions challenging.

At the community scale, the 2020 SCAP sets targets for the reduction of fossil fuels in the built environment through a combination of efficiency, the use of renewable natural gas, traditional natural gas supplies containing blended renewable hydrogen, and conversion to high-efficiency heating systems that use electricity. The County is pursuing heat pump and advanced heat recovery systems for many new construction projects in its portfolio. King County is seeking to accelerate conversion of space conditioning and water heating equipment in its existing buildings to similar electrically based systems.

In 2015, King County set an ambitious regional goal of 90 percent renewable electricity supply in the county by 2030, with coal-fired electrical generation ended by 2025. The County is poised for success on those two goals based on several actions, including passage of the state's Clean Electricity Transformation Act, continued growth in residential and small commercial solar, and the availability of Puget Sound Energy's (PSE) Green Direct program, which supplies wind and solar generated electricity from systems in Washington state. King County is the largest purchaser of PSE's Green Direct electricity, which will significantly reduce its operational GHG emissions and is projected to save on electricity bills over its 10-year participation in the program.

In addition to procuring almost entirely carbon-free and largely renewable electricity for most of its buildings, King County is a large generator of renewable energy from waste products at its active landfill and wastewater operations. This includes the production of pipeline-quality renewable natural gas at the Cedar Hills Landfill and South Wastewater Treatment Plant, cogenerated heat and power at the West Point Wastewater Treatment Plant, and heat at the Brightwater Treatment Plant. In recent years, the County has made large additions to its solar energy generation portfolio, with over 500 KW (DC) of solar already installed at County facilities, and over 500 additional KW (DC) in various stages of development. Additionally, the County is pursuing sewer and effluent heat recovery projects, both internal to government operations and through public-private partnerships.

Renewable Gas Production and Uses at King County Facilities



With increased demands on the electrical grid from population and economic growth, and conversion to electrical systems, King County is setting goals for communitywide distributed solar, storage, and load management technologies. Distributed systems result in the reduced need for new large-scale electricity generation sources. The County is ready to work in partnership with residents, business, organizations, regulators, and utilities to build a clean, efficient, and resilient electrical system.

Key Themes of Public Input

As part of the 2020 SCAP update, County staff hosted an energy-focused workshop for local government and state partners, climate and energy organizations, and utilities. Participants in the workshop provided technical feedback on potential 2020 SCAP community-scale energy supply and efficiency goals and priorities. Energy topics were also a major component of a similar green building focused workshop.

Key themes and priorities identified at these forums and in broader 2020 SCAP public engagement opportunities included the following:

- Strong interest in the development of small-scale residential, business, and community solar power.
- Growing emphasis on reduced use of fossil fuels for heating, water heating, and cooking.
- Interest in financial incentives for expanded access to energy-efficiency and solar programs, particularly for BIPOC communities and people living with low incomes.

Many residents indicated a desire to be more involved in climate solutions, but don't know where to start. As a trusted entity, King County has an opportunity to educate residents and businesses on how to take advantage of programs and incentives and create opportunities for residents to support clean energy efforts in their communities.

Many residents expressed an interest in seeing the County take actions to reduce its own consumption of natural gas and be a leader for the community to demonstrate the reduction of fossil fuel use in County-owned buildings.

A "deep energy retrofit" at the King County International Airport Terminal Building (Boeing Field) has reduced energy use by over 68% and reduced carbon emissions by over 99%. The project included the installation of LED lights throughout the facility, and replacement of the gas-fueled heating system with an all-electric variable refrigerant flow heat pump and heat recovery system



COUNTYWIDE

Goal: Reduce energy and fossil fuel use in the built environment and increase the use of clean energy supplies and technology.

Categories:

- Energy Efficiency
- Fossil Fuel Use in Buildings
- Clean and Renewable Energy

CATEGORY: ENERGY EFFICIENCY

Strategy GHG 3.1. Build on state legislation to strengthen commercial building efficiency in partnership with cities, businesses, organizations.

	Priority Actions	King County Role	Connections and Considerations
GHG 3.1.1	**Support energy loan programs.** • Study and develop analysis of gaps in financial offerings by economic status or geography. *(Climate Action Team)* • Seek to develop financing mechanisms/products with partners that fill gaps in loan and incentive offerings for both residential and commercial businesses. Stakeholders will include financing institutions and people living with low incomes and underserved communities, with others to be determined later. *(Climate Action Team)* • Propose a Commercial Property Assessed Clean Energy program that enables commercial and multi-family property owners to finance efficiency, renewable and resiliency improvements to their facilities. *(KCEO)*	 Convene  Support/ Advocate	 Fast Start  Public Priority
GHG 3.1.2	**Support state level action to require disclosure and performance improvement for commercial buildings per the Clean Buildings Act (HB 1257 2019).** *(KCEO)*	 Support/ Advocate	

Strategy GHG 3.2. Convene communities, utilities, funders, and service providers to lower barriers to residential retrofits.

	Priority Actions	King County Role	Connections and Considerations
GHG 3.2.1	**Develop coordinated, countywide program to provide targeted service delivery for residential efficiency.** Prioritize low income, renters, seniors, and affordable housing units. *(Climate Action Team)* • An in-depth conservation assessment may prioritize specific sectors for highest impact in energy savings and carbon reduction. • In coordination with utilities, a program would include LED replacement, weatherization, and conversion to efficient, low-carbon water and space heating systems.	 Implement  Convene	
GHG 3.2.2	**Create a website/central information hub that educates residents on programs, incentives, financing options, and energy-saving technologies.** *(Climate Action Team)* • Increase awareness about existing programs via the proposed resource hub and other County programs that work with residents and businesses. • Work with stakeholders to provide materials in culturally relevant languages with culturally relevant examples/methods.	 Implement	
GHG 3.2.3	**Implement residential point-of-sale energy disclosure.** *(KCEO)*	 Implement  Convene	

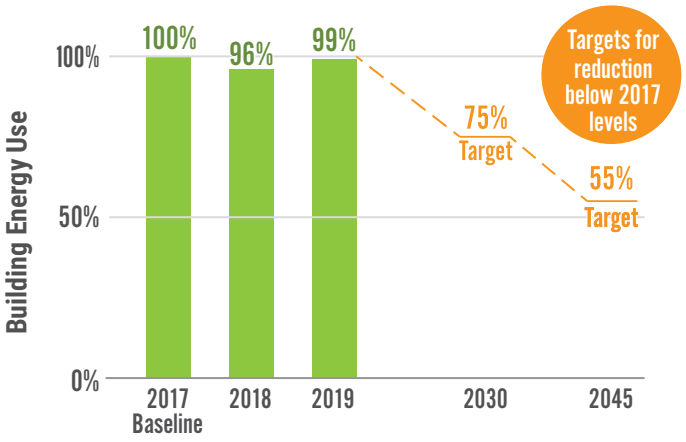
Strategy GHG 3.3. Strengthen building codes for new construction to set the framework for long-term energy savings.

Priority Actions		King County Role	Connections and Considerations
GHG 3.3.1	**Propose Strong Green Building Codes in Unincorporated King County.** The King County Permitting Division will transmit to the King County Council new green building code requirements for residential and nonresidential buildings. New requirements will be informed by King County staff and RCC recommendations. Proposed requirements may include renewable energy and energy efficiency, water efficiency and reuse, construction and demolition (C&D) material management, materials with low embodied carbon and toxicity, electric vehicle infrastructure, transit-oriented development, sustainable transportation, and other green building codes applicable to new and existing buildings that are appropriate for unincorporated King County. *(DLS)*	 Implement	
GHG 3.3.2	**Completing the Energy Code Delta.** King County Permitting Division will track each code amendment cycle for the Washington State Energy Code (WSEC) conducted by the Washington State Building Code Council (SBCC) to determine if the cumulative amendments developed by the SBCC have met the cycle goals in order for newly constructed residential and nonresidential buildings permitted under the 2031 WSEC to achieve a 70% reduction in net annual energy consumption, compared to those permitted under the 2006 WSEC. If the SBCC is unable to achieve the desired percentage of reduction, the Permitting Division may transmit to King County Council either amendments to the King County Energy Code that will result in unincorporated King County meeting the requirements of RCW 17.27A.160 or the amendments that have been adopted by the City of Seattle. (DLS)	 Implement	

Performance Measure GHG 11: Energy Use in Buildings	
Target	Reduce energy use in all existing buildings in King County by 25% by 2030 and 45% by 2050 compared to a 2017 baseline. K4C
Current Status	Despite increases in efficiency, overall energy use has risen 11% since 2015 due to high population growth and residential and commercial development in King County.
Quantifying GHG Reductions	The GHG benefits associated with this target are quantified in *Countywide Wedge #2 – Reduce Energy Use in Buildings and Industry.*

COUNTYWIDE ENERGY USE IN EXISTING BUILDINGS

Energy use continues to trend higher, as population and economic growth through early 2020 contributed to increases in energy use and building square footage. Significant investments are needed to change the trajectory of energy use.



DEFINITIONS OF GAS TYPES USED IN BUILDINGS AND FACILITIES

Fossil-based natural gas: Comprised mostly of methane and other hydrocarbons, this gas is formed underground through the long decay of organic materials. This is the typical natural gas delivered to homes and businesses through an extensive nationwide piping network. Much of this gas is currently extracted through a process called hydraulic fracturing or "fracking".

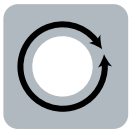
Biogas: Collected from natural decomposition processes of organic waste materials at landfills, wastewater treatment plants, and dairies. With limited or no cleaning, biogas can be used for heating and electricity generation.

Renewable natural gas: The term for biogas from landfills, wastewater treatment plants, dairies and other anerobic digestion processes that has undergone extensive purification to meet quality standards such that it can be injected into natural gas pipelines as a direct substitute for fossil-based natural gas.

Renewable hydrogen blended natural gas: The blending of low percentages of hydrogen into existing natural gas supplies. The hydrogen is created by renewable energy sources, for the purpose of reducing greenhouse gas emissions related to natural gas consumption.

CATEGORY: FOSSIL FUEL USE IN BUILDINGS

Strategy GHG 3.4. Build on state legislation to accelerate and maximize fossil-based natural gas efficiency programs in partnership with utilities, businesses, and organizations.

Priority Actions	King County Role	Connections and Considerations
GHG 3.4.1 **Partner with Puget Sound Energy to promote fossil-based natural gas conservation per the Clean Buildings Act (HB 1257 2019).** *(KCEO)*	 Convene	
GHG 3.4.2 **Local Government Action: Support state legislation that advances conversion to clean energy sources in the built environment.** Collaborate with stakeholders, including labor and utilities, to develop energy codes that support the transition to highly efficient and low-carbon non-residential and multifamily buildings through the conservation of fossil fuels, use of renewable natural gas, electrification, and implementation of sewer heat recovery. *(KCEO)*	 Convene  Support/ Advocate	 K4C

Strategy GHG 3.5. Convene communities, utilities, funders, and service providers to lower barriers to retrofits from fossil fuel to electric systems.

GHG 3.5.1 **Develop a program to convert oil and propane heated homes to clean sources of energy in partnership with community groups, utilities, and organizations.** Prioritize the conversion for low-income and senior residents. *(Climate Action Team)*	 Implement  Convene	
GHG 3.5.2 **Lower financial and logistical barriers for conversion to low/zero-carbon cooking, space and water heating equipment in existing built environment.** *(Climate Action Team)*	 Convene	

Strategy GHG 3.6. Strengthen building codes for new construction that require clean sources of energy for building and hot water heating.

Priority Actions		King County Role	Connections and Considerations
GHG 3.6.1	**Enact code to phase out new fossil fuel infrastructure in the built environment within King County jurisdiction.** *(KCEO)*	Implement	Fast Start; Public Priority

Strategy GHG 3.7. Support the increased production of renewable natural gas, renewable hydrogen blended natural gas, and other carbon-free or reduced carbon energy sources.

GHG 3.7.1	**Support the adoption of a statewide or regional low carbon fuel standard that gradually lowers pollution from transportation fuels and legislation that supports the production and use of renewable fuels.** *(KCEO)*	Support/ Advocate	K4C
GHG 3.7.2	**Seek to increase production of biogas at King County's landfill and wastewater treatment plants as detailed in the Operations section of this focus area.** *(SWD, WTD)*	Implement	

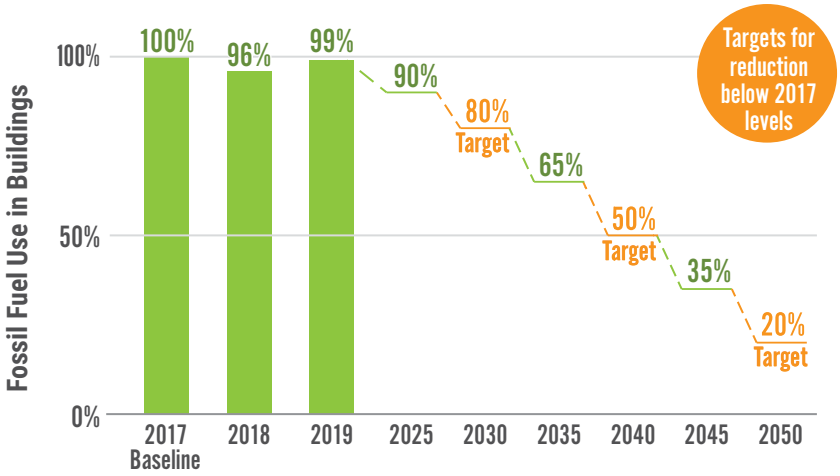
King County's West Point Treatment Plant.



Performance Measure GHG 12: Fossil Fuel Use in Buildings	
Target	Strengthen conservation and use of renewable natural gas, and support the transition to electrical systems to reduce fossil-based natural gas and other fossil fuel use in existing buildings in King County by at least 20% by 2030, 50% by 2040, and 80% by 2050, compared to a 2017 baseline. K4C
Current Status	New target
Quantifying GHG Reductions	The GHG benefits associated with this target are quantified in *Countywide Wedge #3 – Transition Fossil Fuel Use in Buildings and Industry.*

FOSSIL FUEL USE IN BUILDINGS

In 2017, natural gas use caused 35% of all building related GHG emissions. New efficiency measures, electrification, and use of renewable natural gas are needed to meet the new 2020 SCAP fossil fuel reduction targets.

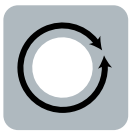


Stakeholders gathered in August 2019 to provide input on energy efficiency policies and building codes



CATEGORY: CLEAN AND RENEWABLE ENERGY

Strategy GHG 3.8. Participate in state, regional, and local forums that develop policy related to utility efficiency, load management, and renewable goals. Ensure fast and equitable transition to clean energy sources.

Priority Actions		King County Role	Connections and Considerations
GHG 3.8.1	**Participate in rulemaking and other actions that support equitable and accelerated transition to clean energy supplies** as required by the Clean Energy Transformation Act. *(KCEO)*	 Implement	
GHG 3.8.2	**Advocate for increased grid reliability through state and utility regulatory rulemaking and legislation** that supports demand response and storage technologies that reduce peak load and provide grid flexibility. *(KCEO)*	 Support/ Advocate	
GHG 3.8.3	**Clean Energy Policy: Partner through the K4C and with local utilities, state regulators, and other stakeholders on a countywide commitment to clean energy resources.** This includes meeting future energy needs through deep energy-efficiency improvements and improved management of peak demands, increasing the state solar net metering threshold, and supporting renewable generation and fuel resources while phasing-out fossil fuels. *(Climate Action Team)*	 Convene  Support/ Advocate	 K4C
GHG 3.8.4	**Collaboration with Energy Utilities: Partner through the K4C and participate in utility Integrated Resource Plan and Energy Plan development processes and emphasize interests for acceleration of transition and equitable distribution of benefits through regulatory and rulemaking forums.** *(KCEO)*	 Implement	 K4C

Strategy GHG 3.9. Implement policies and programs recommended in the Clean Electricity Pathways Report.

	Priority Actions	King County Role	Connections and Considerations
GHG 3.9.1	**Local Government Action: Partner through the K4C and with utilities to develop a package of local jurisdictional commitments and initiatives that support renewable and distributed energy sources that direct the region toward a robust and resilient utility system.** Actions include supporting community solar development, green power community challenges, streamlined local renewable energy installation permitting, district energy, code development, and renewable energy incentives. *(KCEO)*	Implement Convene	K4C

Strategy GHG 3.10. In coordination with utilities and communities, pursue development of renewable energy projects.

GHG 3.10.1	**Prioritize low-income and underserved communities with community solar or shared ownership models.** This priority action may be coordinated with Puget Sound Sage's 100% Cities Project. *(Climate Action Team)*	Convene	Climate Equity

Community solar installation in Jefferson Park, Seattle provides shade for picnickers and solar energy.



Photo courtesy of Spark Northwest

Performance Measure GHG 13: Clean Electricity

Target

Implement the Washington State Clean Energy Transformation Act, which phases out coal-fired electricity sources by 2025 and requires 80% carbon neutral electricity by 2030, and 100% clean electricity by 2045; increase countywide renewable electricity supply to 90%, limit construction of new natural gas based electricity power plants, and seek to establish a more resilient energy system,

K4C

Supporting targets that seek increased supplies of distributed generation, storage, and demand-side conservation:

- New distributed generation (solar): 10 MW/year beginning in 2020, reaching 100 MW countywide by 2030 and 250 MW countywide by 2045.
- Energy storage: 100MW per utility serving King County by 2030 and 200 MW per utility by 2045.
- Demand response technologies: >5% of peak utility load by 2030, >10% of peak utility load by 2045.

Current Status

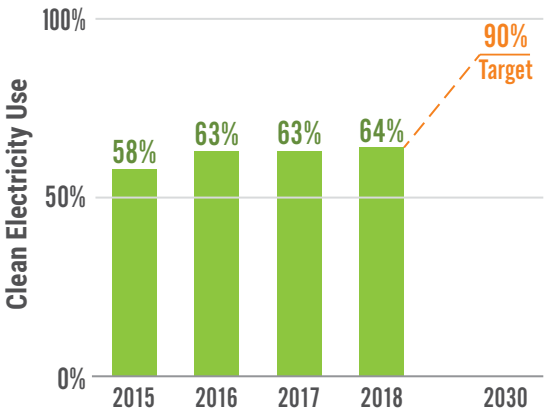
In 2018, King County's electricity supply was 64.4% renewable, a slight increase from 63% in 2017. Distributed generation, primarily solar, reached 57MW in 2019, up from 36MW in 2017. With solar incentives declining, the County needs to promote the benefits of local distributed ownership. Energy storage and demand response technologies can provide for greater integration of renewables into the electricity supply. Neither Seattle City Light nor Puget Sound Energy (PSE) have significant levels of storage or demand response, with storage levels for SCL at 0.2 MW with the Miller Community Center microgrid projects and PSE at 2 MW with its Glacier utility-scale battery, and demand response at 0% for SCL and under 2% for PSE.

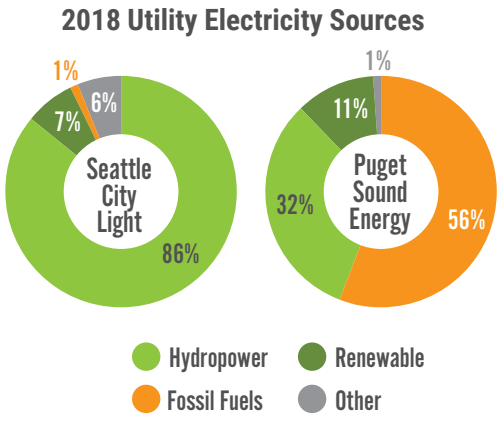
Quantifying GHG Reductions

The GHG benefits associated with this target are quantified in *Countywide Wedge #9 – Implement 100% Clean Electricity Law.*

COUNTYWIDE CLEAN ELECTRICITY USE

- Phase out coal-fired electricity sources by 2025
- Limit construction of new natural gas power plants
- Increase countywide renewable electricity supply to 90% by 2030
- Implement the Washington State Clean Energy Transformation Act to achieve 80% carbon neutral electricity by 2030 and 100% clean electricity by 2045
- Establish a more resilient energy system





COUNTY OPERATIONS

Goal: Reduce energy use in County facilities, make investments to significantly reduce building fossil fuel use, and produce more renewable energy.

Categories:

- Energy Efficiency
- Fossil Fuel Use in Buildings
- Clean and Renewable Energy
- Appendix V: Operational Energy and GHG Guidance

CATEGORY: ENERGY EFFICIENCY

Strategy GHG 3.11. Efficient building operations: County agencies shall operate facilities in a manner that meets staff and community health and operational needs, while continually working to ensure systems and equipment are operating as efficiently and effectively as possible.

	Priority Actions	King County Role	Connections and Considerations
GHG 3.11.1	**Work with the Office of Performance, Strategy and Budget to develop energy-efficiency investment guidelines,** focused on payback criteria and when to pursue energy-efficiency investments that don't meet life cycle cost-effectiveness criteria. *(OPSB, DNRP, DES, Metro)*	 Implement	 Fast Start  Public Priority
GHG 3.11.2	**Adjust the Fund to Reduce Energy Demand (FRED) County agency loan program to fund projects that are life cycle cost-effective up to an operational life of up to 20 years.** *(OPSB, DNRP)*	 Implement	 Fast Start  Public Priority

Strategy GHG 3.12. Capital planning: County agencies shall ensure capital projects, regardless of facility location, integrate the code equivalent of the jurisdiction with the most resource efficient energy code in the County, using the County-developed energy code compliance checklist.

GHG 3.12.1	**Create additional accountability of capital project managers and county agencies to ensure life cycle cost-effectiveness criteria are used for capital and maintenance investments that impact energy and water consumption.** *(All Agencies)*	 Implement

Strategy GHG 3.13. All County agencies shall dedicate staff and financial resources to ensure continuous and ongoing efforts to reduce energy use across their building portfolios.

Priority Actions	King County Role	Connections and Considerations
GHG 3.13.1 **Educate project managers and maintenance staff about utility incentives, technologies and low-cost actions that offer resource efficiency potential.** *(DNRP, FMD, Roads, Metro)*	Implement	

Strategy GHG 3.14. Report regularly on County agency energy use and reduction progress.

GHG 3.14.1 **Report to division and executive leadership at least once a year on energy reduction progress and actions.** *(DNRP, FMD, Roads, Metro)*	Implement	

Strategy GHG 3.15. Assess and capture opportunities to reduce energy use in response to increased teleworking and other evolving County work practices and building occupancy levels.

GHG 3.15.1 **Analyze and evaluate opportunities and challenges related to increased teleworking,** with the intent of minimizing energy use while ensuring healthy and safe work spaces. *(All Agencies)*	Implement	Public Priority, Health Blueprint



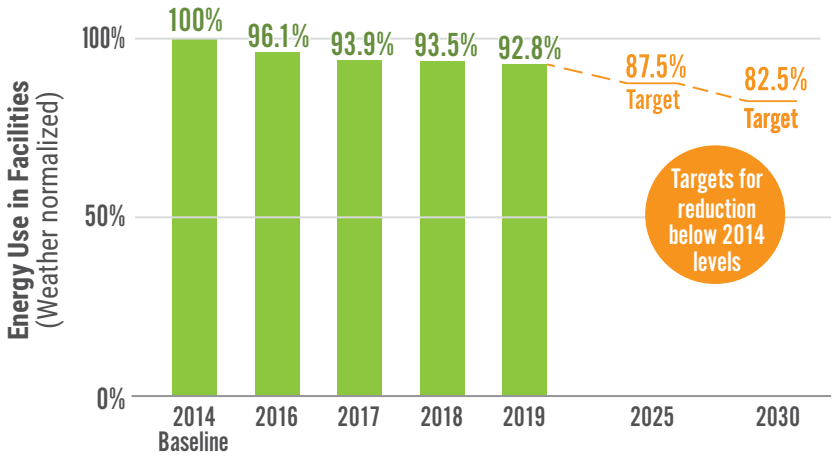
A 2019 upgrade of the "membrane bioreactor" (MBR) at the Brightwater wastewater treatment plant is saving the facility over 2,000,000 kilowatt-hours of electricity each year. The MBR process is a crucial step in creating the high-quality effluent (treated wastewater) produced at Brightwater.

Performance Measure GHG 14: Energy Use	
Target	King County will reduce normalized* energy use in County-owned facilities by at least 12.5% by 2025 and 17.5% by 2030 (2014 baseline).
Current Status	Through 2019, the County reduced its normalized facility energy use in impacted facilities by 7.2% as measured against the 2014 baseline outlined in the 2015 SCAP. As of 2020, these efforts are resulting in a financial savings of over $4.1 million per year.
Quantifying GHG Reductions	The GHG benefits associated with this target are quantified in *Countywide Wedge #4 – Building Energy Efficiency and Low-Carbon Energy.*

* Normalized energy use is measured on an energy use per square foot basis, using an Energy Use Index of BTU/sq. ft/degree day. The Wastewater Treatment Division is normalized for consumed energy adjusted for weather and wastewater flow.

NORMALIZED ENERGY USE AT COUNTY FACILITIES

Target: Reduction in energy use in County-owned facilities by least 12.5% by 2025 and 17.5% by 2030, compared to 2014.



ENERGY EFFICIENCY TARGETS - COUNTYWIDE VS. GOVERNMENT OPERATIONS

Although countywide energy use has increased by 11 percent from 2015 to 2019, King County work has beaten this trend and decreased energy use from operations by 7.2 percent from 2014 to 2019. Over the longer term, King County has achieved even bigger operational efficiency gains through strategies such as retrofits, lighting conversion projects, and operational changes. Since 2007, normalized operational energy use has decreased by over 20 percent, saving taxpayers more than $4.1 million in operating costs per year.

The 2020 SCAP sets a new 2030 operational energy efficiency target of a 17.5 percent reduction (2014 baseline). While this may appear less strong than the countywide 25 percent reduction target by 2030 (2017 baseline), achieving the operational target will mean that greater long-term efficiency gains will have been made than at the countywide scale, building from progress over the last decade. King County will continue to pursue deep efficiency gains and plans to reanalyze what is possible for 2030 energy targets in the next SCAP update in 2025.

CATEGORY: FOSSIL FUEL USE

Strategy GHG 3.16. Expand data around fossil fuel use in existing County-owned buildings and develop strategies for eliminating use of fossil fuels in County buildings.

	Priority Actions	King County Role	Connections and Considerations
GHG 3.16.1	**All County agencies shall inventory all fossil fuel uses in each of their facilities, including space heating, water heating, backup generator operations, and other needs.** Establish a cross-departmental effort to focus on fossil fuel reductions in the top 20 highest building and facility consumers of natural gas, which make up over 90% of County natural gas consumption. Investigate opportunities to reduce the use of carbon-based fuels for backup generators, and minimize fuel needed for generator testing, while ensuring equipment will function properly during emergencies. *(All Agencies)*	 Implement	 Fast Start
GHG 3.16.2	**All agencies will create fossil fuel elimination action plans** that detail the projected end-of-life date of each piece of fossil fuel-consuming equipment, and non-fossil fuel replacement and retrofit options. Pursue opportunities to reduce natural gas, heating oil, and propane consumption in facilities where replacement with non-carbon alternatives is not cost-effective or logistically feasible. *(All Agencies)*	 Implement	 Public Priority  Carbon Neutral

Strategy GHG 3.17. Eliminate fossil fuel use in new construction.

GHG 3.17.1	**Develop County policy for the elimination of fossil fuel use in new construction, with minor exceptions for backup power, food service, and limited industrial processes for which electric alternatives do not exist.** *(DNRP, All Agencies)*	 Implement	 Public Priority  Carbon Neutral

Strategy GHG 3.18. Identify cost-reduction methods that reduce the cost of heat pump and dedicated outside air technology installations.

Priority Actions		King County Role	Connections and Considerations
GHG 3.18.1	**Work with outside stakeholders such as jurisdictions, resource efficiency advocates and equipment vendors to reduce project implementation costs of advanced energy-efficiency technologies.** *(DNRP, FMD)*	Implement Convene	K4C

Strategy GHG 3.19. Identify and increase use of alternative energy sources to replace fossil-based natural gas.

GHG 3.19.1	**Research the feasibility and economics of consuming County-produced or utility-provided *renewable* natural gas as an alternative to carbon-based fuels, when natural gas use cannot economically or feasibly be eliminated.** *(DNRP)*	Implement Convene	GHGs by 2030 Carbon Neutral

Performance Measure GHG 15: Fossil Fuel Use in Buildings

Target	By 2030, 20% reduction in fossil fuel use in existing County buildings; by 2040, a 50% reduction; by 2050, an 80% reduction, baseline 2014	GHGs by 2030 Carbon Neutral
Current Status	New target.	
Quantifying GHG Reductions	The GHG benefits associated with this target are quantified in *County Operations Wedge #4 – Building Energy Efficiency and Low-Carbon Energy.*	



King County Parks' North Utility Crew Shop is the County's first certified net-zero energy project. The solar panels, installed on two buildings built over a decade ago, generate 40% more power than the site consumes each year.

CATEGORY: CLEAN AND RENEWABLE ENERGY

Strategy GHG 3.20. Reduce County-owned landfill gas emissions and increase renewable biogas production.

	Priority Actions	King County Role	Connections and Considerations
GHG 3.20.1	**Make the following improvements to the landfill gas (LFG) collection system at the Cedar Hills Regional Landfill (CHRL).** By 2025, SWD will: • improve north flare station electrical infrastructure to ensure operational integrity of the system and maximize gas collection; • conduct an LFG collection system upgrade feasibility study that could enable remote adjustment of landfill wellfield to increase efficiency and quality; • replace LFG collection valves with precision valves that can be more finely tuned to improve landfill gas collection volumes and gas quality; • increase inspections and adjustments of LFG collection wells; evaluate the location of the wells; repair landfill liner tears, malfunctioning valves, and other issues that are increasing emissions; and • reduce landfill emissions in Area 7 by installing a final cover in 2021. *(SWD)*	 Implement	 Fast Start  Carbon Neutral
GHG 3.20.2	**Renewable Biogas Optimization:** By the end of 2021, King County will set Cedar Hills Regional Landfill renewable energy generation targets and track progress toward such targets. See Strategy A.13 in the Appendix V: Operational Energy and GHG Guidance for details. *(SWD)*	 Implement	 Fast Start  Carbon Neutral
GHG 3.20.3	**Closed Landfills:** By the end of 2023, conduct landfill gas emission studies at the Vashon, Duvall, Houghton, and Puyallup closed landfills to better assess the GHG emissions and to develop treatment plans. Complete design improvements and installation by 2025. *(SWD)*	 Implement	 Carbon Neutral
GHG 3.20.4	**Fugitive Emissions:** Explore and evaluate alternative methods to estimate landfill gas emissions not captured by the landfill gas collection system ("fugitive emissions.") Assess new technologies that can be implemented to reduce total landfill gas generation and decrease or capture fugitive emissions. *(SWD)*	 Implement	 Carbon Neutral

Strategy GHG 3.21. Increase production and optimize the use of renewable fuels at County facilities.

	Priority Actions	King County Role	Connections and Considerations
GHG 3.21.1	**Wastewater Biogas Optimization:** By December 31, 2021, the Wastewater Treatment Division will create 2025 and 2030 biogas optimization goals for its three regional treatment plants. *(WTD)*	 Implement	 Carbon Neutral
GHG 3.21.2	**Assess the feasibility and economics of using renewable natural gas generated at County facilities for use in County operations.** *(DNRP, FMD, Metro)*	 Implement	 Carbon Neutral
GHG 3.21.3	**Identify the potential for public-private partnerships to maximize the generation of renewable energy** from all available biogas at County wastewater treatment facilities. *(DNRP, WTD)*	 Implement  Convene	

Strategy GHG 3.22. Design all new facilities in a manner that considers the installation of on-site solar power production and install solar systems when cost-effective over a 20-year product life.

GHG 3.22.1	**New facilities shall install 0.25 watts per square foot of solar power,** per the guidance of Strategy A8 in Appendix V: Operational Energy and GHG Guidance. *(All Agencies)*	 Implement	 Public Priority

Strategy GHG 3.23. Support the use of County facilities for community renewable energy projects that are in the best interest of the public and reduce community energy use.

GHG 3.23.1	**Support community solar projects that enable non-homeowners and those with fewer financial resources to participate in the clean energy economy.** *(DNRP, FMD)*	 Support/ Advocate	 Public Priority	 Climate Equity

Strategy GHG 3.24. Pursue progress toward the renewable energy consumption target in the following order of priority: (1) energy-efficiency projects, (2) cost-effective renewable energy generation projects, and (3) renewable and carbon reduction offset purchases.

Priority Actions		King County Role	Connections and Considerations
GHG 3.24.1	**The County will work with the local electric utilities to better quantify the GHG impacts of their hydroelectric resources.** *(DNRP)*	Support/ Advocate	
GHG 3.24.2	**As of July 1, 2020, all electricity purchased by King County government is greenhouse gas neutral.** *(DNRP, All Agencies)*	Implement	Public Priority

Strategy GHG 3.25. Encourage and support private sector projects to extract and use the embodied energy in wastewater flowing through the regional wastewater conveyance system.

GHG 3.25.1	**Support private sector district energy and heat recovery projects to heat and cool buildings by using the embodied energy in wastewater flowing through the regional wastewater conveyance system.** *(WTD)*	Support/ Advocate	Public Priority

Performance Measure GHG 16: Renewable Energy Consumption	
Target	King County government shall consume renewable energy equal to 80% of government operation facility energy consumption by 2025 and 95% by 2030.
Current Status	In 2019, 66.4% of the energy consumed in King County's buildings and facilities was from renewable energy sources.

King County currently has solar panel systems at ten facilities, generating a total of over 511,000 kilowatthours (kWh) per year.



Maleng Regional Justice Center: **108,000 kWh/yr**



Steve Cox Community Center: **70,300 kWh/yr**



Weyerhauser King County Aquatic and Conference Center: **240,000 kWh/yr**

Performance Measure GHG 17 – Solar Energy Production	
Target	King County agencies shall have 1.5 or more megawatts (1,500 kilowatts DC) of solar energy installed at its facilities by the end of 2025.
Current Status	As of the end of 2019, King County had 489 kilowatts DC of solar energy installed at its facilities.

Focus Area 4
Green Building

Key Takeaways

- Building and facility energy use is the region's second largest source of GHG emissions.
- In 2017, approximately 46 percent of all locally sourced GHG emissions were associated with residential and commercial buildings in King County.
- Local green building efforts build on decades of leadership, including recent projects that demonstrate how to meet the County's long-term climate targets, such as the King County North Utility Maintenance Facility, a Zero Energy certified operations building, and the Miller Hull Partnership work space, a Living Building Challenge Petal Certified architectural office.
- This focus area outlines King County's commitment to:
  - collaborate with jurisdictions and community partners to develop and support local, state, and national codes and legislation resulting in the reduction of greenhouse gas emissions;
  - partner with cities and the building community to achieve 70 percent reduction in energy consumption in new buildings by 2031;
  - provide education on green building practices in order to encourage and increase the use of these methods across King County;
  - implement the highest green building and sustainable development standards and strategies for King County-owned buildings and infrastructure;
  - catalyze the conversion of construction and demolition materials from being managed as waste or low-value products into carbon-storing, high-value, long-life products; and
  - integrate ESJ considerations in County-owned capital projects.

WLRD's Riverbend Floodplain Restoration Project located on the Cedar River is projected to achieve a Platinum rating level on the King County Sustainable Infrastructure Scorecard. The project team has implemented green building and equity and social justice efforts through the incorporation of an eco-charrette with community stakeholders completed early in the project planning phase.



Introduction

For more information about strategies connected to the Green Building focus area identified by the Climate Equity Community Task Force, please see the Housing Security and Anti-Displacement Focus Area of the SRFC Section.



Building and facility energy use is the region's second largest source of GHG emissions. Approximately two-thirds of King County's built environment in 2050 is expected to be constructed between 2007 and 2050. This development offers a critical opportunity for GHG emissions reductions. This focus area includes King County's green building and sustainable development commitments at three scales: (1) for new construction, additions, retrofits, and remodels built by businesses and residents in unincorporated King County; (2) for regional green building collaborative actions; and (3) for building and infrastructure projects owned and operated by the County.

Key Themes of Public Input

Several topic-specific workshops, public outreach and internal County meetings were held in order to cultivate ideas and feedback on how the county can best reduce GHG emissions in buildings and infrastructure. The following themes were consistent across all sessions and have been incorporated into this section:

Equity: Engagement participants felt strongly that healthy affordable housing should be accessible to all people, and that the green building movement could be the catalyst for workforce development. The Targets and Priority Actions in this section support efforts that will explore ways to help homeowners reduce energy bills and to require green building standards. The County's ESJ credit goals will continue to help increase inclusion of frontline communities in the County's own capital project improvements.

Regulation: There is a strong opinion that more aggressive building codes should be developed to encourage and require green building standards for all buildings. Focus should be on renewable energy, electric vehicle infrastructure, greywater, increased density, and affordable housing. As a result, the Priority Actions in this chapter are more assertive relative to the County's participation in working with regional partners toward sustainable code development and adoption, as well as increasing County engagement in state and national code development processes. With respect to the County's own buildings, the public would like all structures associated with King County (including leased or occupied) to meet the standards of the Living Building Challenge. Although this may not be possible for all buildings, the County will continue to lead by example by requiring all County-owned buildings over 5,000 square feet to achieve Leadership in Energy and Environmental Design (LEED) Platinum certification, and by 2030, for all buildings to achieve carbon neutral development using a green building certification that achieves at least a zero energy or zero carbon performance.

Financial Support, Incentives, and Equity: Participants expressed that more people would consider upgrading existing building systems to higher efficiency systems if more financial support was available. Through the 2020 SCAP, the County will explore financing mechanisms which could result in more people having the ability to replace inefficient building systems with those that are healthier and will reduce energy bills. Permitting incentives may also help to encourage an increase in green building across King County.

Education and Outreach: Participants shared that they are in support of making greener building choices if they had more knowledge in which to make those decisions. The 2020 SCAP renews and strengthens the County's commitment to providing education and outreach materials available to everyone. Creating a more robust series of educational topics on green building in personal, paper, and media formats will continue to be a priority so people can learn more about how and why green buildings are healthier for occupants, financing opportunities that exist, and how to implement green building.

COUNTYWIDE

Goal: Reduce energy use and GHG emissions associated with new construction, additions, retrofits, and remodels in all buildings built in King County.

Categories:

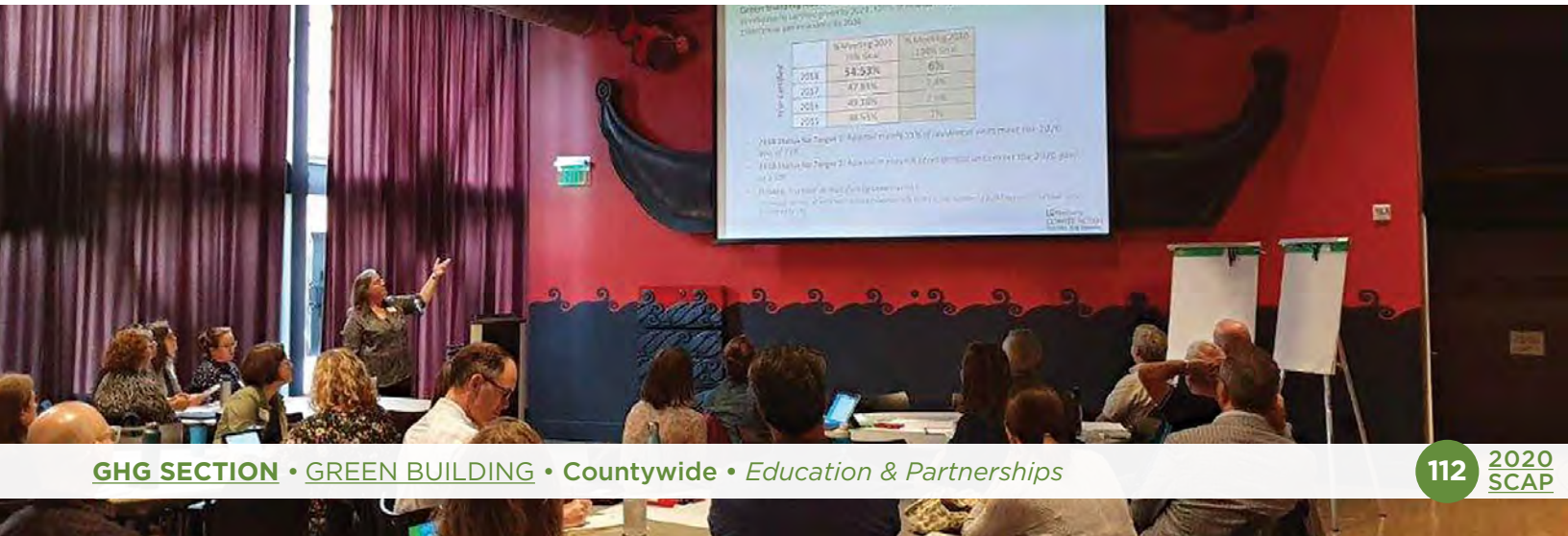
- Education and Partnerships
- Energy Codes and Certification
- Incentives

CATEGORY: EDUCATION AND PARTNERSHIPS

Strategy GHG 4.1. Provide educational materials and resources regarding green building and sustainable development practices to people within unincorporated areas.

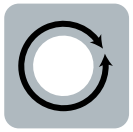
	Priority Actions	King County Role	Connections and Considerations
GHG 4.1.1	**Provide education to unincorporated area customers.** On an on-going basis and in coordination with other King County departments, the King County Permitting Division will develop educational materials on sustainable practices and techniques for green building and site development. This information shall apply to new construction, additions, retrofits, and remodeling projects in unincorporated King County, and shall be developed and provided in such a way that all people have access to this information and opportunity. *(DLS, SWD)*	Implement	Public Priority
GHG 4.1.2	**Provide additional resources.** The County shall leverage staff resources across the Department of Local Services to support in the development of codes, policies, incentives, educational outreach materials, permit applicant coaching, and programs associated with green building, as well as the efforts outlined in this focus area. *(DLS)*	Implement	

Public green building workshop held by King County staff.



CATEGORY: GREEN BUILDING, ENERGY CODES, AND CERTIFICATION

Strategy GHG 4.2. In partnership with jurisdictions participating in the Regional Code Collaboration (RCC), support the development of strong local, state, and national green building-related codes through forums such as the WA State Building Code Council (SBCC) and International Code Council (ICC).

Priority Actions	King County Role	Connections and Considerations
GHG 4.2.1 **Code development through the Regional Code Collaboration (RCC).** In partnership with cities, counties, and stakeholders from across the Puget Sound region, lead and participate in the RCC to develop stronger and more consistent residential and nonresidential development codes for green building that will apply to new construction, altered existing buildings, and building sites. Resulting codes may include, but are not limited to the following: renewable energy and energy efficiency, water efficiency and reuse, construction and demolition material management, materials with low embodied carbon and toxicity, low impact development, electric vehicle infrastructure, transit-oriented development, sustainable transportation, and development that supports affordable housing, and that is in support of the Living Building Challenge. In partnership with the RCC, King County will participate in state, national, and local code development processes to develop and support codes that will enable the achievement of County GHG emission reduction targets. Examples of code development processes to engage in include Washington State Building Code Council, International Code Council, and the Washington State legislature. *(SWD, DLS)*	 Convene  Support/ Advocate	 K4C  Public Priority  *The Regional Code Collaboration is comprised of jurisdictions across the Puget Sound Region working together to develop codes, policies, incentives and educational materials that support sustainable building practices.*
GHG 4.2.2 **Partner with King County cities on C&D recovery and reuse.** King County will work with and support city partners and partnering agencies to implement codes, policies, and incentives resulting in the maximum recovery and reuse of structural and nonstructural components of existing structures. King County's goal is for at least eight cities to have taken one of these steps by 2025. *(SWD)*	 Support/ Advocate	

Strategy GHG 4.3. In unincorporated areas, adopt or update and implement energy, water, C&D diversion, sustainable transportation, and other green building codes that are appropriate, ambitious, and achievable.

Priority Actions	King County Role	Connections and Considerations
GHG 4.3.1 **Propose strong green building codes in unincorporated King County.** The King County Permitting Division will transmit to the King County Council, new green building code requirements for residential and nonresidential buildings. New requirements will be informed by King County staff and RCC recommendations. Proposed requirements may include: renewable energy and energy efficiency, water efficiency and reuse, C&D material management, materials with low embodied carbon and toxicity, electric vehicle infrastructure, transit-oriented development, sustainable transportation, and other green building codes applicable to new and existing buildings that are appropriate for unincorporated King County. *(DLS)*	 Implement	 K4C  Public Priority  Fast Start
GHG 4.3.2 **Completing the energy code delta.** King County Permitting Division will track each code amendment cycle for the Washington State Energy Code (WSEC) conducted by the Washington State Building Code Council (SBCC) to determine if the cumulative amendments developed by the SBCC have met the cycle goals in order for newly constructed residential and nonresidential buildings permitted under the 2031 WSEC to achieve a 70% reduction in net annual energy consumption, compared to those permitted under the 2006 WSEC. If the SBCC is unable to achieve the desired percentage of reduction, the Permitting Division may transmit to King County Council either amendments to the King County Energy Code that will result in unincorporated King County meeting the requirements of RCW 17.27A.160 or the amendments that have been adopted by the City of Seattle. *(DLS)*	 Implement	 K4C  Public Priority  Fast Start

Strategy GHG 4.3. In unincorporated areas, adopt or update and implement energy, water, C&D diversion, sustainable transportation, and other green building codes that are appropriate, ambitious, and achievable.

Priority Actions	King County Role	Connections and Considerations
GHG 4.3.3 **Propose strong C&D recycling codes.** By the end of 2021, the King County Permitting Division will transmit to the King County Council, codes associated with C&D material diversion requiring the submission of a salvage assessment, building removal hierarchy assessment, C&D material diversion report, the delivery of C&D material from job sites to King County designated C&D facilities, and a minimum of two bins on each job site (for recyclable materials and non-recyclable waste). Assist King County cities with adopting similar requirements. *(DLS, SWD)*	 Implement	 Public Priority

Strategy GHG 4.4. Support the development of, and equitable access to, green affordable housing.

GHG 4.4.1 **Remove barriers to green affordable housing development.** King County, in partnership with the RCC and other public and private entities, will explore policies that help to remove barriers and increase access to safe, healthy, affordable housing. Areas of exploration may include: equitable access to affordable housing, how to encourage the development of green buildings, barriers to financing efficiency standards that exceed minimum code requirements, and programmatic needs of building occupants. The RCC will then develop identified codes and policies that can be used to increase the development of, and access to, green affordable housing. *(SWD)*	 Implement  Convene	 Public Priority  Climate Equity

Strategy GHG 4.5. Exercise Metro's commitment to advance equity and strengthen transit-oriented communities, prioritize the development of affordable housing as a key component of transit-oriented development projects on County-owned land, and implement sustainable building practices.

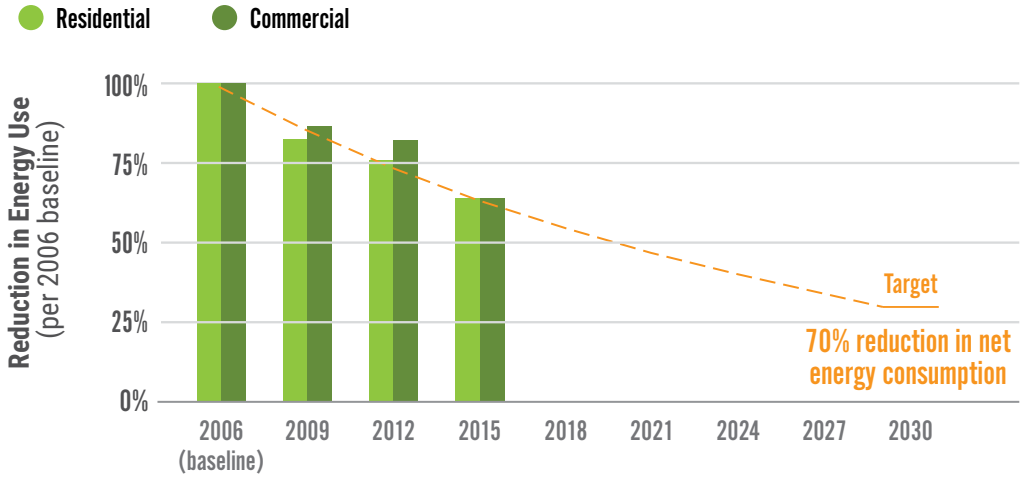
Priority Actions	King County Role	Connections and Considerations
GHG 4.5.1 **Use King County Metro Equitable Transit-Oriented Communities (ETOC) Policy.** King County Metro shall lead advancing sustainable development practices in projects on County-owned real property and support the inclusion of best practices to advance King County's SCAP in green building through the implementation of the King County Metro ETOC. Metro shall require transit-oriented development projects to achieve advanced green building certification. Metro shall pilot new technologies and/or processes to advance environmental sustainability when possible, and work with regulators to allow the use of these advanced methods where appropriate. King County will also encourage the use of the Metro ETOC Policy, or better, in transit-oriented development not owned by King County to reinforce the expansion of equitable efforts, affordability, and green building countywide. *(Metro)*	Implement	Climate Equity

Surrounding area of Kent Transit Center is a regional growth area



Performance Measure GHG 18: Energy Code Improvements		
Target	Implement Washington State Energy Code, which requires newly constructed buildings to move toward incrementally stronger efficiency performance, including a 70% energy reduction and net-zero GHG emissions in new buildings by 2031.	K4C
Current Status	The 2009, 2012, and 2015 Washington State Energy Codes all achieved their incremental targets set by RCW 19.27A.160	
Quantifying GHG Reductions	The GHG benefits associated with this target are quantified in *Countywide Wedge #1 – Strengthen Building Energy Codes.*	

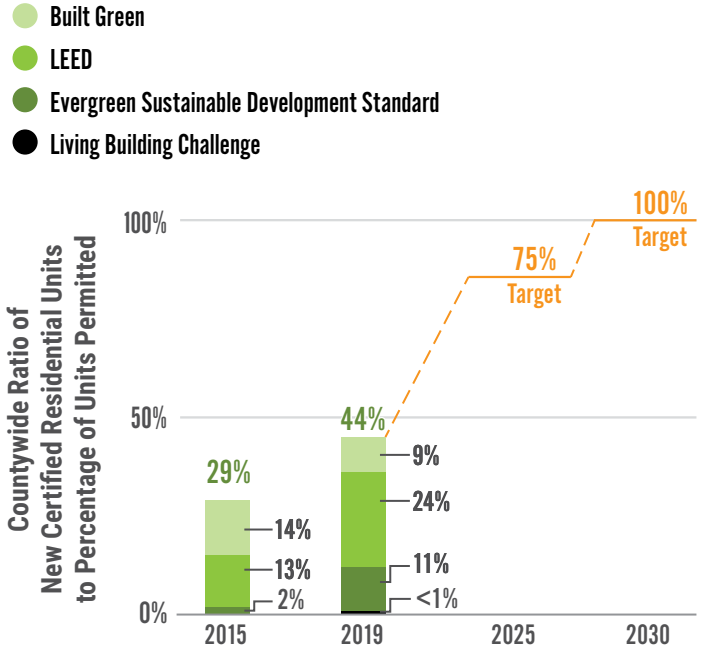
WASHINGTON'S ENERGY CODE IMPROVEMENT GOALS



RCW 19.27A.160 directs the Washington State Building Code Council to adopt state Energy Codes that will incrementally result in a 70% reduction in annual net energy consumption in new buildings by 2031. To achieve this, each adopted Energy Code must reduce target energy use in buildings by 14% as compared to the preceding version.

Performance Measure GHG 19: Green Building Performance and Certifications	
Target	By 2025, 75% of new residential dwelling units achieve: Built Green 4 Star or better, high level Evergreen Sustainable Development Standard, LEED Gold, or Petal, Zero Energy, Zero Carbon, CORE, or Passive House Certification. By 2030, 100% of new residential dwelling units achieve: Built Green 4 Star or better, high level Evergreen Sustainable Development Standard, LEED Gold, Petal, Zero Energy, Zero Carbon, CORE, or Passive House Certification. By 2035, 50% of new residential dwelling units achieve, in equal portions, Built Green Emerald Star, LEED Platinum, Living Building Challenge, or equivalent green building certification.
Current Status	The 2015 SCAP set a target that 75% of residential units achieve green building certifications by 2020, and a target that 100% of all residential units achieve an extremely high performance net carbon neutral certification by 2030. Progress has been made: in 2019, 44% of new dwelling units permitted within King County achieved a green building certification; 5% of those certified achieved an extremely high performance certification. The 2020 SCAP extends the 75% target to 2025, adds a 100% target for 2030, and modifies the year and percentage for the high performance tier to better reflect an attainable growth trajectory in alignment with the advancement of the WSEC.
Quantifying GHG Reductions	Quantifying the GHG emission reduction benefits from green building certified projects is identified as one of the SCAP priority actions. Buildings certified to LEED Gold or higher standards reduce energy related GHG emissions by at least 18 to 39%.

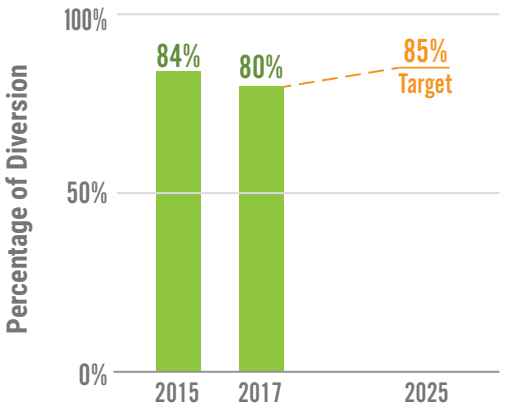
GREEN BUILDING RESIDENTIAL CERTIFICATION



Performance Measure GHG 20: Construction and Demolition Materials Recycling	
Target	By 2025, achieve an 85% C&D materials diversion rate from building development sites across King County, excluding Seattle and Milton. By 2030, achieve zero waste of C&D materials resources with economic value.
Current Status	The countywide recycling diversion rate of C&D material in 2017 was 80%.

CONSTRUCTION & DEMOLITION (C&D) DIVERSION

Target: 85% diversion by 2025, zero waste of C&D materials with economic value by 2030



The percentage of C&D material diverted from landfills has maintained in the low 80 percent range. As proposed in the 2020 SCAP, developing codes and incentives that call for the highest and best use of C&D material will increase the percentage of diversion.

Deconstruction project at a site in Bellevue.



Source-separated recycling at the Colman Dock project in the City of Seattle.

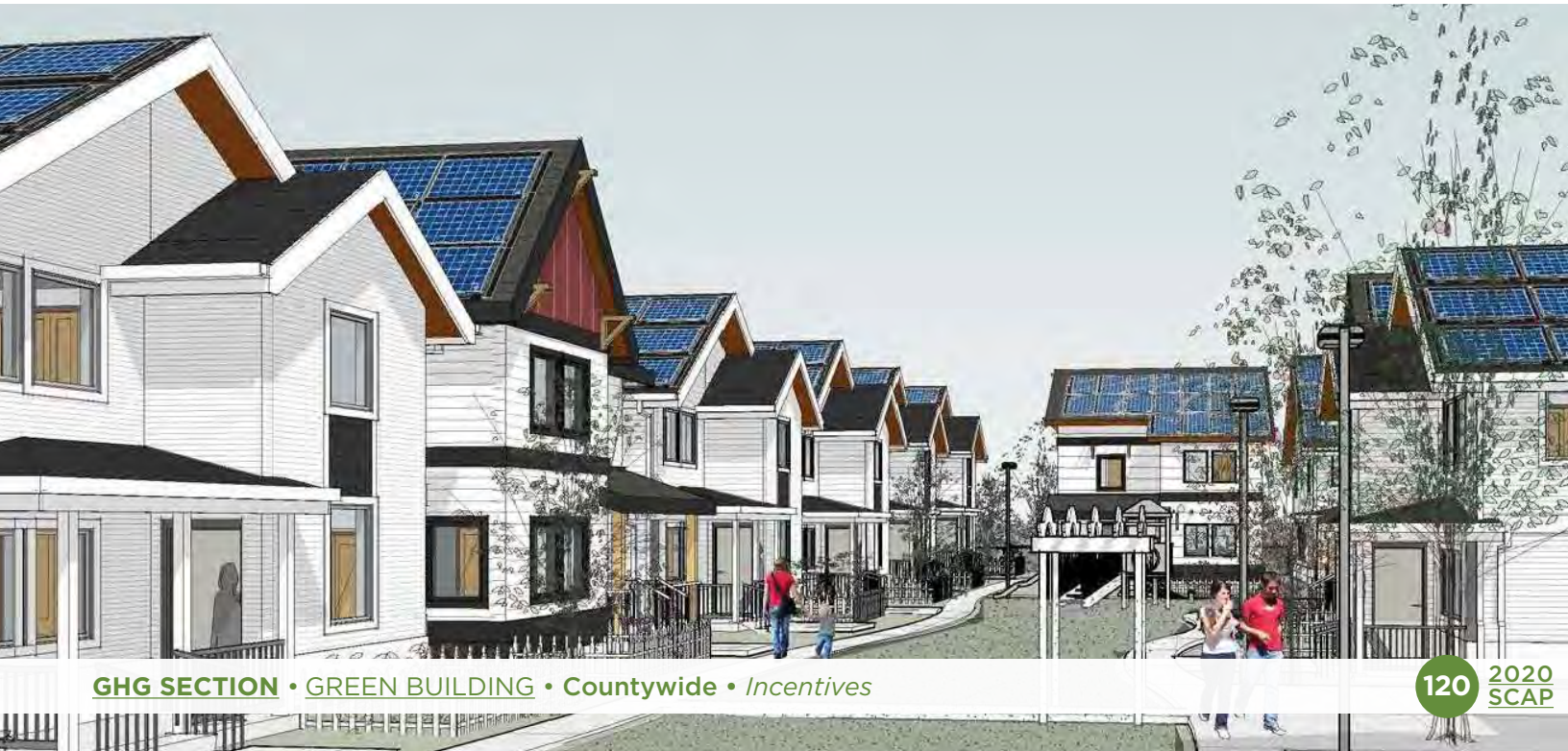


CATEGORY: INCENTIVES

Strategy GHG 4.6. Explore opportunities to implement incentives with external partners that encourage green building and allow more people to access to healthier buildings with reduced utility bills.

	Priority Actions	King County Role	Connections and Considerations
GHG 4.6.1	**Financial and development incentives.** King County shall work in partnership with local utilities, financing institutions, and other partners to create financial assistance and development incentives for single family, multifamily, and commercial building owners in King County. Incentives can be utilized to make financially feasible energy and water efficiency upgrades to existing buildings, encourage green building practices in new construction, and increase green building certifications. *(KCEO, SWD)*	Support/ Advocate	Public Priority
GHG 4.6.2	**Financial and technical support for green affordable housing.** King County, in partnership with other public and private entities, will encourage and support the development of green affordable housing by pursuing potential financial and technical support that will help to bridge the financial delta between code-minimum buildings and buildings built with above-code efficiencies, lower embodied emissions, lower embodied carbon, and healthier indoor air quality. *(SWD)*	Support/ Advocate	Public Priority; Climate Equity

Riverton Cascade is an 18-unit affordable housing home ownership project under development by Homestead Community Land Trust, located in the City of Tukwila.



COUNTY OPERATIONS

Goal: Build, maintain, and operate County facilities consistent with the highest green building and sustainable development practices.

Categories:

- Green Building and Sustainable Development Standards
- Water Use Efficiency and Reduction
- Net Positive County Buildings and Infrastructure

CATEGORY: GREEN BUILDING AND SUSTAINABLE DEVELOPMENT STANDARDS

Strategy GHG 4.7. Implement the King County Green Building Ordinance. Require all County capital projects to achieve a Platinum level using the LEED rating system or King County's Sustainable Infrastructure Scorecard, or an approved alternative rating system.

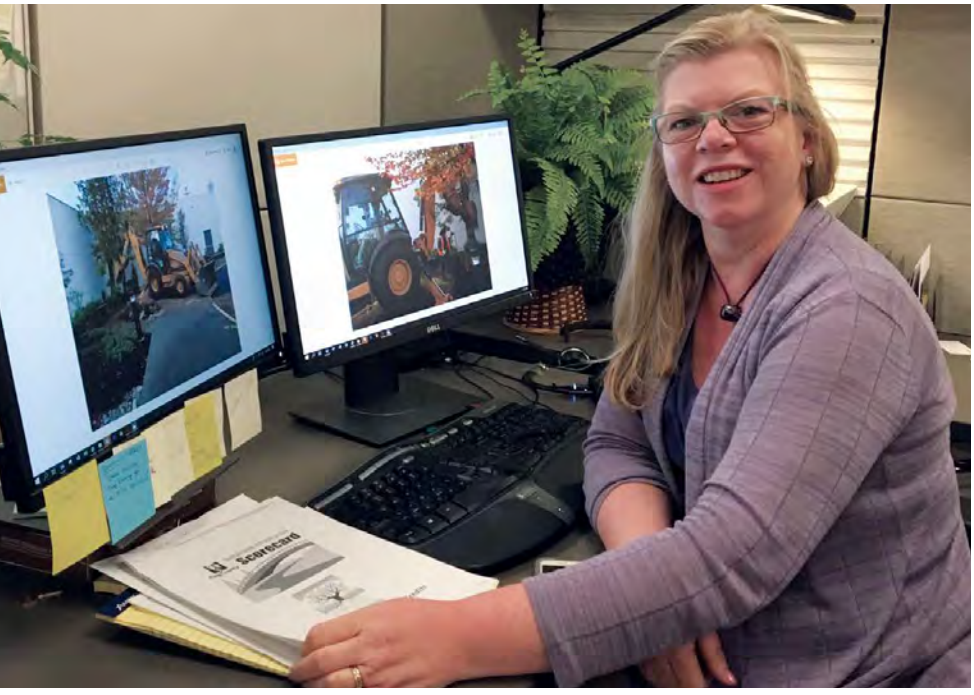
	Priority Actions	King County Role	Connections and Considerations
GHG 4.7.1	**Implement the King County Green Building Ordinance.** Require all County capital projects to meet a Platinum level using the LEED rating system or King County's Sustainable Infrastructure Scorecard, or an approved alternative rating system. *(DES, DNRP, Metro, DLS, KCIT)*	 Implement	 Fast Start  Public Priority
GHG 4.7.2	**Incorporate sustainability in operations and maintenance (O&M).** By June 2021, King County will update the Green O&M Guidelines Handbook. By 2022, King County divisions will assess which Green O&M strategies are being implemented and create an inventory of strategies that need attention. Each agency will identify priorities for incorporating new green operations and maintenance practices in each division's line of business. If additional resources are needed these will be incorporated into 2023-24 budget proposals. County divisions have flexibility to select standards most applicable to their line of business, either the King County's Green Operations and Maintenance Guidelines Handbook or use of existing third-party standards (e.g., LEED for Building O&M). *(DES, DNRP, Metro, DLS)*	 Implement	 Fast Start  Resource Need
GHG 4.7.3	**Improve equity and social justice efforts** by supporting capacity building with small contractors, consultants and community leaders to effectively meet County's equity and social justice priorities. *(DES, DNRP, Metro, DLS, KCIT)*	 Implement	 Fast Start  Climate Equity

Priority Actions		King County Role	Connections and Considerations
GHG 4.7.4	**Research and develop green leasing recommendations.** The County will research private and public sector models for "green leasing" incentives, standards, and requirements and make recommendations for provisions that could be tailored to leases for long-term tenants of King County-owned properties and facilities. The intent of these provisions is to improve energy efficiency, reduce GHG emissions, and reduce water use by tenants of County-owned buildings and property. *(DES, DLS)*	Implement	Resource Need

Strategy GHG 4.8. Update the King County Sustainable Infrastructure Scorecard to reflect evolving SCAP targets and other King County priorities.

GHG 4.8.1	**Update Sustainable Infrastructure Scorecard.** Update the Scorecard by December 31, 2021, to reflect 2020 SCAP targets and other King County priorities. This update will include establishing a threshold of which projects should have third-party certification, such as LEED or Envision. *(DES, DNRP, Metro, DLS)*	Implement	Fast Start

Strategy GHG 4.9. Develop accountability and enforcement mechanisms to audit performance of capital projects, and better integrate these mechanisms into CIP and budget processes. Require GBO and SCAP performance tracking to be done at agency management and leadership levels.



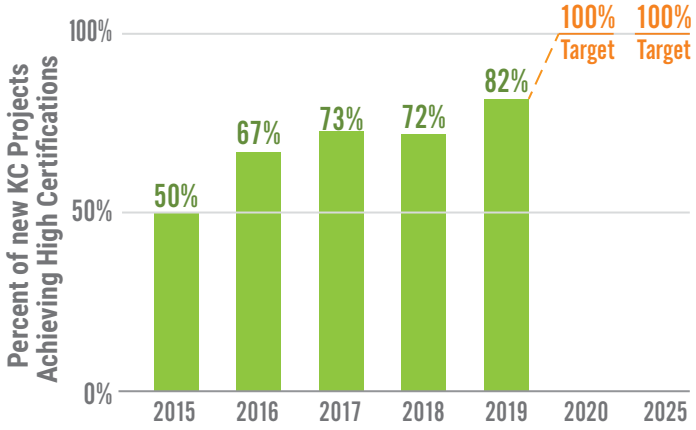
Metro Transit project teams are implementing efforts to achieve the highest green building standards.

Strategy GHG 4.10. Establish material standardization for high embodied emission materials, such as concrete, asphalt, wood, and compost. This will be led by Consumption and Materials Management Section.

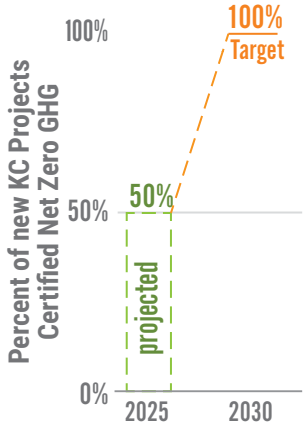
Performance Measure GHG 21: Green Building Performance and Certifications	
Target	By 2020 and each year thereafter, 100% of County capital projects achieve Platinum certification using LEED or Sustainable Infrastructure Scorecard or better. By 2030, 100% of King County new construction and whole building renovation projects achieve certifications that demonstrate a net zero GHG emissions footprint (using International Living Future Institute Zero Energy, Living Building Challenge, Energy Petal, or Zero Carbon certification or U.S. Green Building Council LEED Platinum plus Zero Energy or Zero Carbon certifications).
Current Status	In 2019, 82% of completed projects achieved Platinum level using the King County Sustainable Infrastructure Scorecard or LEED rating system. In 2018, 72% of completed projects achieved Platinum level using the Sustainable Infrastructure Scorecard or LEED rating system. In 2019, King County certified the Parks North Utility Maintenance Shop, its first Zero Energy project. To date, there are 11 projects registered for Zero Energy or Living Building Challenge certification, including two affordable homeownership projects partially funded by King County Department of Community and Human Services.
Quantifying GHG Reductions	Buildings certified to LEED Gold or higher standards reduce energy related GHG emissions by at least 18% up to 39%. Building and facility energy use accounts for a third of the total King County GHG emissions. Implementing ZE/LBC projects will support six of the nine identified efforts in the wedge analysis. The Parks North Utility Maintenance Shop is Zero Energy Certified, and has an energy consumption load of 34,110 kWh/year and renewable energy production of 45,030 kWh/year. That is a GHG emissions savings of 21.8 $MTCO_2e$/year and 1,088 $MTCO_2e$ over 50 years.

COUNTY-OWNED CAPITAL PROJECTS ACHIEVING HIGHEST POSSIBLE CERTIFICATION LEVELS

Target: 100% of projects acheive Platinum

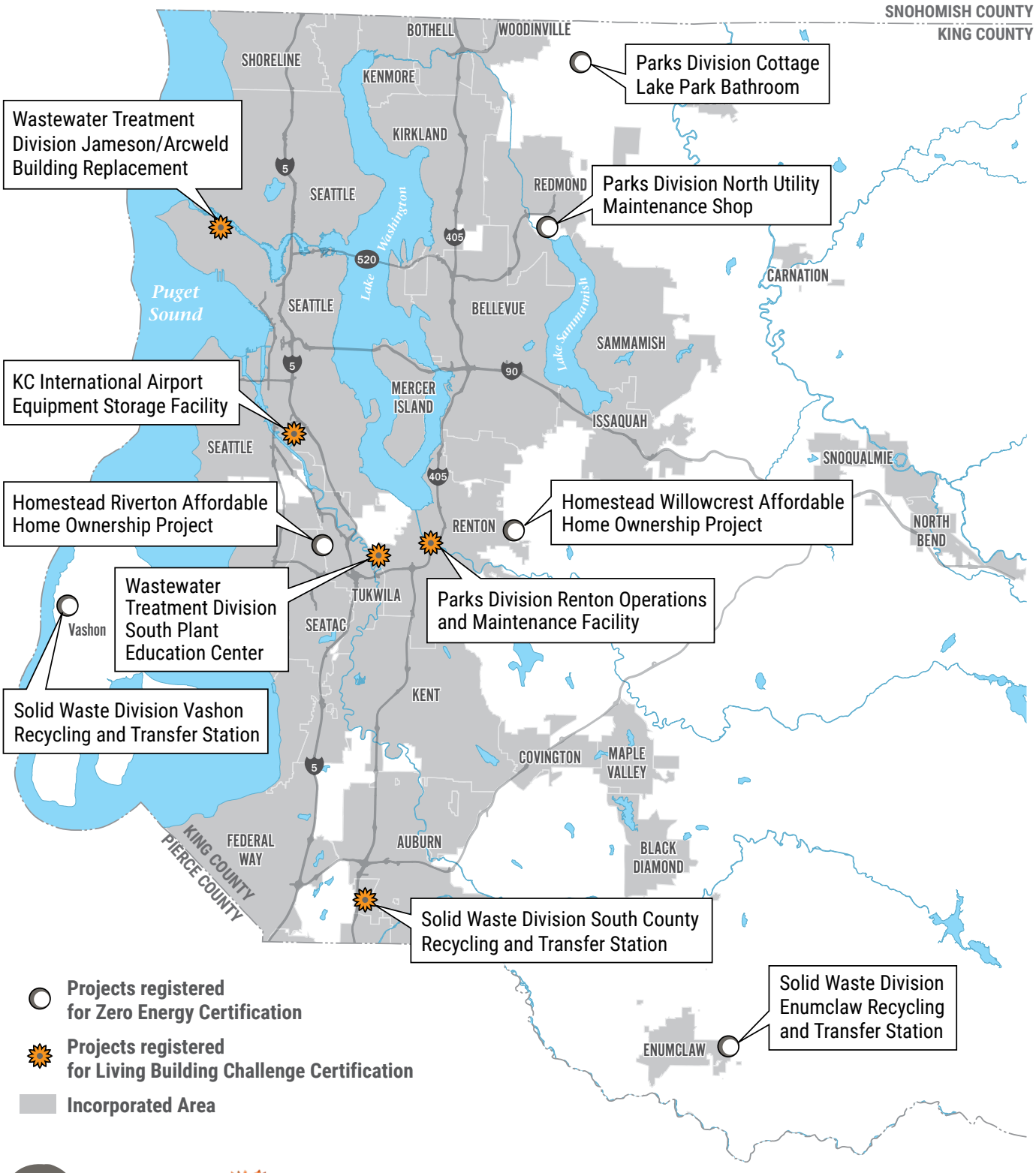


Target: 100% of new projects certified net zero GHG emissions by 2030



TEN ZERO ENERGY AND LIVING BUILDING CHALLENGE PROJECTS BY 2020

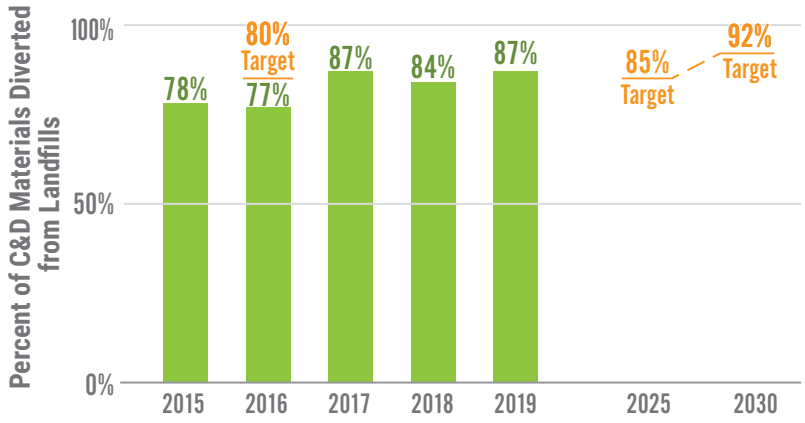
King County has 11 projects registered for Zero Energy/Living Building Challenge certification, surpassing the goal of 10 registered projects set in the 2015 SCAP. The 2020 SCAP sets a new goal of 20 registered projects by 2025.



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Performance Measure GHG 22: Construction and Demolition Materials Recycling	
Target	Minimum 80% C&D materials diverted from landfills from County capital projects; 85% diversion by 2025; and zero waste of resources with economic value by 2030.
Current Status	For the completed projects in 2018 that reported on C&D diversion information, the average C&D diversion rate was 84% diversion and a total of 123,000 tons, and, in 2019, the average diversion rate was 87%.
Quantifying GHG Reductions	In 2014, C&D diversion, from projects that reported, reduced GHG emissions by approximately 800 $MTCO_2e$.

COUNTY PROJECT CONSTRUCTION AND DEMOLITION (C&D) MATERIALS DIVERTED FROM LANDFILLS



Parks and Recreation Division's Foothills Trail is the County's first Salmon Safe certified project, which uses science-based standards that protect water quality and native salmon habitat.

The Road Services Division achieves Platinum level using the Sustainable Infrastructure Scorecard, reducing embodied emissions in construction materials by using recycled asphalt shingles in asphalt mix in street paving, recycled content material in sidewalks, and cement substitutes in concrete mix. King County projects require a minimum 80% of construction and demolition (C&D) materials to be diverted from landfills. Road Services Division, on average, achieves 98% C&D diversion.





Performance Measure GHG 23: Equity and Social Justice in Capital Projects

Target	One hundred percent of capital projects use King County ESJ credits. Opportunities to achieve these credits include implementing ESJ plans, realizing ESJ priorities, and advancing economic justice opportunities.
Current Status	In 2018, 28% of projects had ESJ plans by 30% Design; no completed projects realized ESJ priorities; and 67% of completed projects advanced economic justice opportunities.

Climate Equity

The Wastewater Treatment Division's Georgetown Wet Weather Treatment Station Project achieved Envision Platinum certification. Envision prioritizes ESJ in its rating system. A major ESJ-related effort in the Georgetown project was advancing economic justice opportunities with its Community Workforce Agreement that included local jobs and apprenticeship training for people of color at 21 percent and women at 12 percent.





CATEGORY: WATER USE EFFICIENCY AND REDUCTION

Strategy GHG 4.11. Establish water use baseline for County facilities and operations, and collect comprehensive water data from multiple utilities. Determine an appropriate baseline based on data collected.

Priority Actions		King County Role	Connections and Considerations
GHG 4.11.1	**Increase water efficiency and reduce potable water use.** King County will establish water baseline for county facilities and operations and collect comprehensive water data from multiple utilities (not available for all County facilities). Establish new water use reduction targets compared to a 2020 baseline: 5% water use reduction by 2025 and 10% by 2030. Reduce project-specific potable water use on all projects using best management practices. *(DES, DNRP, Metro, DLS)*	 Implement	 Fast Start  Public Priority

Strategy GHG 4.12. Establish project-specific potable water reduction use requirements for all projects using menu of credit requirements from existing green building certification rating systems. Identify opportunities for water reductions in existing buildings, such as installing low flow aerators/ faucets, high efficiency toilets, irrigation controls and drip systems.

Performance Measure GHG 24: Water Use	
Target	5% reduction in potable water use by 2025, and 10% reduction by 2030 compared to 2020 baseline.
Current Status	Currently, divisions do not have a combined inventory of water use. Water utilities do not have a common database that collects water use in a standard format.

CATEGORY: NET POSITIVE COUNTY BUILDINGS AND INFRASTRUCTURE

Strategy GHG 4.13. Require all County capital programs to evaluate their project portfolios for opportunities to achieve carbon neutral development and operations through rating systems such as Living Building Challenge, LEED Zero Pathways, Passive House, Envision, or EcoDistrict.

Priority Actions		King County Role	Connections and Considerations
GHG 4.13.1	**Develop operational carbon neutral projects.** By 2025, King County will identify and will make substantial progress in the design, construction or certification process for at least 20 Zero Energy or Living Building Challenge projects. King County's commitment to LBC Volume Certification will provide registration and certification cost reductions, efficiency in certification documentation, and a streamlined approach to meeting performance standards. For projects with limited resources or while technology is not yet attainable, encourage the ability to achieve 50% or 75% of energy needs with on-site renewable energy. *(DES, DNRP, Metro, DLS)*	Implement	Public Priority; Climate Equity

Solid Waste Division's South County Recycling and Transfer Station project is pursuing Living Building Challenge Energy Petal Certification. The project is integrating equity social justice efforts such as sustainability training and mentoring, investments in urban agriculture, improvements to pedestrian trails and wayfinding, community education room, construction apprenticeships and use of small contractors and suppliers.



Strategy GHG 4.14. Manage King County capital portfolios to maximize GHG emission reductions in operational and embodied emissions. For projects, follow design standards for carbon neutral performance.

Priority Actions	King County Role	Connections and Considerations
GHG 4.14.1 **King County capital portfolios will be managed to maximize GHG emissions reductions in operational and embodied emissions.** They will use the following strategies: • Comply with Green Building Ordinance: Continue GBO requirement: LEED, King County Scorecard, or other approved rating system Platinum for all projects. • No new natural gas or fossil fuel powered equipment installed, with exceptions for generators and specialized equipment where an all-electric version is not feasible. All electric option must be included in alternative analysis and include cost of carbon in life cycle cost assessments. • Pursue all energy-efficiency measures for each system type that pay back over the total life of the equipment. • Maximize on-site solar energy installation (or other renewable) when cost-effective over the warrantied life of the system (generally 25 years). Install to the greatest extent it pays back over the life of the project/equipment. If renewable energy production is not feasible at construction, make facility solar ready for future installation. • Carbon neutral electricity from utility: For all electricity needs not met through on-site generation, continue to source carbon neutral electricity from Seattle City Light or through Green Direct or equivalent from Puget Sound Energy and Snohomish County Public Utility District. • Feasibility assessment of net zero certification: All facilities over 5,000 square feet must be assessed for feasibility toward high efficiency/low carbon performance. Facilities under 5,000 sq. ft, or other infrastructure, should be assessed for feasibility according to division-specific criteria. Facilities that cannot feasibly reach net zero must strive toward the highest efficiency, lowest carbon design and construction possible. Divisions shall report on results of feasibility assessments to the Climate Leadership Team. • Net Zero Certification: By 2030, 100% of King County new construction and whole building renovation projects achieve certifications that demonstrate a net zero greenhouse gas emissions footprint using ILFI Zero Carbon, Zero Energy, Core, Petal, and Full Living or USGBC LEED Platinum with Zero Energy or Zero Carbon certifications, or comparable rating system. By 2025, King County will certify or be on the path to certification for at least 20 LBC, Zero Carbon or Zero Energy or LEED Platinum with Zero Energy or Zero Carbon projects. • Third party green building certification: as appropriate, and to serve other climate or County goals, facilities should pursue other third -party certifications such as Salmon Safe, SITES, Envision, WELL, GreenRoads, Passive House, Built Green, Evergreen Sustainable Development Standard. • Use the Embodied Carbon in Construction Calculator (EC3) tool to identify low embodied emissions materials that meet construction specifications, and to inform decisions in materials selections in accordance with King County's Sustainable Purchasing Guide. *(DES, DNRP, Metro, DLS, KCIT)*	 Implement	 Carbon Neutral  Climate Equity

Performance Measure GHG 25: Zero Energy and Living Building Challenge Projects	
Target	By 2025, King County will identify and will make substantial progress in the design, construction or certification process for at least 20 projects pursuing International Living Future Institute Zero Energy; Living Building Challenge, Energy Petal, or Zero Carbon; or U.S. Green Building Council LEED Platinum plus Zero Energy or Zero Carbon certifications; or comparable carbon neutral performance. This will be approximately 50% of applicable projects that are projected to be completed by 2025. By 2030, 100% of completed projects will achieve net zero GHG performance.
Current Status	As of 2020, 11 projects are officially registered with the International Living Future Institute for either Zero Energy, Petal or Full Living Building Challenge certification. This exceeds the 2015 SCAP target of 10 projects. The County's first Zero Energy Project was certified in 2019.

The Wastewater Treatment Division registered the Jameson Project for Living Building Challenge Petal certification. This is an example of carbon neutral development and contributes to the Zero Energy and Living Building Challenge Projects target.



Focus Area 5
Consumption and Materials Management



Key Takeaways

- GHGs are emitted during all stages of a product or service's life cycle, from extraction of raw materials to manufacturing, transport to use, and maintenance to disposal.
  - Most of these emissions occur outside of King County's borders, affecting the health of communities and negatively impacting ecosystems around the world.
  - While King County does not have direct control over all emissions within this focus area, it can influence the reduction of these emissions by enacting policies, making sustainable purchases and providing education and resources for the community to understand and reduce the impacts of their own consumption.
- Based on internal and external engagement events, stakeholders want more information and resources regarding their consumption. Participants also highlighted the need for King County to move away from a linear economy model, which is reliant on disposal at the end of a product's life, toward a circular economy model. This approach is where waste is designed out of products, goods are used for longer, and materials are reused or recycled instead of ending up in the landfill.
- For countywide services, this focus area expands King County's commitment to prevent waste and increase recycling rates. It also incorporates new commitments to support the regional transition from a linear economy model to a circular economy.
  - King County will deliver the necessary strategies it will take to meet its 2030 zero waste of resources and 2030 zero food waste commitments.
  - It will focus on developing recycling markets for organics, paper and plastic, and wood.
- For King County government operations, the 2020 SCAP commits to:
  - Standardize waste management collection systems that improve recycling and composting practices within County facilities.
  - Use Managed Print Services in all King County agencies to reduce its paper, energy, and toner consumption.
  - Specify low-embodied carbon building materials in King County capital projects.
  - Increase the purchase of sustainable and recycled content products and materials, such as compost and recycled paper.

Introduction

At home, at work, on the move, or in the community, materials and their consumption are at the heart of people's daily lives. The planet's raw materials are the basis for all the products used to improve quality of life, the food that nourishes communities, and the services that businesses provide within the economy. These materials, the goods and foods that are produced are often extracted, manufactured, or provided from outside of King County, but are ultimately used and enter the waste stream here. This means consumption decisions made here reach far beyond the County's borders.

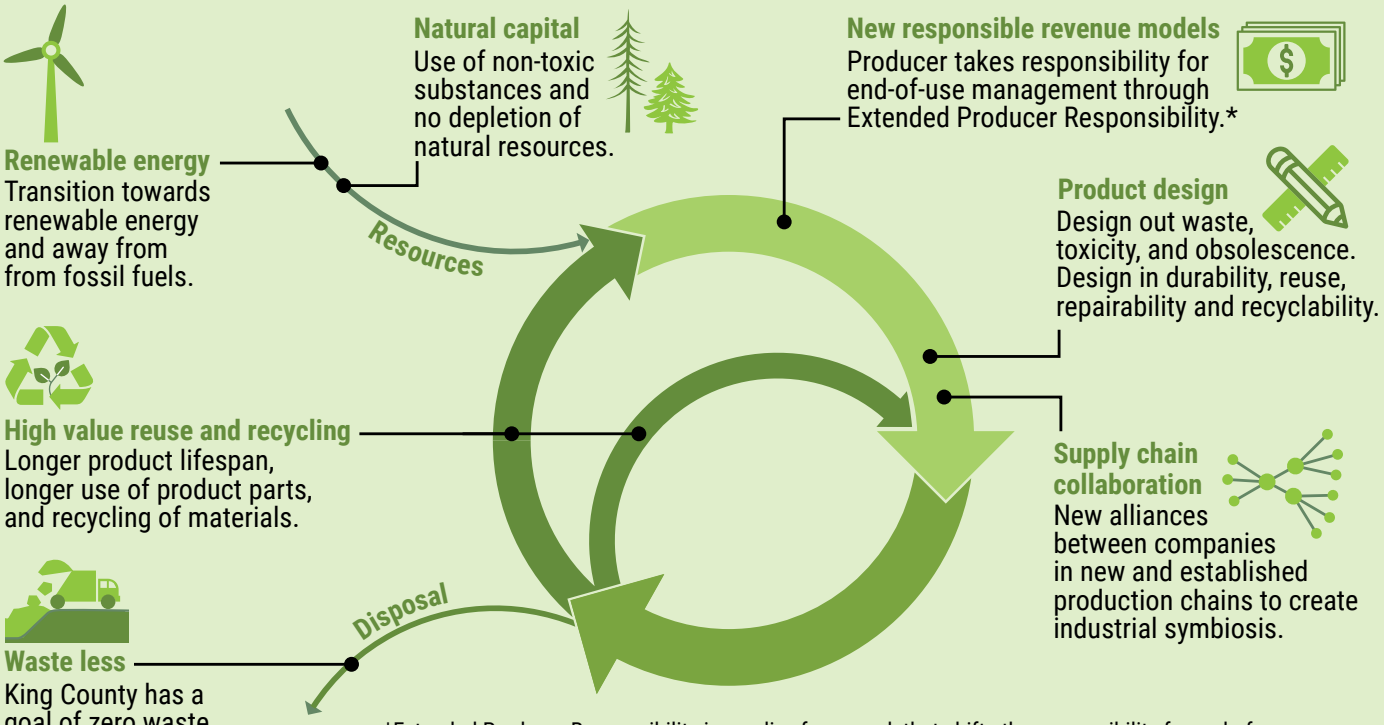
As demand for food, energy, transport, and goods increase with a growing population, higher living standards and increasing prosperity, then so does the inevitable demands on the natural environment. Here in King County, even as local sources of GHG emissions have stabilized, the total emissions emitted for the food, goods, and services consumed continues to rise.

The overarching goal of this section, and a key goal of the SCAP, is to achieve a circular economy, where waste is minimized and materials stay in use longer, thereby reducing emissions and regenerating natural systems. This includes but goes beyond a commitment to reduce, reuse, and recycle. It also includes making improvements during the design and production phases, guiding purchasing decisions, and transforming how products are treated at their end of use.

Central to a more circular economy is a responsible recycling system, which requires that everyone take responsibility for the materials extracted and used throughout their life cycle and commit to change local and statewide policies in ways that create a framework within which responsible recycling can thrive. It requires that the region create demand for recycled materials, make investments in local sorting and processing infrastructure, strive to harmonize recycling programs and messaging, and make a commitment to work with new partners (including brand owners) at all stages of the supply chain to help solve the problems caused by the linear economy.

King County has substantial influence, responsibility and opportunity in supporting a circular economy and buying more sustainable goods and services. In 2019, it spent $1.6 billion on goods and services including construction, architecture and engineering, and professional services. In County operations, the Sustainable Purchasing Program leads the effort to introduce life cycle thinking into how it procures goods and services, guiding employees through purchasing decisions while balancing the environmental impacts of these products and services with social and fiscal concerns. It teaches buyers, who are County employees responsible for purchasing on contracts, about life cycle analyses and the importance of looking at all emissions of a product, not just those emitted during use.

Circular Economy



*Extended Producer Responsibility is a policy framework that shifts the responsibility for end-of-use management of products and packaging upstream from the public sector to producers, and encourages environmental considerations to be incorporated into product and packaging design.

Key Themes of Public Input

Public input for this focus area came through broad SCAP engagement strategies, as well as from several topic specific opportunities during the 2018 and 2019 development phase:

- **Materials external engagement event:** professionals and stakeholders from the construction industry came together for a full-day workshop, discussing the largest environmental issues facing the building sector.
- **The Responsible Recycling Task Force:** a task force with representatives from the King County Solid Waste Division *(SWD)*, cities in King County, the City of Seattle, solid waste haulers, and stakeholders was formed in response to changes in international recycling markets around plastic and paper to develop a coordinated approach to improving recycling in the region.
- **Comprehensive Solid Waste Management Plan (Comp Plan):** the SWD used a variety of communications tools, including online and in-person opportunities to comment, printed materials, a cable TV spot, and press releases. SWD released the Comp Plan for a 60-day review period, inviting the public to comment. During the comment period, SWD held three open houses and participated in 13 stakeholder meetings with varied audiences. In addition, an online tool was used to offer the public a way to voice their opinions on key elements of the Comp Plan. A total of 487 respondents (486 in English, one in Spanish) participated in the informal online questionnaire.
- **Two Regional Organics Stakeholder Summits:** The SWD hosted two full-day summits. Over 50 regional stakeholders from King County agencies, the cities, composters, waste haulers, landscapers, universities, regulators, non-governmental organizations, and Tribes gathered to provide input on barriers, challenges, and opportunities in organics recycling.

Several recurring themes emerged from these SCAP internal and external engagement efforts.

Circular Economy

Both internal and external stakeholders want better education and resources regarding the environmental impacts of the goods they purchase, as well as more opportunities to share, exchange, and reuse goods. Participants also suggested partnering with businesses and corporations to reduce waste.

Stakeholders asked for several policy commitments in this area, including banning single-use plastics, bottle deposit bills, and allowing people to use their own containers for to-go food in the health code.

At the Regional Organics Stakeholder Summits, stakeholders highlighted the opportunity to create and support a local circular economy around the organics and composting program in King County, including local government purchase of compost. This highlighted that compared to other materials and products, the County has many of the tools needed to make change.



Recicla Más is a program designed to provide recycling information in Spanish in a free, accessible manner for King County residents.

This feedback affirmed the direction of the circular economy commitments, along with the development of a consumption-based inventory and toolkit in the 2020 SCAP.

Zero Waste of Resources

Stakeholders want more education around recycling and contamination and the waste system. At SCAP external engagement events, attendees suggested that the County:

- make recycling easier and more effective through technology advancements.
- provide one-stop recycling experiences or curbside pickups.
- fund regional education campaigns that harmonize collection.
- develop new and expanded infrastructure for recycling and composting.

Sustainable Materials

In the material external engagement event, participants ranked concrete, wood, and asphalt as the highest priority construction materials that impact the climate. The discussion also highlighted the importance of reviewing impacts of the entire supply chain, designing for deconstruction, and ensuring that the workforce has the knowledge to install any alternative material that the County specifies. This meeting and discussion affirmed 2020 SCAP commitments for specifying low-embodied carbon materials in the County's capital projects.



King County's Regional Organics Plan sets out to expand and enhance the regional market for compost, reduce wasted resources and contamination, and expand regional organic material processing

COUNTYWIDE

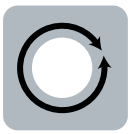
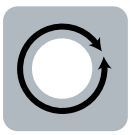
Goal: Achieve a circular economy, whereby waste is minimized through prevention, reuse and recycling, and materials stay in use longer through improved product design and shared responsibilities for end-of-use material management.

Categories:

- Waste Prevention, Reuse, and Recycling
- Recycling and Transfer Stations

CATEGORY: WASTE PREVENTION, REUSE, AND RECYCLING

Strategy GHG 5.1. Conduct outreach and provide resources to residents, businesses, schools, and community partners to improve waste prevention and resource conservation and increase communitywide recycling and composting.

	Priority Actions	King County Role	Connections and Considerations
GHG 5.1.1	**Deliver zero waste of resources plan (ZWORP).** To ensure that materials of economic value are reused and recycled, and the extraction of natural resources are minimized, King County will need to take multiple actions over the next decade. Following the work of the RRTF, King County will focus on plastic, paper, and organics recycling education, policy, and market and infrastructure development. This includes expanding Extended Producer Responsibility systems, which encourage better design and use of recycled feedstock, and building new recycling infrastructure, so underserved communities have equitable access to recycling collection facilities across the County. King County will develop and implement a ZWORP that will set out King County's strategies to meet the 2030 zero waste of resources commitment in the SCAP. *(SWD)*	 Implement  Convene  Support/ Advocate	 K4C  Public Priority  Climate Equity
GHG 5.1.2	**Deliver regional organics plan.** King County's vision is that organic material waste is prevented, reduced, recycled and ultimately reused locally. There is significant opportunity to develop a regional self-sustaining circular system, where organic material is processed and returned to the soil, helping it to absorb and store more carbon. Adopted in 2019, this plan sets out to expand and enhance the regional market for compost, reduce wasted resources and contamination, and expand regional organic material processing. *(SWD)*	 Implement  Convene  Support/ Advocate	 K4C  Public Priority

Strategy GHG 5.1. Conduct outreach and provide resources to residents, businesses, schools, and community partners to improve waste prevention and resource conservation and increase communitywide recycling and composting.

Priority Actions	King County Role	Connections and Considerations
GHG 5.1.3 **Zero food waste in landfill in 2030.** Food waste is a significant contributor to climate change and through efforts highlighted in the 2015 SCAP, dividends are paying off as King County, its residents, businesses and institutions are seeing food waste at the landfill fall. However, the County will continue to increase initiatives to tackle food waste in the landfill and set out the approach in the Zero Waste of Resources Plan during 2021: • Decrease food waste generation – prevent through education and regional policy collaboration • Increase food donation – strengthen partnerships and collaboration to support the King County system • Eliminate food waste from landfill – zero waste ambition for 2030 • Increase organics market development – use demand to incentivize investment • Pursue opportunities to expand processing capacity *(SWD)*	 Implement  Convene  Support/ Advocate	 K4C  Public Priority  Climate Equity  Carbon Neutral
GHG 5.1.4 **Resource Recovery.** SWD will evaluate whether the materials that have been landfilled at the Cedar Hills Regional Landfill should be considered to have economic value and whether resource recovery is recommended to recoup some of this value and produce additional benefits for the landfill. SWD should consider using external consultant services to evaluate the benefits, feasibility, and costs of resource recovery. *(SWD)*	 Implement	 Carbon Neutral

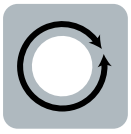
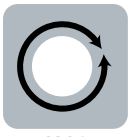
Strategy GHG 5.2. Support the transition to a circular economy, including the pursuit of an extended producer responsibility system, and the development of secondary markets for recycled materials.

Priority Actions	King County Role	Connections and Considerations
GHG 5.2.1 **Develop circular economy framework.** Global emissions are not falling fast enough and often the emissions that arise from how food and products are designed, made, and used are overlooked. Working across the supply chain will mean supporting a system that encourages designing out waste and pollution to reduce GHG emissions, keeping products and materials in use longer to retain their embodied energy, and regenerating natural systems to absorb and store more carbon in soil and products. The complexity of this shift is significant, and there is not a single measure or set of actions that will deliver a circular economy. By 2021, King County will develop a new circular economy vision and plan for action, consistent with our 2030 and 2050 climate and zero waste of resources goals. *(SWD)*	 Implement  Convene  Support/ Advocate	 Public Priority  Climate Equity  Fast Start

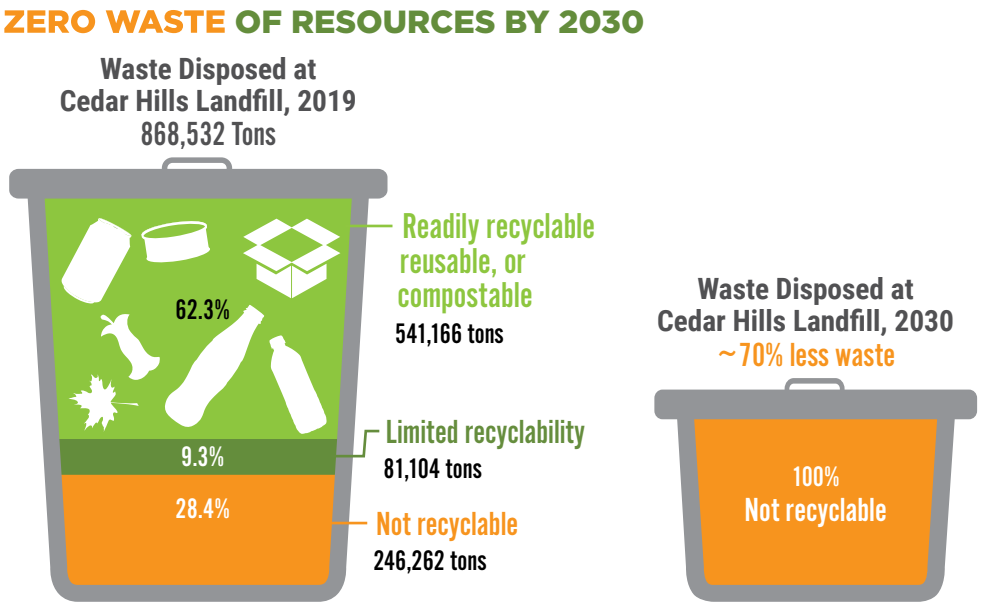
Strategy GHG 5.2. Pursue an extended producer responsibility system and support the development of secondary markets for recycled materials.

Priority Actions		King County Role	Connections and Considerations
GHG 5.2.2	**Support the transition to a reusable wood market.** Under the current building development practices, buildings are constructed out of new materials and then demolished, with the demolished wood combusted as a one-time energy source. Instead, the demolished wood should be salvaged and processed into new wood products that capture the embodied carbon for at least another 20, if not 200, years. These products can be reused in future buildings. The County will dedicate resources to catalyze the movement of wood markets away from combustion and toward higher value uses that are more sustainable for both the environment and the people of King County. *(SWD)*	 Support/ Advocate	

Strategy GHG 5.3. Provide grants for waste prevention, including food waste prevention, and partner with King County cities and other stakeholders to implement these efforts.

GHG 5.3.1	**Increase recycling rates for materials collected in King County.** In 2016, King County's recycling rate was 56%, and recent recycling rates have remained flat. As stated in its 2019 Comprehensive Solid Waste Management Plan, King County has a goal to reach a 70% recycling rate for materials collected in its solid waste service area (all cities in King County except Seattle and Milton); this plan took longer to develop than expected, which slowed initial work on increasing this recycling rate. To begin to make progress on this action, the Zero Waste of Resources Plan will set out King County's approach to increase the amount of material recycled and to measure progress on reuse, recycling, and disposal. *(SWD)*	 Convene  Support/ Advocate	 K4C
GHG 5.3.2	**Partner with cities.** Partner through the Metropolitan Solid Waste Management Advisory Committee on policy, projects, and programs focused on (1) waste prevention and reuse, (2) extend producer responsibility, recycling, and composting, and (3) beneficial use. *(SWD)*	 Convene  Support/ Advocate	 K4C

Performance Measure GHG 26: Waste Disposed that Could Have Been Reused or Recycled		
Target	By 2030, zero waste of resources that have economic value for reuse or recycling.	K4C; GHGs by 2030 Carbon Neutral
Current Status	Seventy-two percent of material disposed of at the Cedar Hills Regional Landfill in 2019 was readily recyclable or reusable.	
Quantifying GHG Reductions	Reaching the 2030 target of zero waste of resources would result in a GHG emissions reduction of approximately 946,000 $MTCO_2e$ annually.	





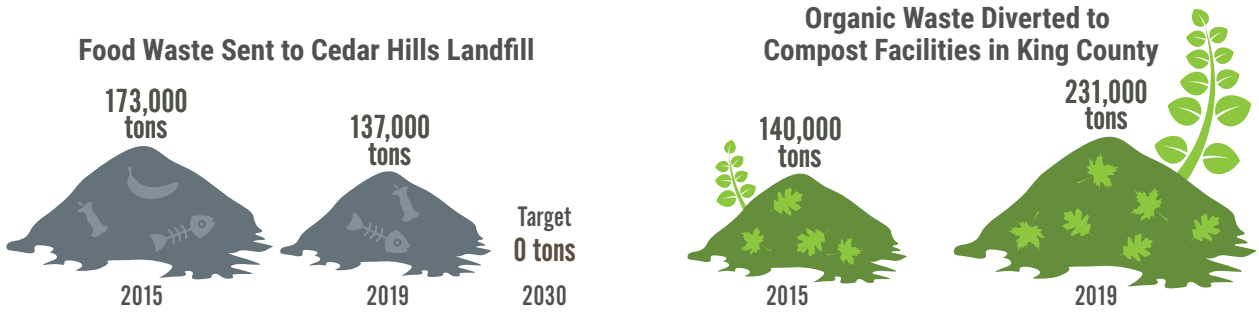
King County's Food: Too Good to Waste program has developed effective food waste prevention messaging, strategies, and award-winning online outreach for residential audiences.

Performance Measure GHG 27: Food Waste	
Target	By 2030, zero food waste is disposed of in Cedar Hills landfill.
Current Status	In 2019, residents, businesses, and institutions in King County threw away over 136,000 tons of food waste. Recent studies suggest that this amounts to a more than 20% reduction in food waste since 2015. Against this backdrop of a reduction in disposed food waste and, at the same time, an increasing population, the region is also seeing an increase in the amount of material processed through regional composting facilities.
Quantifying GHG Reductions	When food is thrown away, we also waste all the water and energy used to produce, package, and transport food from the farm to plate is also wasted. When these food-to-plate emissions are accounted for, food consumption is second only to the emissions from personal transportation. Composting this food waste would result in a GHG emissions impact reduction of 97,000 $MTCO_2e$; eliminating this food waste altogether would reduce GHG impacts by 571,000 $MTCO_2e$.

GHGs by 2030
Carbon Neutral

FOOD AND ORGANIC WASTE DIVERSION

From 2015 to 2019, the amount of food and compostable packaging waste sent to King County's landfill went down by 21%, while the amount of organic matter diverted to compost processing facilities in King County went up by 64%.*



* Organic matter is made up of food, compostable packaging, yard waste and other organic material. Tonnage diverted to composting processing facilities within King County includes organic waste from the City of Seattle waste stream. Additional organic matter from King County is processed in Snohomish County.



King County's Green Schools Program helps K-12 schools and school districts learn about and improve upon conservation practices.

CATEGORY: RECYCLING AND TRANSFER STATIONS

Strategy GHG 5.4. Expand items accepted for recycling at transfer stations and educate and offer resources to transfer station employees about proper disposal or recycling.

Priority Actions		King County Role	Connections and Considerations
GHG 5.4.1	**Develop new recycling infrastructure.** SWD will open a new South County Recycling and Transfer Station in 2023 and has begun work on a new North County Recycling Transfer Station, set for opening in 2028. All new recycling and transfer stations will meet the Living Building Challenge/Net Zero Energy (see Green Building focus area), safety and environmental standards, accommodate projected growth in the region, incorporate best practices in transfer and transport operations, and offer a wide variety of recycling opportunities for residential and business customers. *(SWD)*	Implement	Fast Start; Public Priority
GHG 5.4.2	**Increase recycling of key materials at transfer stations.** To achieve the transfer station recycling targets, SWD will continue to support existing self-haul bans, pursue new bans when markets and processing capacity exist, and propose recycling fees that cover operating costs. *(SWD)*	Implement	Public Priority
GHG 5.4.3	**Develop new and improved recycling operating practices.** There is significant potential to reduce transportation emissions by implementing more sustainable management and transport of materials. Through process improvement, it is anticipated that up to 3,000 $MTCO_2e$ fewer emissions could be realized through improved transport and hauling practices for recycling commingled and carboard materials by 2025. *(SWD)*	Implement; Support/ Advocate	Public Priority



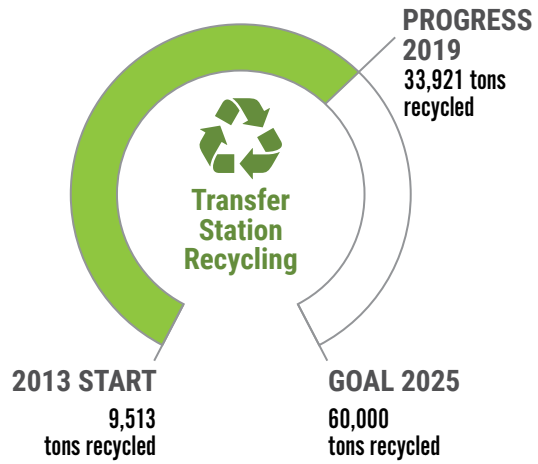
To reduce the amount of recyclable materials in the landfill, King County's Sort It Out program asks self-haul transfer station and drop box customers to place selected materials in designated recycling bins or areas at facilities.

Strategy GHG 5.5. Increase support and enforcement of self-haul disposal ban implementation for recovery of materials with value at new and existing stations.

Priority Actions	King County Role	Connections and Considerations
GHG 5.5.1 **Support customer-centered Sort it Out program.** The SWD will support staff to engage with customers at the transfer stations to further divert recyclable materials by "catching" these materials before they are tipped and redirecting them to the appropriate recycle bin. Station staff are key to unlocking this potential, as engaging with customers is critical to maximizing transfer station recycling. Developing the Sort It Out engagement at transfer stations has the most GHG emission reduction to 2025. *(SWD)*	Implement Support/ Advocate	Public Priority

Performance Measure GHG 28: Transfer Station Recycling	
Target	By 2025, recycle 60,000 tons of key materials including yard and wood waste, metal, cardboard, and paper at King County-owned recycling and transfer stations.
Current Status	In 2019, 33,921 tons of materials were recycled, an 87% increase since 2015. The 2015 SCAP contained a target of 60,000 tons diverted by 2020, but this has been changed to 2025. This is to reflect the construction schedule of the new South County Recycling and Transfer Station, expansion of recycling services at existing stations, and further development and expansion of recycling pilot projects at stations.
Quantifying GHG Reductions	Reaching the 2025 target of 60,000 tons of materials recycled would result in annual GHG emissions reduction of approximately 80,000 $MTCO_2e$ by 2025.

TRANSFER STATION RECYCLING





In 2019, King County held 65 repair events, fixing and mending items from lamps to chairs to clothing.

COUNTY OPERATIONS

Goal: Minimize operational resource use, maximize reuse and recycling, and choose products and services with low environmental and carbon impacts.

Categories:

- Waste Prevention, Reuse, and Recycling
- Sustainable Purchasing

CATEGORY: WASTE PREVENTION, REUSE, AND RECYCLING

Strategy GHG 5.6. Minimize the use of resources, such as office supplies and building materials, and maximize recycling and composting of materials from County facilities.

Priority Actions	King County Role	Connections and Considerations
GHG 5.6.1 **Internal waste prevention and recycling.** To create a unified waste management system across County operations, King County will standardize these systems, including containers, signage and procedures for garbage, recycling, and compost by the end of 2025. In 2020–2021, strategies will be identified and piloted to improve waste management practices and services at select facilities, including solid waste transfer stations, wastewater treatment facilities, and maintenance facilities. By 2023, a comprehensive inventory of current County facilities waste management and recycling will be conducted, and all downtown office buildings will have standardized collection contracts, bins, signage, and recycling procedures. From 2024 until 2025, King County will roll out standardized waste management systems to the remaining outlying buildings, as well as trainings for employees regarding waste prevention and reuse practices, using lessons learned from office buildings and the initial facilities. *(SWD, FMD, Metro Transit, Roads, and Parks)*	Implement	Fast Start



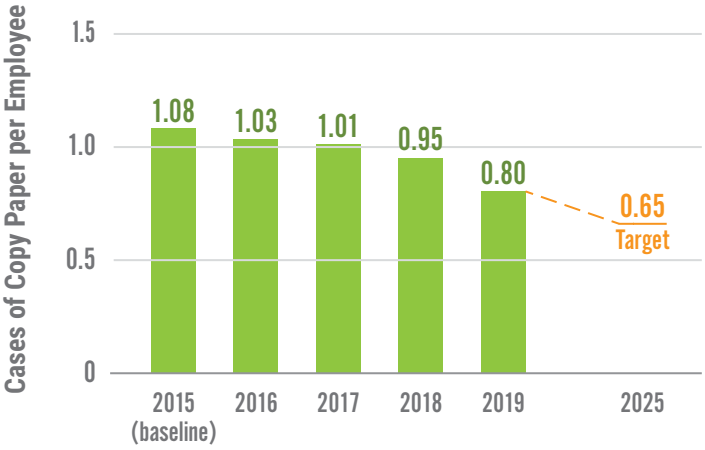
The surplus and reuse programs within Metro, Fleet, and Roads reuses over 5,000 items each year and recycles specialized materials.

Performance Measure GHG 29: Paper	
Target	Compared to 2015 levels, reduce copy paper usage by 40% by 2025.
Current Status	As of 2019, King County has achieved a 35% reduction below 2010 levels in copy paper usage and has now met the 2020 target as measured in the number of cases purchased by all agencies. Moving forward, this target will be measured per employee, smoothing out the effects of staffing-level changes on paper usage. Paper reduction has also saved costs, with a 23% cost reduction since 2010.
Quantifying GHG Reductions	Meeting the paper reduction target would reduce GHG emissions by 476 $MTCO_2e$ reduction for 2025 compared to the 2015 baseline.

COPY PAPER USED

Target 1 Reduce per employee paper usage by 40%, 2015-2025

Status In 2019, King County achieved a 35% reduction in copy paper usage and 23% cost savings (compared to 2010), meeting the target set in the 2015 SCAP. The 2020 SCAP sets a new stretch target through 2025, while also normalizing this metric by number of County employees to provide a more accurate snapshot of paper use reduction efforts.

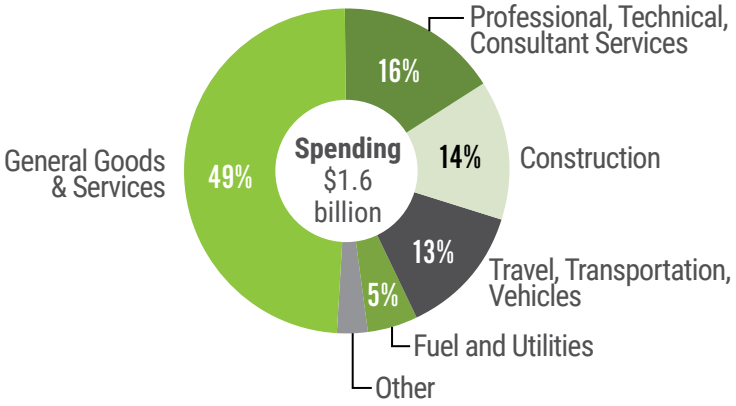


CATEGORY: SUSTAINABLE PURCHASING

Strategy GHG 5.7. Buy and promote use of recycled, low-carbon, and other sustainable products and services whenever practicable.

Priority Actions		King County Role	Connections and Considerations
GHG 5.7.1	**Managed print services.** King County shall optimize print management efficiencies countywide, through new procurement practices and the use of Managed Print Services. Managed Print Services have been shown to reduce energy use, printing costs, and the number of printers, copiers, paper and toner purchased through pilot implementation. By 2021, King County will establish a new contract for continuous coverage with all agencies utilizing these services by 2023 and will document resource savings. As personal printers have been shown to be very costly to operate and maintain, by 2025, King County will establish a policy prohibiting the purchase of individual printers throughout County operations, except in cases where accommodations are required. *(KCIT, All Agencies)*	Implement	

KING COUNTY GOVERNMENT SPENDING (2019)



In providing public services, King County spent about $1.6 billion in 2019. Data about spending and the relative GHG emission impacts of different types of purchases is informing King County's sustainable purchasing priorities.

CATEGORY: SUSTAINABLE PURCHASING

Strategy GHG 5.7. Buy and promote use of recycled, low carbon, and other sustainable products and services whenever practicable.

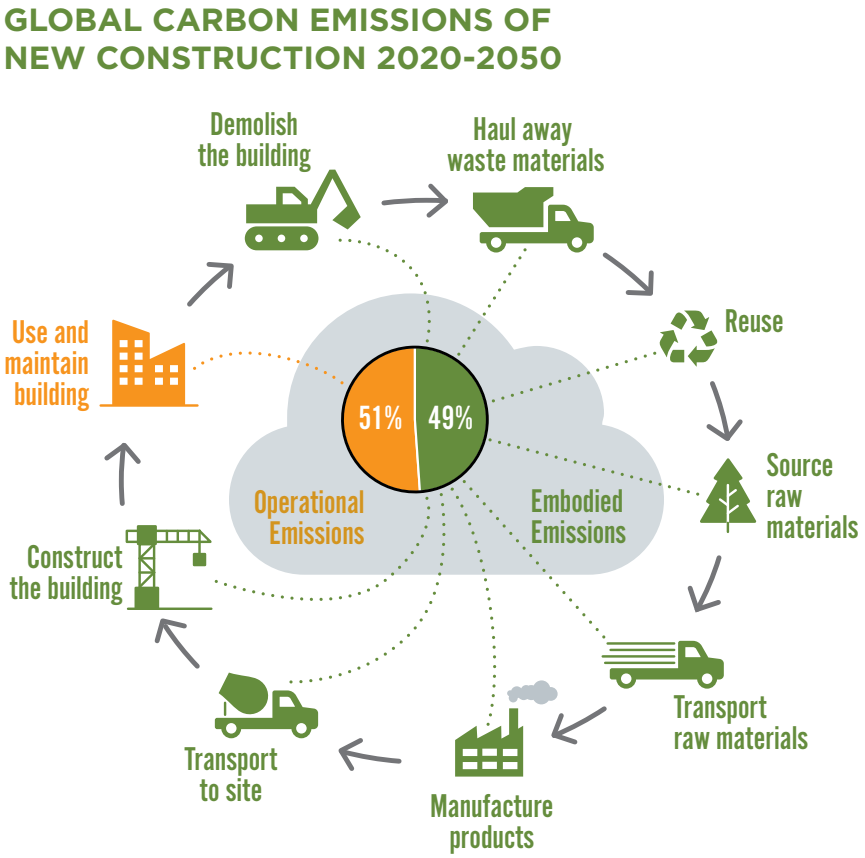
Priority Actions	King County Role	Connections and Considerations
GHG 5.7.2 **Build markets for compost and other recycled content materials.** To achieve a circular economy, to improve the health of the recycling system and to achieve the maximum GHG reductions, materials that enter the recycling stream need to be made into new products. King County can affect the marketplace through policies and programs and further support the demand for recycled materials in the region because it purchases a wide range of goods and services. To achieve this objective, King County will further develop its procurement and technical assistance programs for the purchasing of products with recycled content, which will include developing standard specifications for a suite of materials. The County will focus its market development efforts on organics, paper, and plastic because of their relatively high volumes within the waste stream. King County will also use compost on pilot projects starting in 2020 through 2025. It will baseline compost's carbon sequestration potential by 2021 and reduce contamination through ongoing educational campaigns. For all the priority materials, as material generation grows with population, and more resources will be diverted from the landfill, the region will need additional permitted processing capacity to meet the future tonnage of recycling. King County will continually research and support the infrastructure investments and policies necessary to increase the processing of and the manufacturing with recycled materials. *(SWD, DES, All Agencies)*	 Implement  Convene	 Public Priority

Strategy GHG 5.8. Require contractors and consultants to use recycled, low-carbon, and other sustainable products and services whenever practicable.

GHG 5.8.1 **Specifying low-embodied carbon building materials in King County capital projects.** The mining, manufacturing and transportation of building materials result in significant GHG emissions. To reduce these "embodied" emissions, King County will develop requirements and specifications for the use of low emission alternatives for concrete, asphalt, wood, and steel by County project managers and designers in bid solicitations.



By 2022, the County shall create standard specifications for concrete and begin requesting environmental product declarations (EPDs) for this material in construction bids. By 2023, it will require the use of EPDs for concrete and, by 2024, require a maximum global warming potential for concrete products, which it will enforce for all construction projects starting in 2025. The Embodied Carbon in Construction Calculator (EC3) tool will be used to help choose the lowest embodied carbon materials per project that meets the specification. Based on lessons learned, the County will expand these specifications to other high embodied emissions materials including asphalt, wood, and steel.
(SWD, DES, All Agencies)



Strategy GHG 5.9. Encourage life cycle impacts thinking in procurement practices considering the manufacturing, transportation, use, and disposal/recycling of products.

Priority Actions		King County Role	Connections and Considerations
GHG 5.9.1	**Electric vehicle batteries responsible sourcing and end of life management.** Encouraging recycling and responsible sourcing are key strategies to promote environmental stewardship and respect of human rights in the supply chain of primary materials for electric vehicle batteries, including lithium and cobalt. Metro Transit will lead an effort to evaluate opportunities and develop recommendations for how King County can use its fleet purchasing power to ethically and sustainably recycle and source primary components of electric vehicle batteries, including lithium and cobalt. (*Metro*)	Implement	

Metro Transit vehicle mechanics replace diesel-hybrid bus batteries.



Focus Area 6
Forests and Agriculture

Key Takeaways

- **Plant, Protect, Prepare:** On King County-owned lands, the County will emphasize the overall process to protect and restore healthy, mature forested ecosystems, which will prepare forests, making them more resilient and ready for a changing climate. Much of this work will be completed in partnership with a diverse range of partners throughout King County by implementing the Land Conservation Initiative and 30-Year Forest Plan.
- **30-Year Forest Plan:** King County is working with partners to develop a 30-Year Forest Plan, which is intended to be a vision to help guide strategies countywide to increase canopy cover and forest health. Initial priority strategies and actions will be identified by the end of 2020.
- **Resilient Local Agriculture:** King County and partners will support farmers and farmland owners to implement climate resilient agricultural practices to both enhance potential for farmland to sequester carbon (e.g., expanded use of compost) and to better respond to predicted changes in climate (e.g., greater availability and use of recycled water).

Forests and trees provide important multiple benefits, from improving air and water quality to providing urban shade and supporting human health.



Introduction

There are substantial carbon and climate benefits to maintaining, protecting, restoring, and expanding forests and farms in King County.

Forests and farms absorb and store carbon dioxide in trees and soils. As trees grow, they absorb carbon dioxide from the air and convert it into carbon, which is stored in tree trunks, roots, foliage and soil. Recent studies that combine carbon sequestration potential and risk of loss due to wildfire, insects and disease rank the coastal and Cascade forests of Oregon and Washington among the highest priority for protection. Similarly, climate-friendly agricultural practices can reduce farming-related emissions and, if fully applied, can make farms net carbon sinks.

For more information about strategies connected to the Forests and Agriculture focus area identified by the Climate Equity Community Task Force, please see the Food Systems and Food Security Focus Area of the SRFC Section.

Climate Equity

There are more than 811,000 acres of forest land in King County, which equates to approximately 60 percent of the County. Total forest cover is even greater because that estimate does not include all rural and urban residential tree cover. Although sequestration rates vary greatly depending on dominant tree species, forest age, and site conditions, it is estimated that King County forests sequester an average of 3 $MTCO_2e$ per acre per year. Thus, countywide, forests sequester over 2.4 million metric tons per year, which is approximately 10 percent of countywide geographic-based emissions.

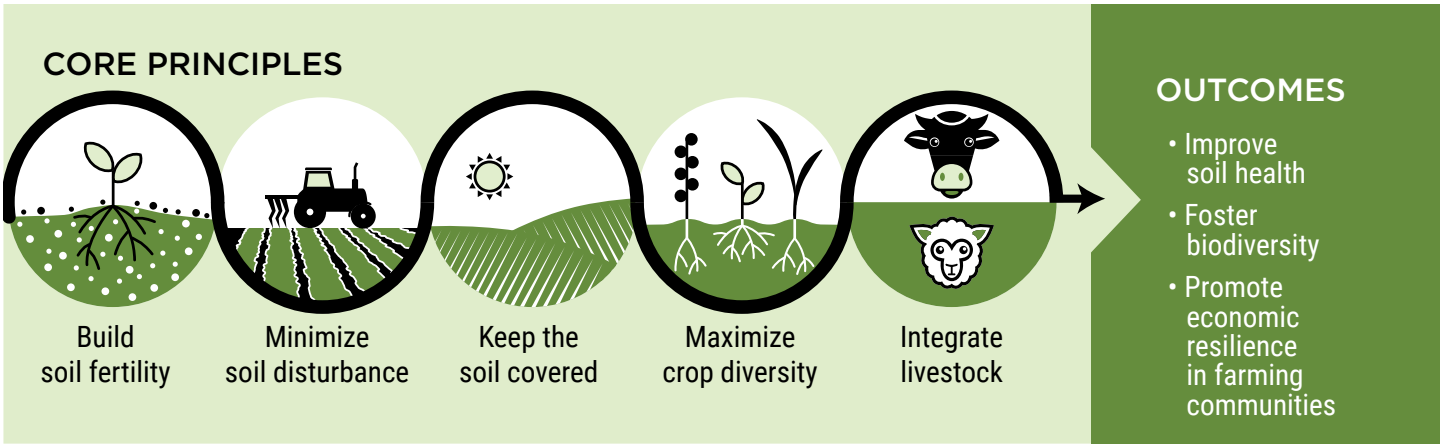
Many forested areas in King County do not achieve potential rates of carbon sequestration because they are relatively young, understocked, or have diverged from the historic range of species composition. With enhanced management of forests on both County-owned and private land, forests could make even greater contributions to the County's emission reduction goals.

King County has successfully focused commercial and residential development within urban areas, which provides numerous climate benefits by limiting urban sprawl, enhancing open space, protecting rural areas and more efficiently using human services, transportation and utilities. Through the

LOOP® Biosolids are land-applied on forests throughout King County as important carbon offsets and soil enrichments, including this Washington Department of Natural Resources land outside of Issaquah.



REGENERATIVE AGRICULTURE



Comprehensive Plan, the County designated 824,000 acres as "Forest Production District" and over 41,000 acres as "Agricultural Production Districts." In those areas, protecting forests and farms is paramount and activities that are counter to preservation of those open space categories is strongly discouraged.

In 2017, agriculture accounted for about 9 percent of the total GHG emissions in the United States, the fourth biggest sector behind transportation, electricity generation, and industrial production. Most agricultural emissions originate from soil management, livestock (primarily cattle and sheep) digestion, energy use and manure management. Although farmland in King County only occupies about 3 percent of the County land base (48,000 acres) and most of the County's 1,800 farms are relatively small (mean size 23 acres) and not energy intensive, there are opportunities to adopt several "climate friendly" agricultural practices.

Although much of the carbon stored in forest ecosystems is in live trees, snags, and large woody debris, upwards of 50 percent of the total carbon is stored in plant roots and soil carbon. In contrast, on farmland, most long-term carbon storage is in soils. Farm and forest soils store much more carbon than exists in the atmosphere, and soil management can enhance or degrade the potential for soil carbon capture and storage. Strategies for increasing carbon storage in forest soils include leaving forest harvest residue onsite rather than burning and incorporating soil amendments, such as municipal biosolids. Soil carbon content in agricultural areas can be enhanced through reduced tillage, incorporating cover crops into farm cycles, adding carbon-rich soil amendments (e.g., manures, compost, municipal biosolids), and growing perennial crops. Increasing soil carbon in forest and farmland may have additional significant ecosystem benefits including reducing erosion, improving water retention and water quality, increasing crop productivity, and improving crop nutritional qualities.

While farming and forestry practices can result in significant levels of carbon sequestration, some management actions can also result in GHG emissions (e.g., on-site fuel use, tree and crop harvesting, product transportation and processing, fertilizer manufacturing, and animal production). Those emissions can be partially mitigated through sound farming and forestry practices. Although farms typically generate more GHG emissions than they sequester, sound soil and crop management (often referred to as "regenerative agriculture") can make farms net carbon sinks. Forests are usually carbon sinks. Even if timber is harvested for commercial purposes, the resulting products are often long-lived and the carbon is effectively sequestered (e.g., construction materials, furniture).

Although there are carbon emissions associated with forest and farm management, protecting agriculture and forest lands from development eliminates the risk of those lands converting to uses such as housing or commercial development that have significant negative short- and long-

term emissions impacts. Protecting forest and farmland and focusing residential and commercial development into density centers have numerous indirect emission-related benefits, including reducing commute distances and ensuring continued access to local food.

Maintaining healthy forests and farms in King County also will require adapting to the local impacts of climate change. Please see the 2020 SCAP Preparing for Climate Change section for for local impacts of climate change and strategies to reduce these impacts, such as preparing for increasing flood and forest fire risks.

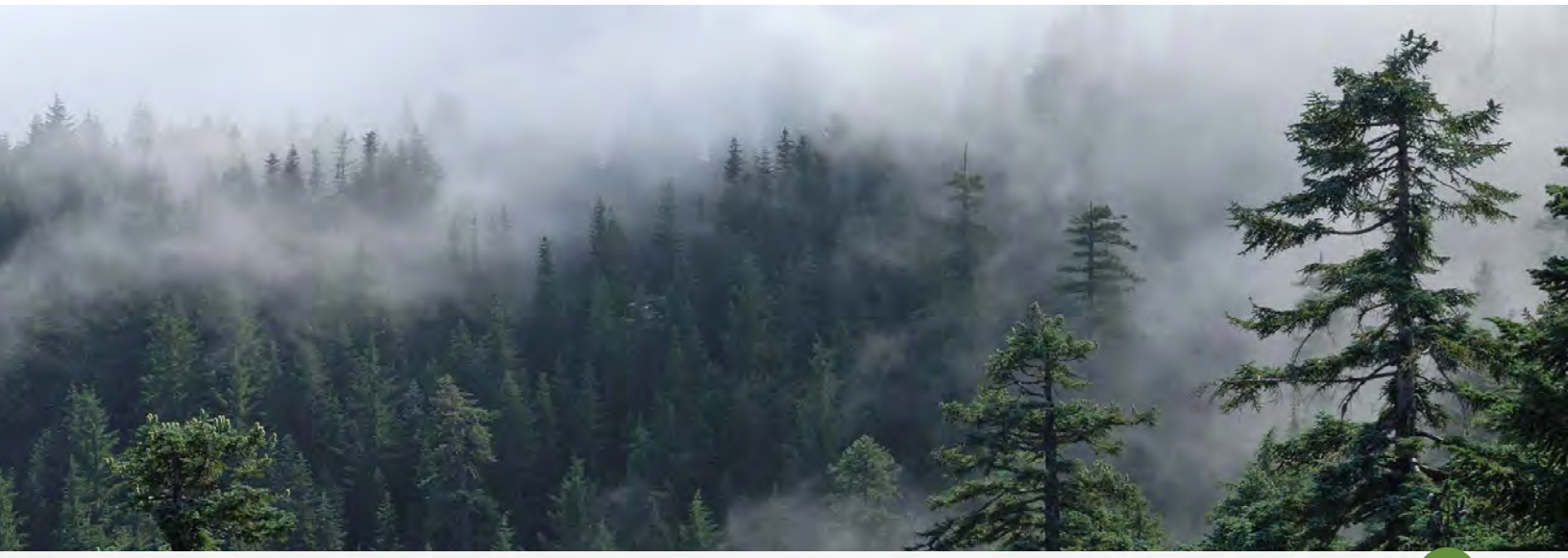
Key Themes of Public Input

Developing climate goals, objectives, and strategies related to forestry and agriculture were informed through extensive public engagement. In addition to meetings and workshops focused on the SCAP update, development of the 30-Year Forest Plan provided another platform to solicit input.

Forestry

King County is seen as a strong public steward and progressive leader in terms of forestry and best practices on lands the County owns. Public feedback largely supported a continuation of the County's ecosystem-based forestry, tree planting, and efforts to accelerate conservation and protection of high priority forest land through the Land Conservation Initiative. Additional themes heard from the public and partners included the following:

- **King County should continue modeling and encouraging best practices** through demonstration forests, economic incentives, and education.
- **Forests are essential to mitigating climate change** through carbon sequestration.
- **Forests and trees provide important multiple benefits**, from improving air and water quality to providing urban shade and supporting human health.
- **King County should nurture public connections to nature** by improving access and green space equity.
- **King County should continue to set ambitious goals** with actions that are bold, more aggressive, and based on best available science.
- **Data and monitoring are important aspects of forestry management**, and ongoing monitoring of canopy cover and tree survival rates should continue.
- **The public is aware of and concerned about increased wildfire risk** and encouraged the County to play an active role in preparation and prevention.



Achieving many benefits in one place: Glendale Forest

In 2020, King County purchased a five-acre forested property in the Glendale neighborhood, a rare opportunity to acquire a large, undeveloped parcel in an urban area. The site is in the North Highline Unincorporated Area adjacent to apartments and near schools, a church, and a Buddhist temple. The complex contains forest and wetlands, and offers opportunities for trails and educational and interpretive experiences. The project automatically qualifies for a Conservation Futures Tax (CFT) funding match waiver due to park equity considerations, meeting all three criteria (i.e., property is located in a qualifying census tract for income and health, and in a neighborhood that does not have an existing park, trail, or green space within a quarter mile).

Protecting the Glendale Forest from development was a huge win for conservation, ensuring that mature trees continue to sequester carbon while the creek and wetland complex improve local water quality. Equally exciting is the opportunity to work with the Glendale neighborhood to ensure that the site meets public needs and reflects local values. In the coming months, several programs will address stewardship needs, including King County's new Healthy Lands Program that manages invasive vegetation on new County lands and adjacent properties. King County also looks forward to working with external partners like Friends of the Trails and Washington Trails Association to engage the White Center community in site programming and ongoing stewardship.

The new Glendale Forest acquired by King County Parks. King County's Healthy Lands Program will provide early support managing invasive vegetation (such as the ivy that is currently encircling trees).



Agriculture

A viable agricultural economy is considered a key component of the King County landscape. Agriculture is recognized as a contributor to the County's GHG emission budget, but is also considered important to local quality of life. There was strong support for protecting and strengthening the agricultural sector, but there was also significant interest in exploring opportunities for agriculture to contribute to climate mitigation solutions.

Many people felt that actions that could increase soil carbon warranted consideration and that focusing on local food as a food security strategy also made sense. There was consensus around the need to protect farmland, both to limit suburban sprawl and the climate impacts that would create, but also because agricultural landscapes provide access to local food and add to the quality of life of King County residents.

Because agricultural systems are complex and full-cycle assessments of GHG emissions associated with food production provide somewhat ambiguous results, there is no clear set of actions that can be taken that will unquestionably reduce emissions. However, several actions that generally have positive emission benefits were discussed, including the following:

- **Enhanced access to local food is broadly supported** and research has indicated that local and organic food can reduce GHG emissions in certain instances
  People recognize that meat-heavy diets can contribute to increased levels of agricultural GHG emissions so the County should explore opportunities to support transition to more climate-friendly vegetarian diets, for example, through increased access to locally sourced produce.
- **Farmland preservation is viewed as a critically important tool to maintain a viable local farming landscape** and the County should also support implementation of sound best management practices that have both environmental and agricultural benefits.
- **The County should continue to support a strong local food economy** to ensure that high-quality, fresh food is readily available especially as key food producing centers in the southern United States and Mexico face production challenges due to climate change**.**
- **Greater adoption of "regenerative agriculture" practices** was recommended to increase potential to sequester carbon, improve soil fertility, improve ability of soils to retain moisture and harbor beneficial micro flora and fauna. Cover cropping reducing intensive soil disturbance (e.g., "no-till") were mentioned frequently.
- **The public is aware of the benefits of compost** and encouraged expanded use of King County-produced compost on farms and gardens to improve soil health and increase soil carbon content. It was understood that increased use of compost was an important strategy to reduce pressure on landfills.



Xay Chang, a flower farmer in the Sammamish Valley

COUNTYWIDE

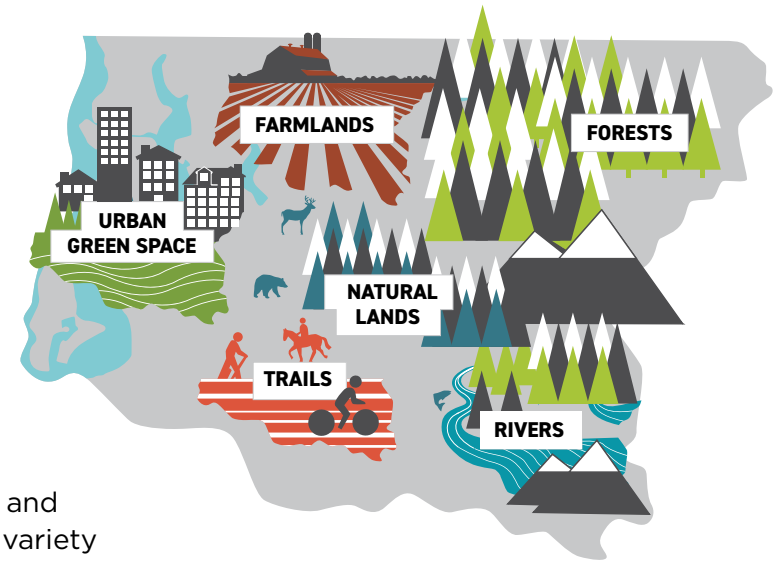
Goal: Protect additional high-value forests and farmland; expand total area of forest cover and actively farmed land; and restore health, viability, and climate resilience of forests and farmland.

Categories:

- Protect Agriculture and Forest Land
- Sustainable Agriculture and Forestry Practices

King County's Land Conservation Initiative aims to protect the 65,000 acres of remaining high conservation value lands and secure the regional trail network within 30 years. This land is currently unprotected and at risk of future development or conversion to other land uses, a risk that is expected to increase with future population growth. Protecting land identified through the LCI will have significant climate benefits by sequestering carbon, focusing development, reducing sprawl, and helping to reduce local climate change impacts, such as flooding.

Conservation priorities of the Land Conservation Initiative.



The Land Conservation Initiative was developed in 2016, the point at which King County identified and began tracking the protection of priority lands. A variety of protection tools are being used, including fee title acquisition, purchase of conservation easements, and enrollment in open space taxation programs. However, financial tools to accelerate the pace of acquisition beyond status quo were not approved and implemented until 2019.



CATEGORY: AGRICULTURE AND FOREST LAND PROTECTION

Strategy GHG 6.1. Implement Land Conservation Initiative (LCI).

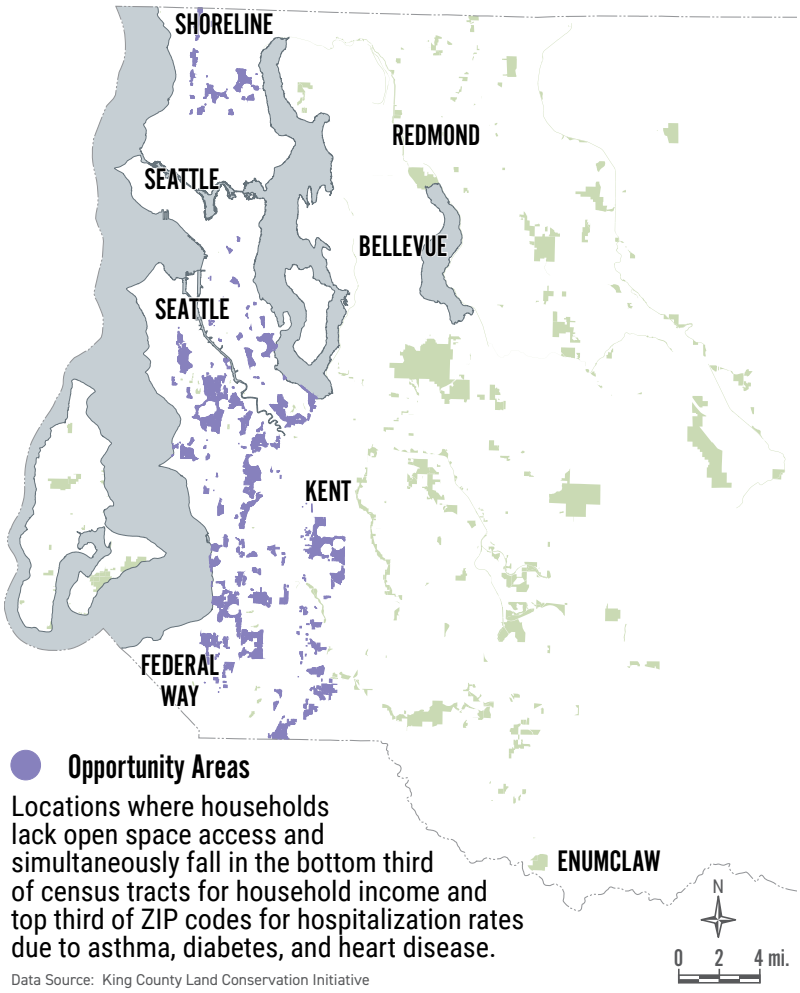
Priority Actions	King County Role	Connections and Considerations
GHG 6.1.1 **Sustain accelerated pace of acquisitions realized in 2019 to meet LCI acreage targets.** King County tripled the amount of open space conservation funding awarded in 2019 based on new financing tools approved through the LCI. Though funding is not available to triple investments in 2020, King County staff have submitted a high number of applications for 2020 funding (approximately 40 grant applications for 2020 funding compared to 37 submitted in 2019), and are seeking other creative funding sources to leverage CFT dollars (e.g., Parks Levy). *(Parks, WLRD)*	 Implement  Convene  Support/ Advocate	 Public Priority  Climate Equity  Resource Need
GHG 6.1.2 **Increase rate of Public Benefit Rating System/Current Use Taxation enrollments and focus on LCI properties that are not on the near-term acquisition list.** Continue to support King County's Pubic Benefit Rating System/ Current Use Taxation program and increase direct program marketing to owners of LCI priority properties that are not on the near-term acquisition list. *(WLRD)*	 Implement	 Public Priority
GHG 6.1.3 **GHG 6.1.3. Implement Open Space Equity Cabinet recommendations to reduce green space inequities and provide increased farmland access.** In 2019 and 2020, King County DNRP implemented the first phases of the Open Space Equity Cabinet's community engagement action plan, hiring the community-based organization ECOSS to develop and implement a pilot framework and approach in White Center (an unincorporated urban area) and the City of Burien. The goal is that, through broader engagement and education about available funding sources, the number of community-driven, match-waiver-eligible applications for King County grants will increase. As this new approach is tested, King County hopes to expand support for similar engagement in other cities and unincorporated urban areas working to improve green space equity. *(Parks, WLRD)*	 Implement  Convene  Support/ Advocate	 Public Priority  Climate Equity  Health Blueprint

Strategy GHG 6.1. Implement Land Conservation Initiative (LCI).			
Priority Actions		**King County Role**	**Connections and Considerations**
GHG 6.1.4	**Restore Conservation Futures Tax (CFT) to effective rate closer to 6.25 cents that was approved in 1982.** Due to limits on property tax collection over time, the current tax rate is now just above 3 cents per $1,000 AV, a rate that will continue to decline over time. State initiative limits the rate at which total collections from a property tax levy may increase from year to year by 1% (plus the value of new construction), an amount that does not keep pace with the housing market. King County will explore ways to restore the CFT effective rate closer to 6.25 cents, which could be achieved through different approaches, including State Legislative action or a countywide ballot measure. *(DNRP)*	 Implement  Convene  Support/ Advocate	 Fast Start

Performance Measure GHG 30: Acres of Forests and Natural Areas Protected	
Target	In alignment with Land Conservation Initiative (LCI) targets, protect 1,300 acres of forestland and natural area annually through fee, easement, and incentive programs. The five-year target through 2025 is 6,500 acres total. It is estimated that of the 1,300 acre annual target, ~1,000 acres will be achieved through fee/easement and ~300 acres through the Public Benefit Rating System (PBRS)/Current Use Taxation (CUT) program.
Current Status	Between 2016 and 2019, inclusive, King County protected more than 2,200 acres of forest and natural areas through fee or easement acquisitions. This past rate was about half of the new target, but recent changes in the structure to finance LCI should accelerate the rate of land protection.
Quantifying GHG Reductions	Mature, temperate conifer forests in the Pacific Northwest sequester more carbon than any other forest ecosystem in North America. They are also among the most carbon dense forests in the world.

Performance Measure GHG 31: Equity Area Land Acquisitions and Investments	
Target	Invest $25 million to improve public access to green space in equity open space opportunity areas (defined by health, income, and park access metrics), including at least five properties acquired annually across the county (25 by 2025). Provide enhanced land access opportunities for immigrant, refugee, and underrepresented communities in south King County.
Current Status	In 2019, eight acquisition projects were recommended for funding match waivers based on equity criteria in both urban unincorporated areas and cities. To date, King County has acquired parcels in Skyway and White Center, with negotiations and proposals in progress to acquire other properties that address inequities. King County is also developing new investments programs through the 2020–2025 Parks, Recreation, Trails and Open Space Levy, including targeted equity grants. Investments may, for example, address safety concerns, improve routes to the park, fund culturally appropriate amenities or programming, or build local capacity to support green space access.
Quantifying GHG Reductions	Acquiring green space where it is needed most—often in urban areas, and where it is readily accessible to urban communities with transportation challenges—could increase carbon sequestration by protecting trees and vegetation and preventing development.

OPEN SPACE OPPORTUNITY AREAS



Opportunity Areas

Locations where households lack open space access and simultaneously fall in the bottom third of census tracts for household income and top third of ZIP codes for hospitalization rates due to asthma, diabetes, and heart disease.

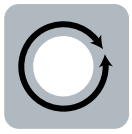
Data Source: King County Land Conservation Initiative

CATEGORY: SUSTAINABLE AGRICULTURE AND FORESTRY PRACTICES

Strategy GHG 6.2 Provide forestry and agricultural-related technical assistance and incentives to private landowners to support and enhance sustainable farming and forestry, including information about increasing carbon sequestration and preparing for local climate change impacts.

Priority Actions	King County Role	Connections and Considerations
GHG 6.2.1 **Continue to support strategies identified in the Local Food Initiative.** King County and partners will continue to implement strategies developed to achieve goals outlined in the Local Food Initiative. *(WLRD)*	 Implement  Convene  Support/ Advocate	 Public Priority  Resource Need
GHG 6.2.2 **Develop a multi-partner, fully-integrated program to support immigrant and refugee farmers.** King County has a very diverse population, with nearly 25% of the County's 2.2 million residents claiming a place of birth other than the U.S. Immigrants and refugees continue to settle in King County. As of 2018, there were over 200,000 immigrants and refugees from Southeast Asia and Africa, many of whom came from rural regions and left behind family farms. Many those individuals live in south King County. Informal conversations over the years indicated that a significant number of economically challenged immigrants and refugees from Southeast Asia and Africa retained their passion for farming and were interested in creating a farming business or growing food for their families. A 2019 DNRP report identified a suite of challenges and recommendations that were identified though an immigrant/refugee farmer outreach effort and is now working with farmers and community leaders to develop and implement a strategic plan focused on the highest priority recommendations. *(WLRD)*	 Implement  Convene  Support/ Advocate	 Climate Equity

Strategy GHG 6.2 Provide forestry and agricultural-related technical assistance and incentives to private landowners to support and enhance sustainable farming and forestry, including information about increasing carbon sequestration and preparing for local climate change impacts.

Priority Actions	King County Role	Connections and Considerations
GHG 6.2.3 **Launch the Rural Forest Carbon Program and include options for both County-owned and private forestland.** *(WLRD)*	 Implement	 K4C Fast Start
GHG 6.2.4 **Research opportunities to take the County's forest carbon programs to scale,** which includes consideration of transitioning management responsibility to another party with regional or statewide responsibilities. *(WLRD)*	 Support/ Advocate	 K4C
GHG 6.2.5 **Explore compost benefits.** King County will support farmers on King County-owned farmland in the application of compost to their lands in order to improve their soils and to demonstrate compost's value. This program will establish compost environmental benefits on farmlands, encourage land stewardship, and offer information and training to these farmers. Additionally, the County will support research into the climate benefit of compost to help provide clear evidence of climate impacts of using compost on King County lands, including agriculture and seeks to better understand the carbon sequestration potential of compost. *(WLRD, SWD)*	 Implement	 Public Priority Fast Start
GHG 6.2.6 **Amend farm plan and forest plan public rules to require inclusion of strategies that can reduce emissions, increase carbon sequestration and make lands more resilient in the face of climate change.** *(WLRD)*	 Implement  Convene	 Fast Start  Climate Prep.

Strategy GHG 6.2 Provide forestry and agricultural-related technical assistance and incentives to private landowners to support and enhance sustainable farming and forestry, including information about increasing carbon sequestration and preparing for local climate change impacts.

Priority Actions		King County Role	Connections and Considerations
GHG 6.2.7	**Streamline multi-jurisdictional processes.** Where possible and appropriate, coordinate and streamline forestry and agricultural support services between King County, state and federal agencies, universities, and the King Conservation District. *(WLRD)*	 Implement  Convene  Support/ Advocate	

Performance Measure GHG 32: Climate considerations included in stewardship plans	
Target	By 2021, all forest and farm stewardship plans approved by King County will include specific actions to enhance carbon sequestration and improve climate resilience.
Current Status	There is currently no requirement that farm and forest stewardship plans for private landowners include actions that address climate change.
Quantifying GHG Reductions	Sustainable farming techniques, especially organic practices, can enhance soil health, reduce use of fossil fuel-based resources, and increase the potential for agricultural soils to serve as a carbon sink. Alternative forest management can increase carbon sequestration potential. Efforts to increase access to and availability of locally produced low-impact food and timber can help reduce GHG emissions associated with transportation and storage.

COUNTY OPERATIONS

Goal: Manage and restore County-owned parks, natural lands and farmlands to maximize biological carbon storage and increase climate resilience.

Category:

• King County-Owned Forest, Agriculture, and Other Conservation Lands

Plant, Protect, Prepare: On King County-owned lands, the County will emphasize the overall process to protect and restore healthy forests and farms. The County will focus on managing for mature forested ecosystems, which will prepare forests to be resilient and ready for a changing climate, and more climate-friendly farms. Much of this work will be completed in partnership with the community (described in more detail throughout this section).

CATEGORY: KING COUNTY-OWNED FOREST, AGRICULTURE, AND OTHER CONSERVATION LANDS

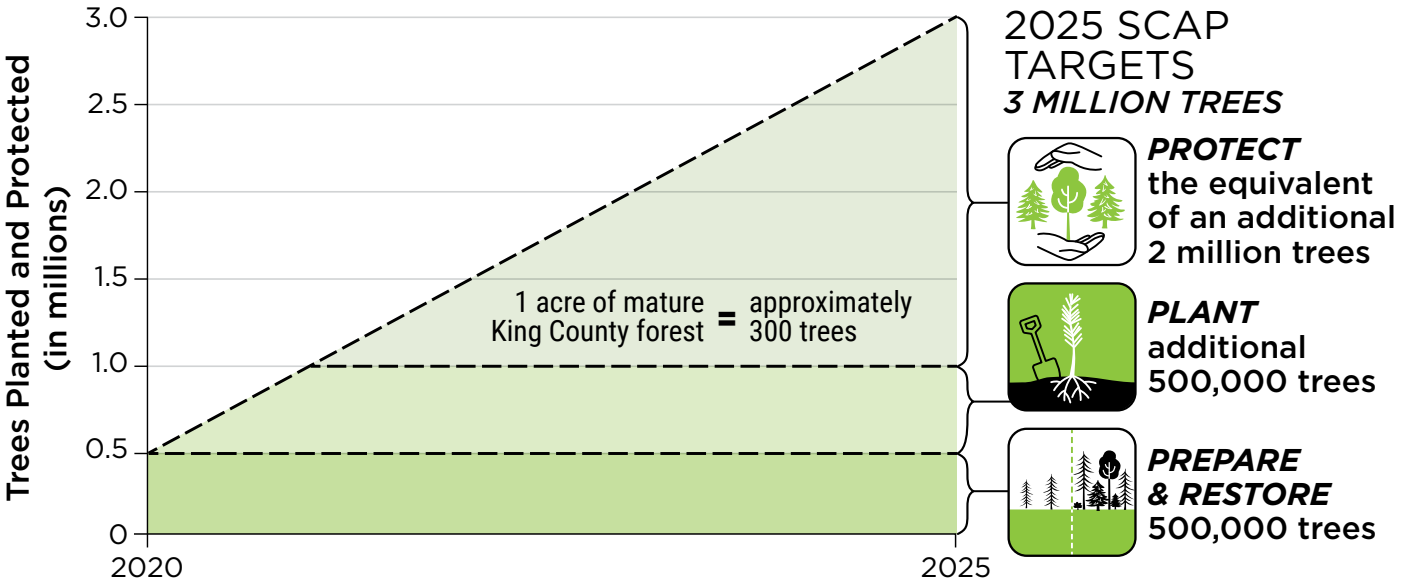
Strategy GHG 6.3. Assess, prioritize, and plan projects to maximize the carbon sequestration potential of County-owned lands.

	Priority Actions	King County Role	Connections and Considerations
GHG 6.3.1	**Complete Forest Stewardship Plans:** Maintain progress toward completing plans to inform restoration priorities and activities on King County-owned property. *(Parks)*	 Implement	 Fast Start  Climate Prep.
GHG 6.3.2	**Complete comprehensive farmland stewardship plans for all County-owned farmland.** Ensure that plans include regenerative agriculture practices and address climate change. DNRP will complete a literature review of the full-cycle GHG impacts from the use of compost on agricultural lands and, assuming a positive outcome of the review, will launch at least one pilot project to apply compost on County-owned farmland. *(WLRD)*	 Implement	 Fast Start  Climate Prep.

3 MILLION TREES BY 2025

PLANT
PROTECT
PREPARE

King County and partners working to preserve what we love about this place and restore what's been lost.



2025 TARGET DETAILS

PLANT

Maintain tree planting pace.

Plant 500,000 trees

Increase tree canopy cover
above 30-Year Forest Plan baseline in Skyway and White Center, with robust community engagement.

PROTECT

Continue to protect the last, best forests as part of the Land Conservation Initiative.

Protect 6,500 acres of forests & natural areas.

Invest $25 million, including acquiring 25 sites
to improve access to urban greenspace where it's needed most.

PREPARE & RESTORE

Prepare *our forests for a changing climate.*

Restore
1,000 acres of county-owned forest, doubling our current restoration pace.

Steward
1 Million Trees sites.

Implement
Forest Stewardship Plan priorities.

Strategy GHG 6.4. Implement highest priority forest health activities resulting from assessment and planning.

Priority Actions		King County Role	Connections and Considerations
GHG 6.4.1	**Double the pace of forest restoration.** Since 2015, King County has initiated forest stewardship projects on nearly 100 acres per year. However, with a better understanding of forest conditions across the Parks' inventory, King County recognizes the need to accelerate this pace. Restoration will prioritize County-owned forestlands most in need of ecological treatment per 2020 analysis, and align with appropriate Forest Stewardship Plans. Activities could include removing invasive species, young stand management, and afforestation. King County's objective is to place these additional acres on a climate-ready trajectory, on a path toward late seral, mature forested conditions that can better absorb and adapt to disturbances like changing temperatures, attacks by pests, and diseases. *(Parks, WLRD)*	 Implement	 Fast Start  Climate Prep.  Health Blueprint
GHG 6.4.2	**Green job opportunities or pipeline.** As King County shifts from a forest stewardship *planning* goal for lands it owns to one that identifies a target for *on-the-ground forest restoration*, green jobs could be sustained or created. Forest restoration work will be considered as part of the broader Equitable Green Jobs Strategy King County is currently developing. In 2020, Parks will also launch a youth conservation corps, which will begin to build capacity and awareness among teens, a green jobs priority. This benefit could be increased if King County can further support and galvanize restoration work on lands beyond county ownership. *(DNRP)*	 Implement  Convene	 Climate Equity

Strategy GHG 6.5. Implement priority strategies of King County's 30-Year Forest Plan.

Priority Actions	King County Role	Connections and Considerations
GHG 6.5.1 **Pilot projects and early actions.** By the end of 2020, King County will develop a 30-Year Forest Plan, or vision, to align and amplify the County's and partners' work to maximize forest health and tree cover in both urban and rural King County (see call out). King County aims to implement pilot projects and other early actions supported by partners. *(Parks, WLRD)*	Implement Convene Support/ Advocate	Fast Start Climate Prep. Health Blueprint Resource Need

Volunteers, partner organizations, and King County staff all play critical roles in helping achieve the County's 1 Million Trees goal from 2015-2020.



1 Million Trees and the 30-Year Forest Plan

The 2015 SCAP identified a goal of planting 1 million trees as an initial contribution toward achieving the objectives that will be included in King County's 30-Year Forest Plan, which will represent the countywide vision for how to best improve forest canopy and forest health. The successful 1 Million Trees effort provided an opportunity to stay connected and build relationships with many King County partners engaged in forestry activities.

As King County develops the 30-Year Forest Plan, it has pivoted to a regional discussion about longer-term priorities and goals for King County forests, including storing carbon. To collect feedback specific to the 30-Year Forest Plan, King County held meetings, workshops, and community group briefings, and collected feedback through an online survey during early 2020. Iterative engagement and collaboration with partners will be integral to the process to develop and refine the 30-Year Forest Plan in 2020 and in the years to come, as King County and its partners implement priority strategies.

Partner feedback helped the County understand which benefits are shared as high priorities so that strategies enhance those benefits. Partners also emphasized that all priorities, goals, and strategies contained in the plan must be shaped and implemented equitably.

The following priorities have emerged so far:

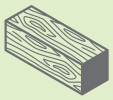
- **Climate:** Forest carbon storage and forest resilience
- **Human health:** Air quality, shade/lower temperatures, green space access
- **Rural forest health:** Maintenance, restoration, and resilience
- **Salmon (and wildlife) habitat:** Ecosystem benefits for salmon, orcas, and other species
- **Sustainable timber industry:** Facilities, work force training, and better markets
- **Urban forest canopy:** Increased canopy, including street trees,
- **Water quality and quantity:** Reduced stormwater runoff, cooler streams

Forests provide a range of benefits, including:


Storing carbon and providing climate benefits.

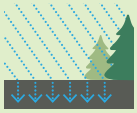

Offering a shady respite that cools streams and sidewalks.


Enhancing salmon and other wildlife habitat.


Providing wood and non-timber products.


Hosting recreational opportunities.


Improving water and air quality, which have environmental and human health benefits.


Reducing stormwater runoff.


Supplying scenic beauty.


Providing cultural resources and supporting cultural heritage and historic values.

How does King County manage forestlands for ecological health and climate resiliency?

On County-owned lands, the overall management objective is to retain or restore a trajectory toward a late seral, mature forested condition. Given that objective, King County uses the latest scientific findings and the following characteristics to guide decisions about how forests are managed. A healthy King County-owned forest is one that:

- can sustain the species composition and processes that exist within it (and, where possible, support those functions on adjacent forestlands);
- has a high capacity to regenerate native conifer and deciduous species;
- has low invasive cover;
- provides habitat for native wildlife and vegetation;
- is resilient to disturbances like insects, disease, and fire; and
- has the capacity to provide a range of ecosystem services and connectivity, recreational opportunities, timber, carbon sequestration, water quality and quantity benefits, air quality benefits, and cultural and historic values.



Performance Measure GHG 33: Forest and Farm Stewardship Plans	
Target	By 2025, 100% of Parks' forested sites larger than 200 acres (~32 sites) have Forest Stewardship Plans and all County-owned farms have stewardship plans developed and implemented that include climate-friendly and regenerative farm practices.
Current Status	Forest Stewardship Plans have been drafted for 31 forested sites, with roughly half needing technical review in order to be finalized. No farm stewardship plans have been developed for County-owned land.
Quantifying GHG Reductions	Forest Stewardship Plans recommend activities to keep forests in County ownership healthy, and when implemented can increase the carbon sequestration potential of King County forestlands. Regenerative farming practices can reduce emissions and enhance soil carbon sequestration.

Performance Measure GHG 34: Native trees planted on King County property	
Target	Plant 500,000 native trees on King County-owned and managed properties by 2025 to improve forest health and enhance future carbon sequestration potential.
Current Status	As part of the 1 Million Trees effort identified in the 2015 SCAP, King County and its partners combined to plant more than 1.2 million trees (with King County and partners each planting approximately half of that total). Between 2015 and 2020, King County significantly increased the number of trees it planted.
Quantifying GHG Reductions	Trees planted now will begin to sequester small amounts of carbon, with more significant sequestration occurring in the longer term (in 30 years) as trees grow.

As part of its regular operations, the County plants native trees on County-owned and County-managed properties, increasing green space and tree canopy across our region.



Performance Measure GHG 35: Acres of Natural Lands and Forest Restored	
Target	Restore 2,000 acres of forests and natural areas on Parks-managed properties by 2030 to improve climate change resiliency and enhance potential for carbon sequestration. This will double King County's recent forest and open space restoration pace.
Current Status	Between 2015 and 2020, King County restored approximately 100 acres/year of County-owned forestland.
Quantifying GHG Reductions	Restoration activities like removing invasive species, and selectively thinning crowded stands, will enhance the carbon-sequestering potential of County-owned forestlands over the long term.

Performance Measure GHG 36: Tree Canopy in White Center and Skyway	
Target	Increase tree canopy above baseline in unincorporated urban King County with lowest coverage (White Center and Skyway) measured as part of 30-Year Forest Plan
Current Status	Based on the most current data available, tree canopy in White Center is measured at 21%, and in Skyway at 28%.
Quantifying GHG Reductions	As noted related to urban green space acquisitions and investments above, increasing tree canopy in urban areas could slightly increase carbon sequestration. Importantly, increased urban greenery can help communities realize health benefits through access to nature, as well as mitigate inequitable impacts associated with climate change (e.g., heat island effects, poor air quality, etc.)



Section: Sustainable & Resilient Frontline Communities

A Community-Driven Plan for Climate Justice in King County

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Thank you to all the members of the Climate Equity Community Task Force (CECTF), and their communities, who contributed their expertise and insights to the development of the Sustainable & Resilient Frontline Communities section. We acknowledge and appreciate that this work was made possible by the community-scale and regional climate justice efforts that came before us.

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Section Summary

As part of King County's commitment to action on climate change and equity and social justice (ESJ), the **2020 SCAP includes a new Sustainable & Resilient Frontline Communities (SRFC) section focused on climate equity and community-driven policy**. Frontline Communities are those that will be disproportionately impacted by climate change; these are the populations that face historic and current inequities, often experience the earliest and most acute impacts of climate change, and have limited resources and/or capacity to adapt. This includes Black, Indigenous, and People of Color (BIPOC) communities, immigrants and refugees, people living with low incomes, communities experiencing disproportionate pollution exposure, women and gender non-conforming, LGTBQIA+[1] people, people who live and/or work outside, those with existing health issues (like asthma and heart disease), people with limited English skills, those experiencing pregnancy, and other climate-vulnerable groups.

New Sustainable & Resilient Frontline Communities (SRFC) section is focused on climate equity and community-driven policy, guided by the Climate Equity Community Task Force.



Eight focus areas prioritize actions that have co-benefits, promote equity, reduce harm, recognize intersectionality and the impact of climate change as a threat multiplier to other social issues such as housing, green jobs and pathways, food security, and environmental health.

Climate Equity Community Task Force (CECTF), in collaboration with the King County Climate Action Team developed the SRFC framework to identify and address community concerns and issues that intersect with climate change impacts.



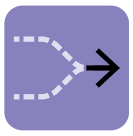
The SRFC framework was developed through a community-driven process where leaders of frontline communities established the goals and guided the priority areas for climate action based on climate justice values and community needs. Approximately 22 community leaders brought experiences, unique strengths, and insights into climate resilience strategies and practices. These leaders formed the Climate Equity Community Task Force (CECTF) and, in collaboration with the King County Climate Action Team, developed the SRFC framework to identify and address community concerns around climate change impacts.

Foundations of the SRFC Framework for Action

Addressing climate change and social inequities simultaneously in King County will require bold action to prioritize equity and co-benefits (solutions that have multiple benefits for the environment and people beyond just a stable climate), and address climate change as a threat multiplier to other social issues such as affordable housing and food security. The CECTF has developed a SRFC framework for action that builds upon existing structures and practices articulated in the SCAP and incorporates additional insights brought forward from the CECTF.

Key Strategies of the SRFC Framework:

The SRFC framework uses the following six crosscutting strategies across eight focus areas to advance climate and equity in frontline communities:



Build Equitable Practices

1. Build King County and community capacity to prioritize climate equity.



Language Access

2. Prioritize collaborative language access in partnership with trusted community partners.



Community Leadership

3. Advance frontline community leadership by investing in long-term community and tribal partnerships, community capacity development, and improved infrastructure for community driven policy and decision-making.



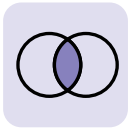
Solutions for Root Causes

4. Address root causes of climate vulnerability by prioritizing comprehensive solutions co-developed with frontline communities that reduce systemic inequities and have co-benefits.



Equitable Climate Future

5. Advance an equitable climate future and outcomes by investing in climate solutions and opportunities with and for frontline communities.



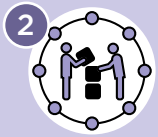
Aligning Initiatives

6. Align with and elevate actions in related County plans and programs that support frontline communities and climate resilience.

SRFC Focus Area Highlights and Priorities

The CECTF identified eight focus areas that offer pathways to a more equitable and just climate future for all—a future and vision that is emergent from the unique lived experiences of frontline communities across King County. The six strategies, identified by the CECTF, cut across all eight focus areas. The following focus areas provide a framework for intersectional and equitable climate action in King County:

SRFC Section Highlights and Priorities

Focus Area	Highlights and Priorities
Community Leadership and Community-Driven Policy-Making 	• Develop a framework for continued collaboration with frontline communities and pivoting the CECTF toward SCAP implementation. • Invest in long-term frontline community partnerships, youth leadership, BIPOC leadership development, and improved infrastructure for community-driven policy and decision-making. • Build county capacity by providing climate justice resources, guidelines, tools, and climate equity trainings.
Community Capacity Development 	• Invest in frontline community partnerships toward climate literacy, community capacity, and youth leadership. • Expand language access by developing materials in multiple languages in partnership with frontline communities, around climate change connections with focus area themes. • Support activities and investments that increase the knowledge and capacity of community leaders, youth, and organizations regarding climate change impacts in their communities.
Equitable Green Jobs and Pathways 	• Establish an equitable green jobs strategy that advances sustainability and living wage opportunities countywide, while increasing BIPOC representation and access. • Provide resources to support the development and implementation of a green jobs strategy. • Support a climate internship program within the Climate Action Team, with intentional opportunities geared toward underrepresented communities.
Community Health and Emergency Preparedness 	• Support residents, small businesses, and frontline communities with trainings and educational materials to prepare for, respond to, and bounce forward from emergency events and climate-related health impacts. • Partner with frontline communities to identify, evaluate, prioritize, and disseminate key climate and health indicators and mapping data. • Take steps to reduce the impacts of extreme events, including urban heat, on frontline communities.
Food Systems and Food Security 	• Support strengthened food access, including advocating for expanded nutrition incentive programs, and improved access to land and technical assistance for socially disadvantaged growers. • Support access to healthy, affordable, and culturally relevant foods for all communities, including opportunities to support a healthy and just food ecosystem. • Partner with frontline communities to support a regenerative and sustainable zero waste food economy framework that prioritizes people and the environment.

Focus Area	Highlights and Priorities
Housing Security and Anti-Displacement 	• Align with and elevate actions in the Regional Affordable Housing Task Force report that support frontline communities' climate resilience. • Work with County agency partners, community partners, and other partners to increase opportunities for eco-friendly, affordable, and healthy housing and stable, resilient community environments in frontline communities. • Identify community-centered anti-displacement strategies and resources that support climate-resilient infrastructure, reduced housing vulnerability, and economic resilience.
Energy Justice and Utilities 	• Support education, distribution of tools and resources to increase community access to energy-efficiency programs, opportunities to transition to renewable energy alternatives, and community-based distributed renewable energy. • Partner with utilities and frontline communities to expand utility assistance and incentive programs to reduce utility burden for frontline communities. • Advocate for frontline community participation in energy policy, decision-making, and regulatory tables.
Transportation Access and Equity 	• Align with and elevate actions in the Metro Mobility Framework that support frontline communities and climate resilience. • Prioritize frontline communities that are in greatest need of public transit in transit accessibility policies and practices. • Support the improvement of transit infrastructure through design processes that use a clear climate equity lens, and a meaningful, inclusive, and community-driven planning approach.



This process has been such an authentic engagement of community-based organizations and partners coming together, where people are just really speaking their truth and advocating for their communities, which I love, it's beautiful to see that. Also to be in a space that is created by us and that we honor rather than walking into someone else's space and trying to carve out something for us is very powerful."

- Colleen A.

Introduction

The Sustainable & Resilient Frontline Communities (SRFC) section presents a community-driven framework for addressing climate change concerns and opportunities identified by frontline communities in King County. The section is guided by the recognition that climate change can have disproportionate impacts on many King County communities due to existing and historic racial, social, environmental, and economic inequities. These same inequities can create barriers to frontline community participation in decision-making processes; while these communities hold invaluable experiences, perspectives, and understandings of climate solutions, frontline communities often lack the access, capacity, and/or resources to take bold action or influence local leadership.

Through the commitments outlined in the SRFC section, King County has taken an important step forward in elevating and centering the voices of disproportionately impacted communities in leadership and decision-making, and in community-government partnerships that exemplify equitable engagement. It is important that these efforts

Frontline Communities are those that are disproportionately impacted by climate change due to existing and historic racial, social, environmental, and economic inequities, and who have limited resources and/or capacity to adapt. These populations often experience the earliest and most acute impacts of climate change, but whose experiences afford unique strengths and insights into climate resilience strategies and practices.

Frontline communities include Black, Indigenous, and People of Color (BIPOC) communities, immigrants and refugees, people living with low incomes, communities experiencing disproportionate pollution exposure, women and gender non-conforming people, LGBTQIA people, people who live and/or work outside, those with existing health issues, people with limited English skills, and other climate-vulnerable groups.

Frontline Communities are the populations that often experience the earliest and most acute impacts of climate change, such as flooding.





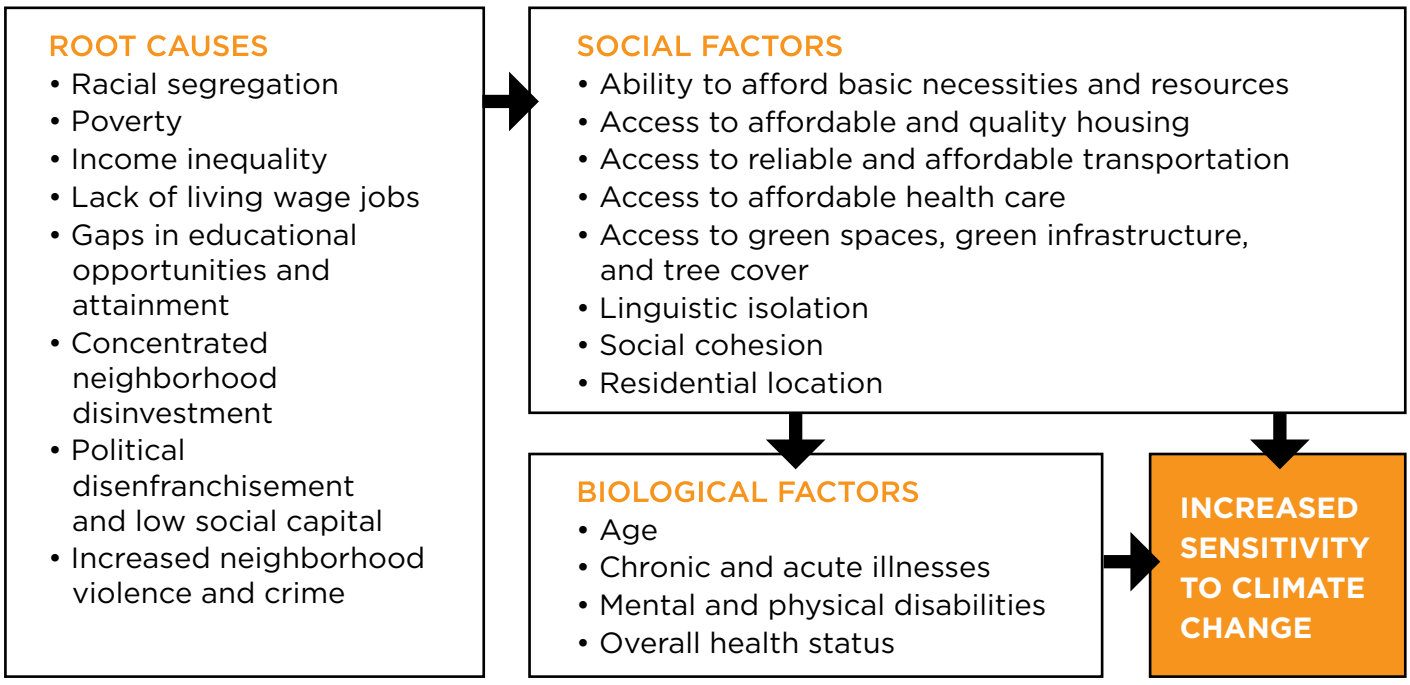


are designed and implemented in partnership with community leaders to address broader inequities because the benefits from sustainability solutions have not always been distributed equitably. As the region transitions away from an extractive fossil fuel-based economy toward a more resilient, equitable, and sustainable King County, it is important that the County's solutions create opportunities that equitably benefit all communities and avoid leaving people behind. By respectfully drawing from the expertise embedded within frontline communities, the County can address root causes of disproportionate climate impacts while also ensuring all current and future community members, and the ecosystems they depend on, are protected from the emerging and ongoing impacts of climate change.

Climate equity ensures that all people have access and opportunity to benefit from climate solutions, while not bearing an unequal burden of the impacts of climate change. This requires a holistic approach to equity in climate work that divides the burden of responding to climate change amongst those who contribute the most to the issue, while sharing the opportunities and benefits that equitable climate action presents with those that are most impacted. *(Adapted from ICLEI[2] and WRI[3])*

Addressing climate change and social inequities simultaneously in King County will require bold action to prioritize equity and co-benefits and address climate change as a threat multiplier to other social issues, including systemic racism. Targeted investments will be needed to advance the strategies in this SRFC framework to address disparities, mitigate impacts, and prioritize co-benefits of climate solutions. King County recognizes that climate and environmental injustices cannot effectively be addressed by one entity, but require partnership, collaboration, and collective action. The SRFC section identifies the ways that King County can lead, convene, support, and advocate for equitable climate action in partnership with communities, organizations, and agencies across the region in a shared commitment to climate equity. The problems and solutions are intersecting; King County's climate efforts should

Root Causes and Factors Affecting Sensitivity to Climate Change



Source: Adapted from "Root Causes and Factors Affecting Sensitivity to Climate Change" in Urban Sustainability Directors Network Guide to Equitable, Community-Driven Climate Preparedness Planning [4]

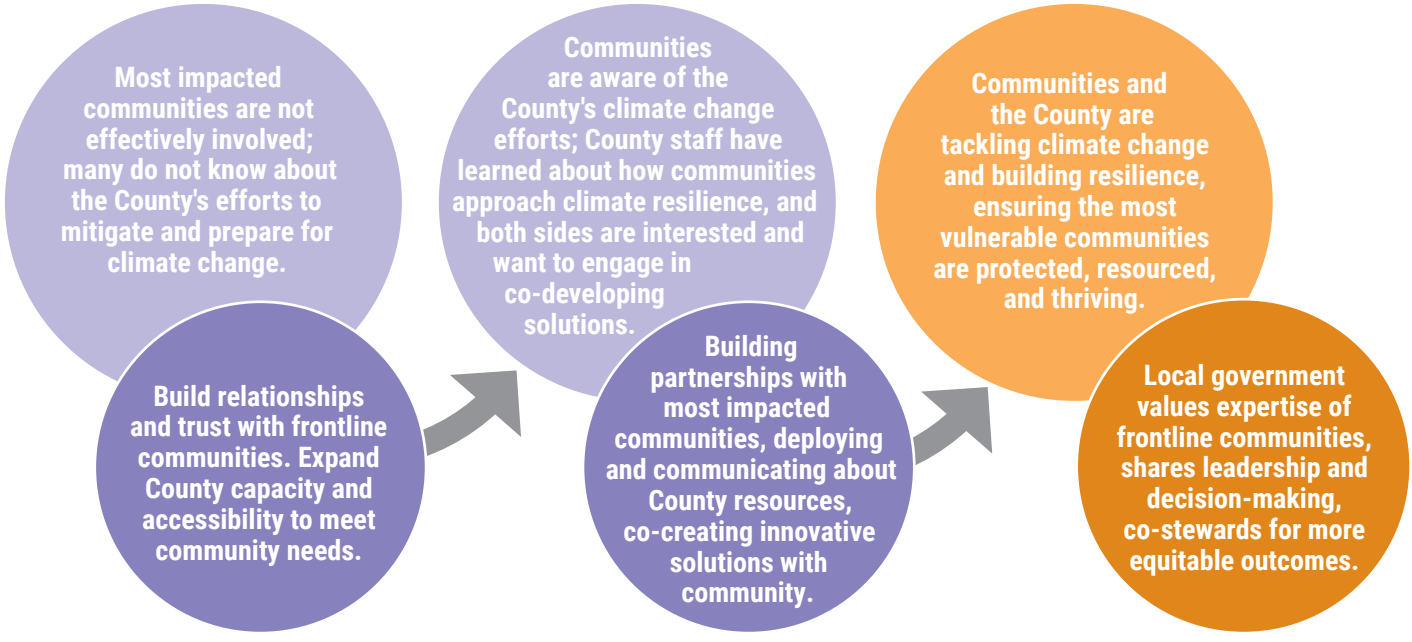
also be coordinated across County departments and be responsive to the ways that communities identify with climate impacts, particularly regarding community resilience, health, and economic capacity. The actions in this section are based on the need to address root causes of climate sensitivity that disproportionately impact frontline communities and develop solutions that address climate change and have co-benefits for social and economic equity. The SRFC section empowers frontline communities to develop community-driven goals at the grassroots level, and to identify how to align County policies, programs, resources, and initiatives to support community-driven climate actions.

Co-development Process with the Climate Equity Community Task Force (CECTF): Creating the SRFC Framework for Action

A VISION FOR SUSTAINABLE AND RESILIENT FRONTLINE COMMUNITIES:
Frontline communities are centered in developing climate solutions and have the knowledge, skills, resources, capacity, and social and political capital to equitably adapt, lead, and thrive in a changing climate.

Frontline communities hold invaluable experiences, perspectives, and understandings of climate solutions. The SRFC section was developed as a collaboration between the King County Climate Action Team and the **Climate Equity Community Task Force (CECTF)**. The CECTF is a group of approximately 22 community leaders who represent frontline communities and brought their unique experience and insights to co-create equitable climate solutions for King County. This section reflects the community-identified values, concerns, and visions expressed by the task force over the course of a year-and-a-half-long planning process. The knowledge and expertise presented throughout this section, while offered to ensure representation of frontline community voices and visions in the SCAP, also serves to move forward equitable priorities and practices that provide benefit to and increase climate resiliency for all communities throughout the County and beyond.

Building Toward Shared Leadership and Co-Stewardship with Frontline Communities



Guiding Values identified by the CECTF

Investing upstream in root causes of climate sensitivity and where needs are greatest.

Centering frontline community expertise, stories, and visions as those that are most impacted by climate change. Lead with inclusive, accessible, and engaging processes and practices.

Frontline & BIPOC community leadership – Support frontline and BIPOC community climate leadership, capacity building, and education. Frontline communities are the experts in their own experiences and know the practices and solutions that are best for their communities.

Anchor policy and decision-making in community identified needs – Practice community-driven policy-making anchored in long-term community partnerships.

Prioritizing strategies that have co-benefits, reduce harm, and recognize intersectionality, as well as have co-benefits for people and the planet. Practice solidarity across frontline communities and recognize that our actions impact others beyond our immediate circles.



CECTF members developing guiding values.

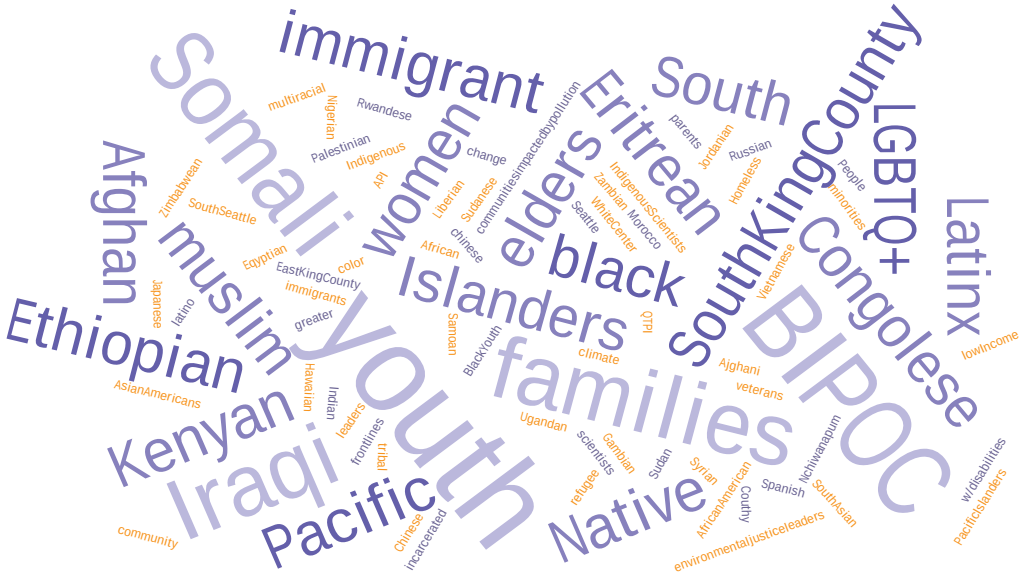
CECTF members represent a diverse range of experiences, subject-matter expertise and geographic, racial, and ethnic diversity. Members include individuals from south King County; communities disproportionately impacted by climate change; communities of color; immigrants; refugees; Native and Indigenous communities; limited-English-proficient populations; communities with existing environmental, social, and health disparities; young leaders of color, those experiencing low incomes, and more.

The CECTF was responsible for identifying and developing the community-driven and equity-oriented climate actions represented in the SRFC section. Through a year-and-a-half-long process, they developed recommendations for the SCAP that recognize the agency of frontline communities in climate work, including actions and activities that mitigate environmental injustices and ensure equitable distribution of environmental benefits. A key responsibility of participants was to bring their own unique voice and experiences, as well as perspectives from their communities to develop a shared vision for sustainable and climate-resilient frontline communities in King County.

CECTF Members present preliminary strategies and actions to King County Climate Leadership Team and King County Executive Dow Constantine.



A guiding principle of CECTF collaboration was that *how* the taskforce convened was as essential as what was accomplished. Throughout the process, CECTF modeled meeting and working practices that are consistent with the values and practices of their respective communities. These practices prioritize personal relationships and community/family responsibilities alongside professional expertise, affiliations, and organizational objectives. Additionally, as part of ensuring room for frontline communities at the County's "table," meals were procured from BIPOC-owned businesses, meeting locations were rotated across accessible south King County locations, CECTF members were compensated for their time, and time was allocated (and adapted) to prioritize what was most important for the group at the moment.



Communities represented in the SRFC section development

"You know, when you look at the environmental movement today as well as in the past, it's often white faces and we don't see as many People of Color. Still, I think we see that climate change has such a direct impact on us and it's essential that we become involved to mitigate and stop climate destruction. It is not that we don't want to be involved in these traditional movements, but we historically feel alienated from the traditional environmental movement. Certainly, People of Color understand deleterious environmental impacts because we face them every day in our lives and in our community."

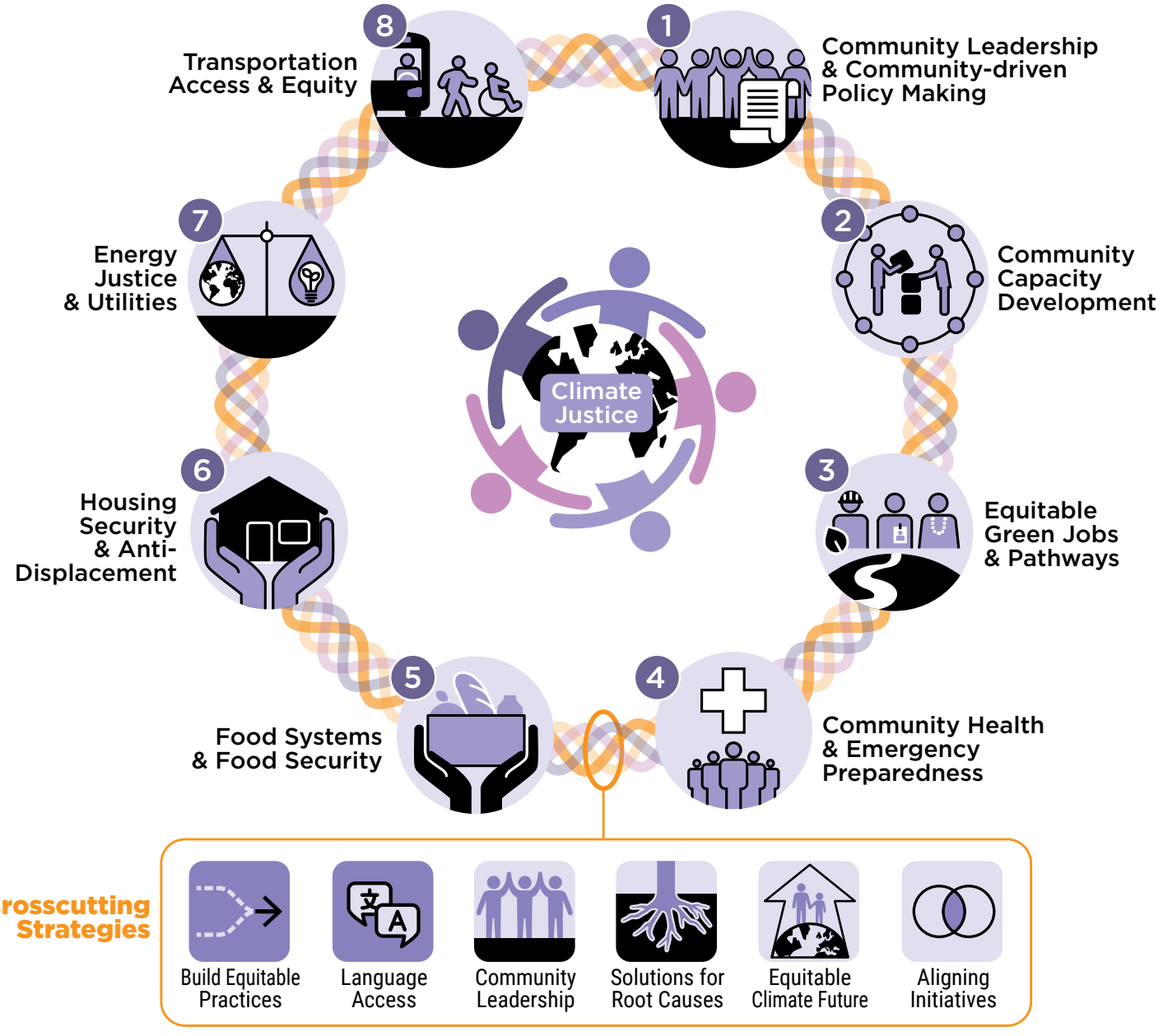
- Dinah W.



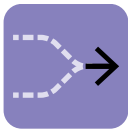
Key Focus Areas and Crosscutting Strategies of the SRFC Framework: advancing climate and equity in frontline communities

The CECTF community-driven process identified a structure that outlines eight equity-driven focus areas and several priority actions for each focus area. The focus areas are premised on the six crosscutting SRFC strategies and address key areas of concern across the eight focus areas. The focus areas and associated actions provide pathways to ensure that all communities and all people of King County can benefit from coordinated climate change actions and can contribute their vision and expertise to a shared ecosystem of climate solutions. The SRFC section provides a framework for action to move forward social and economic reforms needed to mitigate disproportionate climate impacts on frontline communities. The focus areas envisioned by the CECTF offer pathways to a more equitable and just climate future for all—and one that is emergent from the unique lived experience and visions of the frontline communities across King County.

The SRFC section highlights eight focus area and associated actions to increase climate resiliency and mitigate disproportionate climate impacts on frontline communities. The focus areas include:



The SRFC framework uses the following six crosscutting strategies across eight focus areas:



Build Equitable Practices

1. **Build King County and community capacity to prioritize climate equity** through mainstreaming integration of climate equity principles into planning, policy development, implementation, and improved community engagement processes. Promote equitable outcomes through the development of tools, practices, resources, and programs for County staff and communities, addressing systemic barriers to equity undoing institutional racism, and creating intentional SCAP implementation plans that center climate justice. Providing climate justice guidelines, such as requiring climate-related staff participation in equity and climate equity trainings to build skills and increase awareness of structural racism and other systemic issues that contribute to disproportionate outcomes, is a key strategy throughout SRFC priority actions.



Language Access

2. **Prioritize collaborative language access in partnership with trusted community partners**, through co-creation of culturally relevant climate materials, providing translation and interpretation, and building ongoing partnerships with community organizations to distribute and connect community members to in-language resources. King County is committed to meeting the need identified by the CECTF for more in-language materials, especially ones that are co-created and translated in partnership with frontline communities, around climate change and health, energy, food and food waste, emergency preparedness, and more. Additionally, coordinating messaging in multiple languages across agencies before, during, and after climate-related events is essential to equitable response and preparedness.



Community Leadership

3. **Advance frontline community leadership by investing in long-term community and tribal partnerships, community capacity development, and improved infrastructure for community-driven policy and decision-making processes.** The most impacted communities have the expertise around what they need to be resilient to climate change, but often lack the access, capacity, and/or resources to take bold action or influence local leadership. Building trusting relationships with frontline communities, including with Tribes and Native communities, and collaborating on climate solutions are critical to creating a foundation for mutually beneficial outcomes and equitable climate goals. The SRFC section seeks to remove barriers and elevate and center the voices of impacted communities in leadership and decision-making in meaningful and culturally appropriate ways through investments in community partnerships, climate literacy, and youth leadership. This includes supporting frontline community leadership development programs and pivoting the CECTF to work toward SCAP implementation.



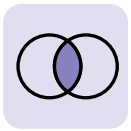
Solutions for Root Causes

4. **Address root causes of climate vulnerability by prioritizing comprehensive solutions co-developed with frontline communities that reduce systemic inequities and have co-benefits.** The CECTF specifically recognizes the importance of uplifting climate actions with multiple co-benefits, that promote equity, reduce harm, eliminate barriers, recognize intersectionality and the impact of climate change as a threat multiplier to other social issues (such as affordable housing, green jobs and pathways, food access, economic security, and public and environmental health). For this reason, SRFC climate actions support strengthened social safety nets, and include advocating for expanded programs addressing utility burden and food access, as well as partnerships with the Reducing GHG Emissions section around actions that reduce GHGs and address affordable housing and transportation access. Additionally, it is important that King County acknowledge structural racism, which has long contributed to the root causes of social and economic inequalities that make frontline communities more sensitive to climate change.



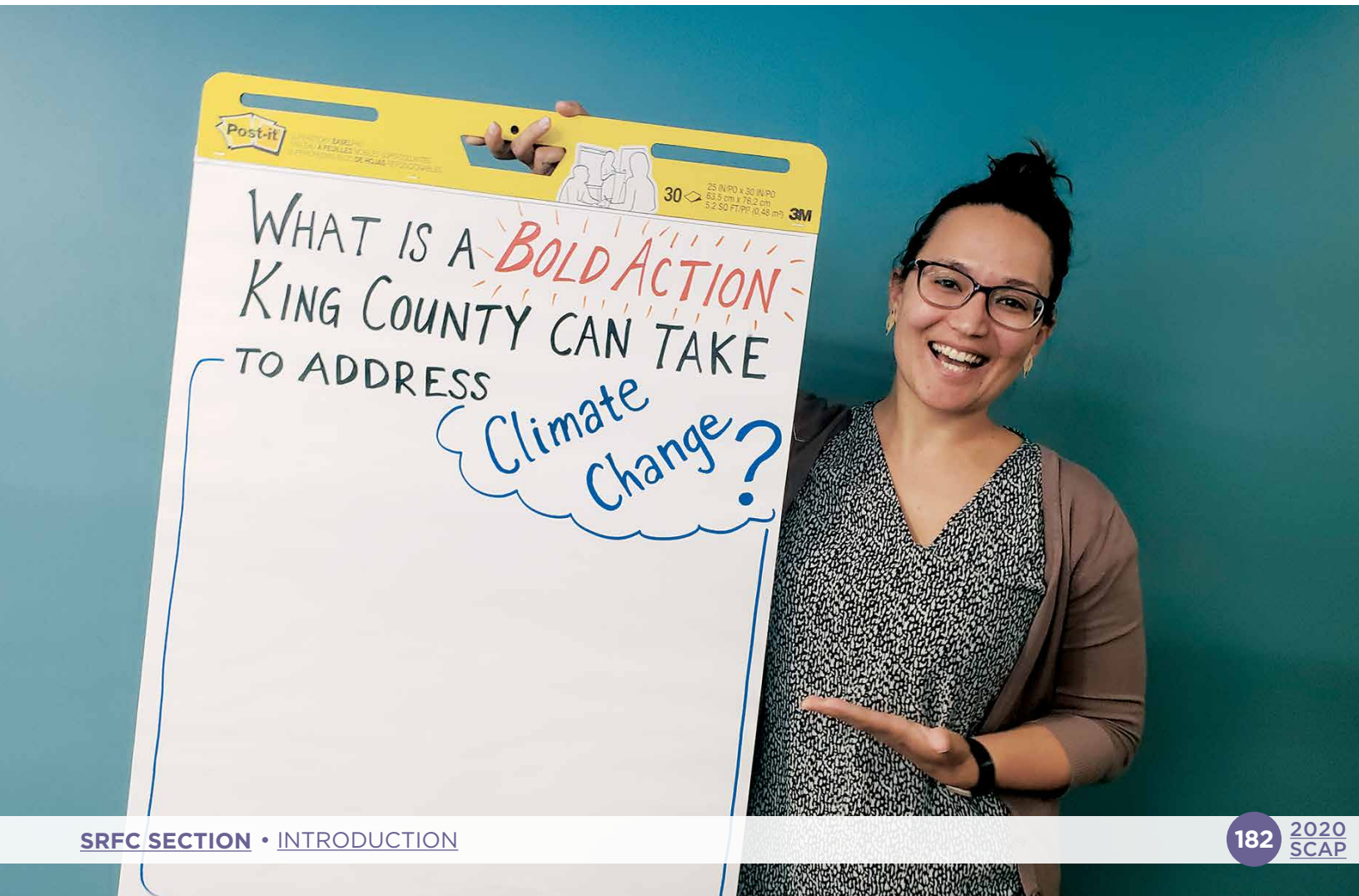
Equitable Climate Future

5. **Advance an equitable climate future and outcomes by investing in climate solutions and opportunities with and for frontline communities.** As the region transitions away from an extractive economy toward a more resilient, equitable, and sustainable King County, it is important that the County's solutions create opportunities and avoid leaving people behind. A just transition to a sustainable future requires planning for and adapting to unintended consequences, removing systemic and economic barriers, prioritizing investments in frontline communities, and creating decision-making tables that support the leadership of frontline community members. Two key priorities include establishing an equitable green jobs strategy that advances sustainability and living wage opportunities, while increasing BIPOC representation in environmental fields and advancing community-based distributed renewable energy for frontline communities.



Aligning Initiatives

6. **Align with and elevate actions in related County plans and programs that support frontline communities and climate resilience.** Collaborate with County departments and programs to integrate climate change and climate justice into their work to develop a cohesive approach to building climate resilience. The SRFC section aims to align with and strengthen actions in partnership with several King County plans and initiatives, notably the King County Equity and Social Justice Strategic Plan (2016), the King County Blueprint for Addressing Climate Change and Health (2018), King County Metro Mobility Framework and Equity Cabinet (2019), King County Local Food Initiative, Open Space Equity Cabinet Report, Regional Affordable Housing Task Force Five-Year Action Plan, and Department of Community and Human Services (DCHS) and Public Health—Seattle & King County (Public Health) programs that aim to serve children, youth, young adults, families, and communities.



Public & Community Input in the SRFC Section

The SRFC development process was guided by the CECTF, but also informed by community presentations, youth workshops and public input from other avenues. Feedback and common themes were integrated into the focus areas and priority actions identified in this section. The County hosted topic based convenings, youth workshops, requested presentations, and public workshops. Online communication was also available through the County's climate website where information about the SCAP update could be found along with an online public input survey and an opportunity to request a presentation/ workshop.



CECTF members discussing strategies and actions for the SRFC section.

The major concerns about climate change impacts that were expressed centered around public health, natural disasters, food security, access to healthy food, access to affordable public transportation, lack of paid internships and green jobs, increased heating/cooling costs, lack of access to green spaces, displacement, and environmental justice. Many of the suggestions surrounded addressing these concerns and letting community take the lead in a participatory process to identify solutions. All of these concerns were captured in the CECTF's work and the integration of public input can be seen throughout the eight focus areas A full summary of the key themes of public input can be found in Appendix VI: Community Engagement Summary.

SRFC Alignment with King County Programs

The SRFC framework is supported by the CECTF, as well as an internal advisory team that includes King County staff from departments and programs who have not traditionally been included in the County's climate plans, but who work on intersecting issues. These include staff representatives that support other community-involved initiatives such as the Regional Affordable Housing Task Force, Open Space Equity Cabinet, Metro Mobility Framework Equity Cabinet, DCHS and Public Health programs that support youth and communities, and the Local Food Initiative.

The SRFC section also aligns with the equity driven goals of several King County plans and initiatives, notably the King County Equity and Social Justice Strategic Plan (2016), the King County Blueprint for Addressing Climate Change and Health (2018), King County Metro Mobility Framework and Equity Cabinet (2020), King County Local Food Initiative, Land Conservation Initiative and Open Space Equity Cabinet, Regional Affordable Housing Task Force Five-Year Action Plan, and DCHS and Public Health programs that aim to serve children, young adults, families, and communities. In 2010, the King County Council passed landmark Equity and Social Justice legislation (Ordinance 16948) that codified determinants of equity and led to the development and adoption of the ESJ Strategic Plan.[5]



Developing the SRFC vision for an equitable climate future at a CECTF meeting.

The adoption of the ESJ Strategic Plan produced blueprints for actions across all County agencies to identify opportunities to make upstream investments to address root causes of disparities and to tackle the systemic issues that have produced and retain racial and social inequities regarding access to governance tables, inclusion in government processes, and community investments.[6] The ESJ Strategic Plan is foundational to the integration of equity into the 2020 SCAP, the creation of this new SRFC section, and the coordination efforts across County agencies highlighted in the SRFC section. More recently, in December 2019, King County Council passed Ordinance 19041, which required the inclusion of the SRFC section in the SCAP and the development of a countywide green jobs strategy that would be created in partnership with the CECTF, labor unions, and internal workforce development.[7]

How to Read This Section

Each of the eight SRFC focus areas are organized in the following format:

Focus area: These are the general issue areas that the SRFC works on.

- **Background:** A brief introduction explaining the connection between the focus area, climate change, and frontline community concerns.
- **Framework for Action:** includes the following items.
  - ***Vision:*** Bulleted list of aspirational statements outlining the vision and desired outcomes identified by the CECTF when equity is achieved in climate action.
  - ***Priority action tables:*** organized into categories and presented in a table format, these contain priority actions with supporting information about accountable agencies, the role of King County, and connections and considerations. See next page for example table.
  - ***Activities that could be pursued:*** The grey box below each priority action category contains potential activities that King County could pursue in the coming years to make progress on or complete the associated priority actions in that category, as identified by the CECTF and King County staff. Not all activities are expected to be completed within the five-year timeframe for the 2020 SCAP, as the activities will continue to be prioritized and refined based on available resources, capacity, conditions, and CECTF feedback. Activities of this nature are specific to the SRFC section.



How to Read Priority Action Tables in the SRFC Section

FOCUS AREA

Category: a grouping of related priority actions

SFRC 1.1.1

Action Number

Priority Action details and *responsible agencies*.

Priority Action: a near term action that King County will take in support of broader goals and strategies. Actions will occur by 2025, unless otherwise noted, and many include earlier deadlines. The Executive reports to the King County Council on progress related to each Priority Action every 2 years.

Key Departments/Programs: King County agencies that have primary responsibility for engaging in activities and programs to make progress on a priority action.

Related Departments/Programs: King County agencies that are partners in the work but do not have primary responsibility; includes thought partners and alignment of complementary work.

Icon(s)

King County Role: the County's role(s) in delivering each Priority Action

Icon(s)

Connections and Considerations throughout the SCAP, and SRFC crosscutting strategies

Potential activities that could be pursued toward the actions in that category, as identified by the CECTF and King County staff.

King County Role



Implement

An action where King County has a lead role in carrying out the activity—may include cases where King County has direct control over an outcome and possesses or can acquire the necessary tools/staffing to make progress on an action.



Convene

An action where King County needs external partners and collaborators to complete the action and King County is taking an active role in that work by convening partnerships for collective climate action.



Support/Advocate

An action where King County's primary role is supporter and/or advocate for the action. This includes actions that would need to be undertaken by other entities or where King County does not have control over the activities necessary to complete an action.

Connections and Considerations



Public Priority: Responds to a recurring theme heard in 2020 SCAP public engagement process.



Fast Start: Priority action to be accomplished by the end of 2022.



Health Blueprint: Consistent with the priorities of Public Health—Seattle & King County's Blueprint for Addressing Climate Change and Health.



Resource Need: Commitments where there are pending or unmet resource needs to accomplish the work.



Reducing Emissions: Consistent with the priorities of the Reducing Greenhouse Gas Emissions section.

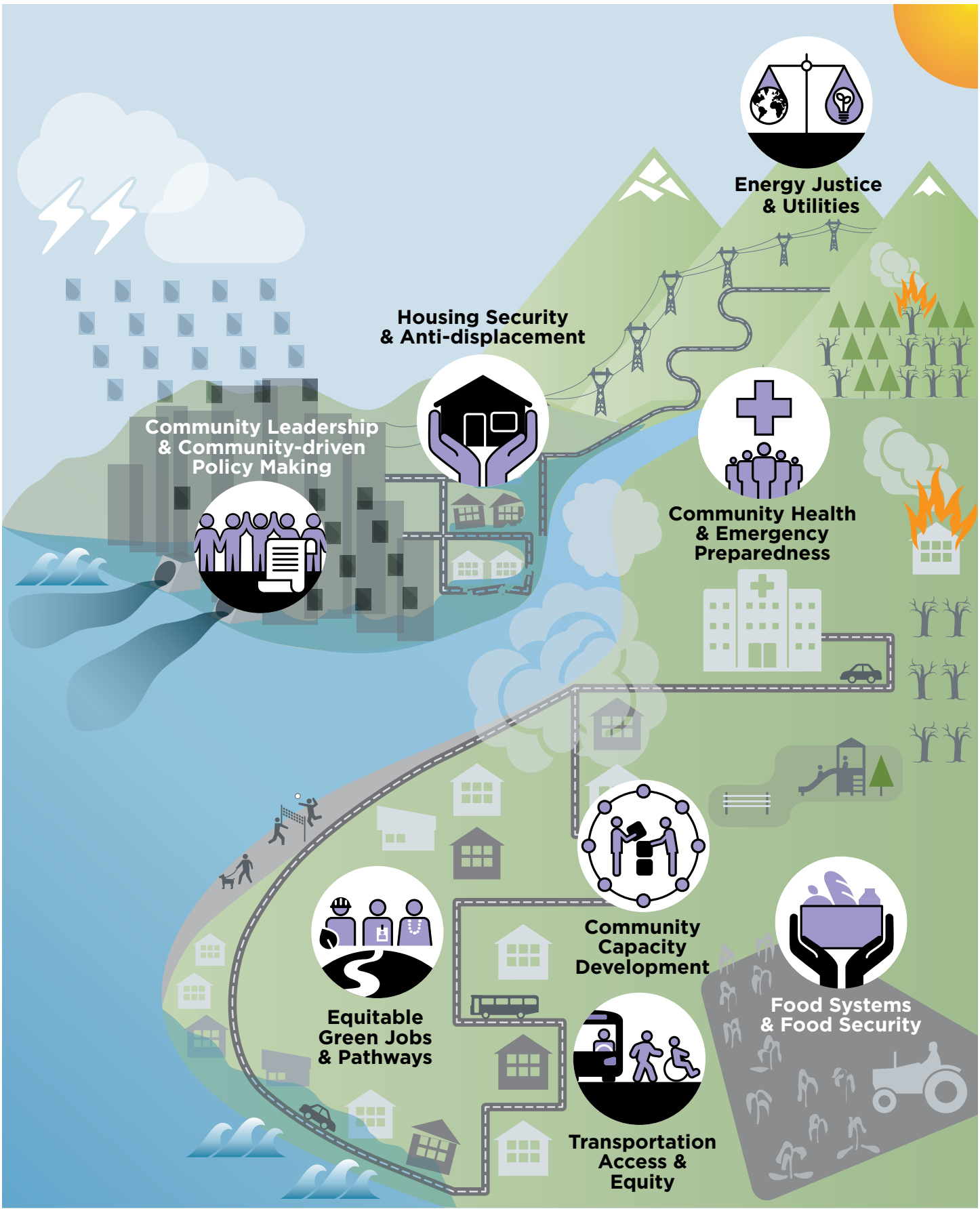


Climate Preparedness: Consistent with priorities identified in the Preparing for Climate Change section.



SRFC Crosscutting Strategies: Definitions

SRFC Climate Equity Focus Areas



Focus Area 1
Community Leadership and Community-Driven Policy-Making

Background and Current State

Frontline communities are often hit first and worst by climate change impacts, and many communities experience and have come up with innovative solutions to manage daily impacts.[8] Yet, despite having critical expertise around the challenges created by climate change and being uniquely equipped to come up with solutions that benefit everyone, members of frontline communities often lack access to decision-making tables due to a wide variety of barriers, from financial to institutional. These communities know best what they need to be resilient to climate change, but often lack the access, capacity, and/or resources to take bold action or influence local leadership.[9] King County seeks to elevate and center the voices of impacted communities in leadership and decision-making tables, and in community-government partnerships that exemplify equitable engagement.

> *"Climate resilience means community members exercise self-determination. From practicing collective care to knowing first-hand how seemingly separate issues are interconnected, we have the lived and learned experiences needed to navigate and weather the storms ahead. We must lead. Dedicate seats for frontline community members at decision-making tables. We must be empowered and provided resources from project planning to execution to evaluation – sharing our expertise, defining the problems as we see them, and shaping solutions that maximize benefits for our communities."*
>
> – Vera H.

Combatting climate change requires an integrated, regional response that builds on the shared vision and leadership of the region's public, private, and civic sectors, as well as the participation of all King County community members. The burdens and benefits of climate change will affect King County's current and future residents, communities, and businesses in different ways. Equity and social justice are intrinsically linked to climate change, and climate solutions must reflect the needs and feedback from County constituents. King County has begun to build effective partnerships for joint action on climate change, and it is important to continue investing in expanding both County and community capacity for deeper partnership, particularly with communities that have been historically marginalized. In prioritizing a community-driven climate planning process, frontline community members most impacted by climate change share decision-making power with lead government agencies and co-create and identify climate actions and priorities.[10]



The Spectrum of Community Engagement to Ownership

STANCE TOWARDS COMMUNITY	IGNORE	INFORM	CONSULT	INVOLVE	COLLABORATE	DEFER TO
	1	2	3	4	5	6
IMPACT	***Marginalization***	***Placation***	***Tokenization***	***Voice***	***Delegated Power***	***Community Ownership***
COMMUNITY ENGAGEMENT GOALS	Deny access to decision-making processes	Provide the community with relevant information	Gather input from the community	Ensure community needs and assets are integrated into process & inform planning	Ensure community capacity to play a leadership role in implementation of decisions	Foster democratic participation and equity through community-driven decision-making; Bridge divide between community & governance
MESSAGE TO COMMUNITY	***"Your voice, needs & interests do not matter"***	***"We will keep you informed"***	***"We care what you think"***	***"We can't do this well without you"***	***"Your leadership and expertise are critical"***	***"We want this to work so we support equitable processes led by community"***
ACTIVITIES	Closed door meetings Misinformation	Fact sheets Open Houses Presentations Billboards Videos	Public Comment Focus Groups Community Forums Surveys	Community organizing & advocacy Interactive workshops Polling House meetings Community forums	MOU's with Community-based Organizations Consensus building Citizen advisory committees Participatory Action Research	Community-driven planning Community Organizing Open Planning Forums with Citizen Polling Participatory budgeting
RESOURCE ALLOCATION RATIOS	**100%** Systems Admin	**70-90%** Systems Admin **10-30%** Promotions and Publicity	**60-80%** Systems Admin **20-40%** Consultation Activities	**50-60%** Systems Admin **40-50%** Community Involvement	**20-50%** Systems Admin **50-70%** Community Partners	**80-100%** Community partners and community-driven processes ideally generate new value and resources that can be invested in solutions

Source: Adapted from "The Spectrum of Community Engagement to Ownership" developed by Facilitating Power and Movement Strategy Center.[11]

Traditionally, many local government approaches to community engagement have often taken the form of "inform" or "consult" on The Spectrum of Community Engagement to Ownership (columns 2 and 3), which has the impact of placation and tokenization on communities. This spectrum aligns with the continuum in the King County Community Engagement Guide that has been integral in expanding the County's approach to better involve frontline communities in climate programs, and to work toward collaboration with communities as their leadership and expertise are critical to how King County approaches climate change. The most effective and meaningful climate policies and actions will be those that are informed and directed by those that are closest to the problem of climate injustice. To support more equitable processes, King County has invested in working with frontline communities collaboratively around climate action and is committed to creating more opportunities where frontline communities can drive policy-making that directly impacts them (moving along the spectrum of community engagement to column 5). In some cases, King County is not the right entity to lead the work, but rather plays a critical role in uplifting and supporting community-owned and -led projects, research, and programs (spectrum of community engagement, column 6).

Frontline communities most affected by climate change impacts face many barriers to participating in decision-making processes that address climate change, and it is critical that King County continue **supporting community leadership**. Community organizations and frontline communities may not have direct access to decision-making power to contribute their knowledge, expertise, and communities' priorities in the development of climate solutions. In order for King County to continue to build

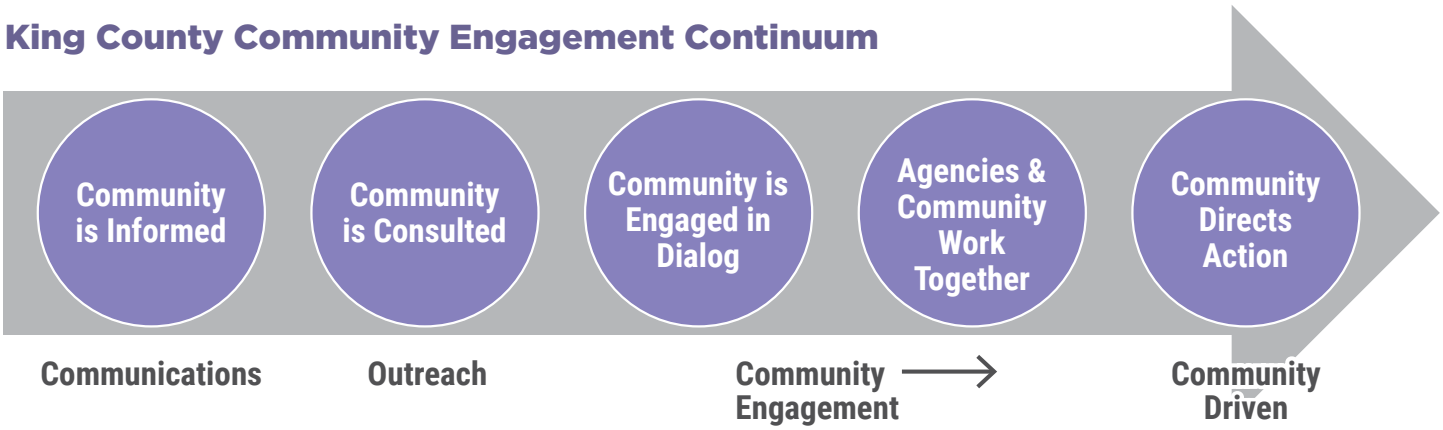
"We have to move away from top down policy-making processes towards grassroots, community-driven policy-making for policies to be successful. It is our BIPOC communities who are at the frontlines and experience the impacts of climate and environment first and worst. It is the policymakers' responsibility to listen to our communities' priorities and expertise. As a brown person who also holds a degree in urban planning, I've seen each time how effective a plan/policy has been when the planning community has followed the leadership of impacted communities instead of rubber stamping their participation. The CECTF was such an intentional space for all of us members where we brought our whole selves, our experiences, and contributed to the SCAP."

- Debolina B.

Mother Africa Receiving 2019 King County Green Globe Award.



King County Community Engagement Continuum



on the work of the CECTF, it is important that it continue to demonstrate a commitment to **community-driven policy-making.**

Part of **building relationships and trust** with frontline communities is also acknowledging inherent power dynamics, privilege, and historic harm; this is critical to creating foundational, long-term, authentic partnerships between government and communities. King County can continue to build its staff and capacity to use positional power to help organizations achieve their missions and be prepared to advance equity in alignment with the community partnership goals in the Equity and Social Justice Strategic Plan.

Young people are inheriting the future shaped by the decisions community members in King County and beyond are making right now, so the County must identify opportunities for **elevating youth leadership** in guiding climate priorities and influencing decision-makers. Although youth may be taught about climate change, there are a lack of resources and pathways to get involved in *leading* climate action, King County recognizes that their voices are more critical than ever in climate action.

Members of the Seattle Youth Climate Action Network lead a youth caucus at a SCAP public workshop.



"I think what I liked the most [in the SRFC SCAP development process] is how it is driven by community from different organizations, different agencies, different perspectives. When you bring community together they can find their own solutions themselves and also hold agencies and governments accountable through this process. The most important thing about this work is that this work has to be continuous, it can never fall to the wayside, or inequities will continue. Continuous engagement, that we bring in new people, new leaders to learn this work so that this work will continue."

- Niesha F.

"Having folks compensated for their time [on this task force] is a needed component for effective community engagement that's not done very often and it signals to the community that the county values their time and opinion."

- David M.

The framework for action:

The CECTF developed a **vision for Community Leadership and Community-Driven Policy-Making** in an equitable climate future. The vision statements below guided the development of priority actions that identify steps toward reaching climate equity in King County.

- Frontline communities are involved in developing and leading climate policy changes in the county government.
- Local government recognizes the leadership, knowledge, and experience of frontline community members and the value in having those most impacted by climate change as partners in shaping climate policy.
- Frontline community members can grow their influence and impact in informing policy-makers and local government operations around climate change and climate justice.

Based on this vision, the following table outlines priority actions in **Supporting Community Leadership, Community-Driven Policy-Making, Relationship and Trust Building,** and **Elevating Youth Leadership**. Each action identifies key and related county departments and programs that support activities toward achieving the action, as well as the role of King County as an implementer, convener, and/or supporter/advocate. Additional connections to other sections of the SCAP and considerations are indicated by SCAP-wide icons. Effective and equitable collaborations are a shared priority with the Climate Preparedness section, this work will be coordinated to achieve actions with overlapping objectives and develop joint performance measures.

"When you build authentic relationships and see people in the community and see the good work they are doing and it is not transactional. You can get a lot done but you have to first have that trust. We view community members, folks from black and brown communities, elders, and youth as experts. They are willing to open up more because they feel safe and seen. We are not trying to tell them this is how it should be, but they are telling us their truth about what is happening in their community."

- Jill M.

CECTF members who presented climate change and health priorities to the King County Board of Health



FOCUS AREA 1: COMMUNITY LEADERSHIP AND COMMUNITY-DRIVEN POLICY-MAKING

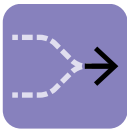
1.1 Supporting Community Leadership

Priority Actions	King County Role	Connections and Considerations
SRFC 1.1.1 **Provide and support community organizations and climate justice leaders with tools, materials, compensation, professional development, and technical assistance to effectively engage and share their expertise with King County and other jurisdictions in climate action, policy, and advocacy across sectors.** *Key Departments/Programs: Climate Action Team* *Related Departments/Programs: DNRP, Metro, OESJ, Public Health*	 Implement	 Public Priority  Resource Need  Community Leadership

Activities that could be pursued toward the action in **1.1 Supporting Community Leadership**, as collaboratively identified by the CECTF and King County staff:

- Provide frontline community organizations and leadership with technical assistance, workshops, trainings, registration scholarships, professional development opportunities and/or materials that further climate leadership.
- Seek funding partnerships to support frontline community organizations in developing and/or continuing their own climate justice programs, trainings, and/or pilot projects, and follow their lead in engaging communities on climate action.

1.2 Community-Driven Policy-Making

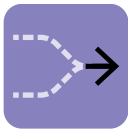
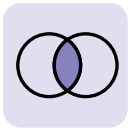
SRFC 1.2.1 **Document the CECTF policy development framework and develop King County capacity for authentic and collaborative community-driven climate policy development processes.** *Key Departments/Programs: Climate Action Team* *Related Departments/Programs: DNRP, Metro, Public Health, OESJ*	 Implement	 Fast Start  Build Equitable Practices  Community Leadership
SRFC 1.2.2 **Develop a framework in partnership with frontline communities for continued collaboration with and leadership of the CECTF in implementing community-driven climate policy and programs, such as developing qualitative and quantitative measures for climate justice.** *Key Departments/Programs: Climate Action Team* *Related Departments/Programs: DNRP, Metro, Public Health, OESJ, DCHS*	 Implement	 Climate Prep.  Community Leadership  Equitable Climate Future  Solutions for Root Causes

1.2 Community-Driven Policy-Making

Activities that could be pursued toward the actions in **1.2 Community-Driven Policy-Making**, as collaboratively identified by the CECTF and King County staff:

- Document the equitable community-driven climate policy-making framework used for the SRFC section, identify ways to maintain the institutional knowledge of this body of work to provide guidance for future community-driven policy development processes.
- Work with CECTF members to develop a framework and charter for continued engagement of the CECTF and frontline communities in implementing SCAP actions.

1.3 Relationship and Trust Building

Priority Actions	King County Role	Connections and Considerations
SRFC 1.3.1 **Build, cultivate, and support authentic relationships with frontline community members and organizations by collaborating on projects, providing resources, using positional power to help organizations achieve their missions, participating in community events, and hosting community events and listening sessions.** *Key Departments/Programs: Climate Action Team, Departmental ESJ Teams* *Related Departments/Programs: OESJ, Executive Office, DNRP, Metro, Public Health, DCHS, DLS*	 Convene  Support/ Advocate	 Resource Need  Community Leadership  Equitable Climate Future
SRFC 1.3.2 **Build King County capacity to engage with frontline communities in ways that acknowledge inherent power dynamics, privilege, and historic harm to create foundational long-term partnerships by preparing staff with knowledge, awareness, ground rules, tools, background in environmental/climate justice, and equity trainings in alignment with the goals of the Equity and Social Justice Strategic Plan.** *Key Departments/Programs: Climate Action Team, Departmental ESJ Teams, OESJ* *Related Departments/Programs: Executive Office, DNRP, Metro, PH, DCHS, DLS*	 Implement	 Build Equitable Practices  Aligning Initiatives  Solutions for Root Causes

Activities that could be pursued toward the actions in **1.3 Relationship and Trust Building**, as collaboratively identified by the CECTF and King County staff:

- Build positive presence in frontline communities through sponsorships, collaboration, participation in community events, listening sessions, and/or by providing gathering space.
- Require that all King County staff working on climate-related programs attend climate justice issue-specific trainings, such as King County's Equity and Social Justice Fundamentals, trainings on the social determinants of health, and/or climate equity training.
- Increase staff knowledge, skill, and abilities to effectively serve communities of color and limited-English-proficient and low-income communities.

1.4 Elevating Youth Leadership

Priority Actions	King County Role	Connections and Considerations
SRFC 1.4.1 **Elevate youth voices by working with young leaders around climate action, creating opportunities for youth leadership in decision-making spaces, and partnering with youth development programs.** *Key Departments/Programs: Climate Action Team* *Related Departments/Programs: Metro, DNRP, DCHS*	Convene Support/ Advocate	Public Priority Community Leadership Aligning Initiatives

Activities that could be pursued toward the action in **1.4 Elevating Youth Leadership**, as collaboratively identified by the CECTF and King County staff:

- Uplift youth voice by bringing youth into decision-making spaces, participating in youth-led climate efforts, partnering with young leaders around climate action, providing opportunities for youth to connect with leadership, working with youth development programs, creating mentorship opportunities and/or providing a media platform for youth.

High School interns with the WTD Clean Water Ambassadors Internship Program on a tour of the Brightwater Treatment Plant.



Focus Area 2
Community Capacity Development – Building Capacity with Frontline Communities and Youth

Background and Current State

Combatting climate change requires an integrated, regional response that builds on the shared vision and leadership of the region's public, private, and civic sectors, as well as the participation of all King County community members. King County has begun to build effective partnerships for joint action on climate change, but needs to continue to invest in **building County capacity and systems to support communities** through deepened external engagement, while simultaneously **growing community capacity** to engage on climate change. Building off the work of the 2015 SCAP, it is important to remove barriers for frontline communities to participate in collaborative climate solution development, while also building climate and environmental justice literacy for both community members and government staff. County staff can not anticipate all the barriers frontline communities face in community engagement processes but by building authentic relationships with community members, staff might be better able to learn what communities need to mitigate these barriers.

Capacity building activities, including expanding **community education, supporting youth education,** and investing in in awareness building, **language access**, technical assistance, and leadership development, are critical to growing the number of local frontline

"I think language access is always a must. And also there's no one-size-fits-all way to do things. Different groups of people have different needs. The County has to be innovative and proactive in addressing the different needs of different communities and empower them to embrace current and future challenges led by climate change."

- Karia W.

Healthy King County Coalition (HKCC) Built Environment Leadership Training in 2019. King County supported this community-based training and shared information about climate change.



community champions and future leaders that can continue to support climate action. CECTF members identified that some of the biggest barriers to participation for members of their frontline communities in climate work are a lack of culturally relevant education opportunities, in-language and culturally responsive educational materials, and resources (time, capacity, funds, etc.).

Education can be a tool of empowerment. It provides the opportunity to understand current issues and brainstorm solutions. When climate justice education is taught in schools and communities, it can lead to more participation within society. A report from the United Nations Educational, Scientific, and Cultural Organization found that when climate change is taught, it increases the participation of youth, especially young women, in working on climate-related solutions.[13] The same is true for community members. The more one knows about an issue and how it impacts them, the more likely they are to be involved.



Examples of climate infographics co-created with community organizations and translated into Samoan, Arabic, Spanish, and Chinese.

Currently, there is strong desire for accurate, science-based, and in-language climate change **community education** opportunities for community members, both young and old. Frontline communities want to know what to expect from climate change both locally and globally, what they can do to begin preparing for climate impacts, and how to take action to reduce GHGs. Education will not only allow people to prepare for climate change, but it can also provide the foundational knowledge to empower them to act. Even though all members of society would benefit from this knowledge, King County must ensure that those who are being directly impacted have direct access to this knowledge. These are the County's frontline communities that disproportionately face the impacts of climate change because of redlining, historical marginalization, environmental injustices, and institutional racism. Adults and youth in frontline communities who see and feel the impacts of climate change the most are often unable to access the foundational knowledge of climate change, the impacts they should expect, and how they can tackle climate change.

Improving access to climate change information and focusing on climate change education also drives broad support for climate action and builds political and social capital around community-supported decision-making. Further engagement also creates connection across communities, increasing resilience during extreme events, as well as elevates the concerns of frontline communities, equity, and climate justice into climate discourse.[14] Being able to effectively engage in climate action conversations is critical to working toward equitable climate outcomes, and especially in ensuring our frontline communities are invested in—and included—in King County climate actions.

The framework for action

The CECTF developed a **vision for Community Capacity Development** in an equitable climate future. The vision statements below guided the development of priority actions that identify steps toward reaching climate equity in King County.

- King County residents, especially frontline communities and youth, have a strong understanding of climate change impacts on their communities and possess foundational knowledge that is grounded in traditional knowledge and the history of environmental injustice.
- Frontline communities recognize the connection between their experiences and climate change impacts, and have the skill set and tools to articulate and inform climate policies.
- King County supports and invests in frontline community organizations to build their capacity to address climate change impacts.
- Frontline communities have the capacity and resources to educate and organize their own communities (and in their own languages) around addressing climate change.



Our youngest participant at the King County 2019 SCAP Public Workshop at Highline College.



Youth caucus at King County 2019 SCAP public workshop.

Workshop in partnership with Mother Africa to co-create and translate a climate change graphic into Arabic.



Based on this vision, the following table outlines priority actions in **Growing Community Capacity, Building County Capacity and Systems to Support Communities, Community Education and Language Access, and Youth Education.** Each action identifies key and related county departments and programs that support activities toward achieving the action, as well as the role of King County as an implementer, convener, and/or supporter/advocate. Additional connections to other sections of the SCAP and considerations are indicated by SCAP-wide icons. Effective and equitable collaborations and engagement are a shared priority with the Climate Preparedness section, this work will be coordinated to achieve overlapping actions and develop joint performance measures.

"...because [the people I work with] came from different cultures, when you start talking to them about climate change you have to explain it with different context and I've noticed people start talking about their countries and how planting seasons have changed and they think the government should do something for the environment. People like me and others who are on the [task force], can understand what is going on and can communicate to our communities."

– Njambi G.

"I think resilience means to keep everyone aware, conducting outreach on how we can minimize our footprint with energy usage, or sharing resources that could potentially reduce the risks of climate change impacts. Civic engagement is a big part of that."

- Tweetie F.

Participants using translation services at King County 2019 SCAP public workshop at the University of Washington.



FOCUS AREA 2: COMMUNITY CAPACITY DEVELOPMENT

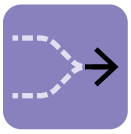
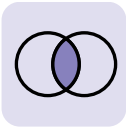
2.1 Growing Community Capacity

Priority Actions	King County Role	Connections and Considerations
SRFC 2.1.1 **Grow leadership capacity in frontline communities by co-creating inclusive climate resources, building a shared climate literacy, supporting leadership development opportunities and trainings, and reducing barriers to participation for frontline communities to engage in and influence King County's climate and environmental work.** *Key Departments/Programs: Climate Action Team* *Related Departments/Programs: DNRP, Metro, PH, DCHS, DLS*	 Implement  Convene	 Public Priority  Community Leadership  Equitable Climate Future

Activities that could be pursued toward the action in **2.1 Growing Community Capacity**, as collaboratively identified by the CECTF and King County staff:

- Support and/or sponsor community-led leadership development programs that empower frontline community members to be active on boards, commissions, or other leadership bodies across King County.
- Partner with community organizations to create workshops and trainings focused on climate justice that are inclusive and accessible to frontline communities and builds support for an environmental/climate justice network.

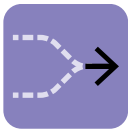
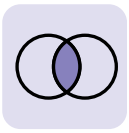
2.2 Building County Capacity and Systems to Support Communities

SRFC 2.2.1 **Strengthen King County climate justice efforts by aligning related work across departments, increasing staff capacity to address climate inequity and build authentic community and tribal partnerships, addressing access barriers to sustainability-related programs, and providing guidance on addressing climate inequities.** *Key Departments/Programs: Climate Action Team, OESJ* *Related Departments/Programs: DNRP, Metro, Public Health, DLS, DES (OEM), DCHS*	 Implement	 Climate Prep.  Build Equitable Practices  Aligning Initiatives

Activities that could be pursued toward the action in **2.2 Building County Capacity and Systems to Support Communities**, as collaboratively identified by the CECTF and King County staff:

- Establish an inter-departmental work group focused on climate justice topics.
- In partnership with frontline communities, the Preparing for Climate Change section, and in alignment with state-level environmental justice efforts, develop metrics/indicators to assess resilience of frontline communities, including qualitative metrics that incorporate benefits and burdens to low-income populations and BIPOC communities.
- Collaborate with frontline communities to create guidelines for inclusive community building to develop climate partnerships that center community values and establish trust. Share these guidelines with the interdepartmental climate justice workgroup.

2.3 Expanding Community Education and Language Access

Priority Actions	King County Role	Connections and Considerations
SRFC 2.3.1 **Co-design and implement culturally relevant communication and education strategies that best inform frontline communities about climate change and intersecting climate justice issue areas, including co-creating tailored materials with frontline communities that are culturally relevant and in accessible languages.** *Key Departments/Programs: Climate Action Team* *Related Departments/Programs: Public Health, DES (OEM), DNRP, DCHS, Metro*	 Implement  Convene	 Public Priority  Build Equitable Practices  Language Access  Aligning Initiatives

Activities that could be pursued toward the action in **2.3 Expanding Community Education and Language Access**, as collaboratively identified by the CECTF and King County staff:

- Partner with frontline communities to co-create culturally relevant climate education materials that are accessible, inclusive, and in-language, connecting climate justice to other intersecting topics (e.g., housing, health), and that are translated in partnership with communities.
- Collaborate with communities to develop an interpretation/translation resource list and common climate terms list in multiple languages. Encourage usage of climate language resources across communications teams that work on climate-related issues.

2.4 Supporting Youth Education

SRFC 2.4.1 **Intentionally partner with youth-serving organizations and educational institutions across King County to make climate change and climate justice education more accessible, especially in frontline communities.** *Key Departments/Programs: Climate Action Team* *Related Departments/Programs: Public Health, DES (OEM), DNRP, DCHS, DLS, Metro*	 Convene  Support/ Advocate	 Public Priority  Equitable Climate Future

Activities that could be pursued toward the action in **2.4 Supporting Youth Education**, as collaboratively identified by the CECTF and King County staff:

- Identify environmental justice and climate change education resources and provide guidance to King County environmental programs, youth-serving organizations, and school programs.
- Partner with youth clubs, teachers, educational institutions, and/or youth-serving organizations to provide climate change workshops, presentations, curricula, field trips, and/or other climate education opportunities, prioritizing areas that rank high in environmental health disparities according to the Washington Environmental Health Disparities Map.
- Partner with the King County Green Schools program to expand edible food waste prevention program and integrate climate change and food in educational opportunities.

Focus Area 3
Equitable Green Jobs and Pathways

Background and Current State

The environmental sector is one of the least diverse sectors in the nation, with People of Color making up only 16 percent, at most, of the staff across conservation and preservation organizations, government environmental agencies, and environmental grantmaking foundations.[15] The positions these staff of color hold are concentrated in lower ranks, with People of Color occupying less than 12 percent of leadership roles across an organization.[16] This is despite an increase in racial diversity across the United States, with People of Color currently making up approximately 40 percent of the population.[17] The issue is not that People of Color are not interested in these professions, but rather they face many barriers in both accessing and thriving in them. Major barriers for BIPOC communities entering and progressing in green jobs, such as systemic racism, a white-dominant culture, and lack of access to green jobs and organizations, all contribute to the issue.[18] Low-income communities of color often have firsthand experience dealing with climate impacts and can provide insight into culturally and community-

The Green Ceiling: National Data on Staff Diversity in Environmental Organizations

	Interns	Hired Staff in Past 3 Years	Leadership	Board Slots
Non-Governmental Organizations	22.5% are people of color	12.8% are people of color	12% are people of color	4.6% are people of color
Government Agencies	22.5% are people of color	11.7% are people of color	19% are people of color	6.9% are people of color
Foundations	36.4% are people of color	17.1% are people of color	12.4% are people of color	13.3% are people of color

Source: Adapted from national data from Green 2.0's The State of Diversity in Environmental Organizations.[19]

appropriate solutions. Addressing these barriers to green jobs, will bring diversity of experience and the inclusion of valuable knowledge and skills that could pave the way for innovative solutions to climate change.[20] **Building pathways to green jobs across sectors** that help address barriers BIPOC communities face can lead the County in achieving an equitable climate future.

A major focus of the recommendations around green jobs, identified by the CECTF, is on the development of a countywide green jobs strategy. CECTF developed a vision for equitable green jobs in mid-2019, and in December 2019, King County Council passed Ordinance 19041, which required the development of a countywide green jobs strategy that would be created in partnership with the CECTF, labor unions, and internal workforce development.[21] The goal is to create pathways to a diversity of green jobs that range from a bus driver to a renewable energy technician to an environmental policy analyst. **Building partnerships for a green jobs strategy** will be integral to developing a comprehensive, inclusive, and equitable green jobs strategy.

King County is dedicated to not leaving any communities behind as it transitions to a green economy. The barriers BIPOC communities face in entering the environmental sector also occur in related sectors that will be impacted by climate change. For example, food chain workers are racially and ethnically diverse, but a majority of these workers hold low-level positions and many do not earn living wages.[22] Employees who work in industries that are transitioning to more renewable and/or sustainable technologies and strategies need to have the skills and trainings to move into these new green jobs. King County needs to find ways to support these industries in shifting to sustainable and equitable practices while also looking internally at what the County can do to model these just practices.

"Getting into the environmental sector was hard. I started being involved when the opportunity as a youth approached our community. Being part of the first Duwamish Valley Youth Corp was an eye-opener for me to realize all that was happening in my community of South Park. I had always wanted to work representing undocumented and low-income families. [The environmental movement] is such a white-dominated space and sometimes I feel discomfort. The [Green Pathways] fellowship has trained and guided me and the other fellows with mentorship and other forms of support, which have given us tools to navigate the work we are doing. I truly believe the voices of those who are impacted are very important and are the ones that are least heard."

– Maggie C.

King County Department of Natural Resources and Parks Interns at a tree planting event



Furthermore, BIPOC communities, particularly Black communities, are disproportionately incarcerated which can create another barrier to accessing employment and green jobs. **Working toward a just transition** to a more equitable, regenerative economy will require that community voices are centered, and workers can transition into green jobs as the landscape of the economy changes.[23]



2019 Climate Action Team Interns (from left to right) Zoe van Duivenbode, Jessica Murphy, and Pooja Kumar.

King County government agencies have been working on creating pathways and programs to access green jobs. Examples of these programs include Metro's apprenticeship programs for Building Operator Engineer and Rail Electrical Worker, the Fleet Services Division's mechanic apprenticeship program, and multiple internship opportunities including positions on the Climate Action Team. Continuing these programs and creating new ones tailored toward bringing BIPOC community members into environmental fields and leadership roles will be important to ensuring King County can transition into new roles as it shifts its operations and technology to reduce GHG emissions.

The framework for action

The CECTF developed a **vision for Equitable Green Jobs and Pathways** in an equitable climate future. The vision statements below guided the development of priority actions that identify steps toward reaching climate equity in King County. CECTF developed a vision for green jobs in mid-2019, and in December 2019, King County Council passed Ordinance 19041, which requires the development of a countywide green jobs strategy.

- King County has an equitable green workforce internally that reflects the diversity of King County communities through workforce development and creating intentional pathways that prioritize frontline and BIPOC communities that have historically been underserved/underrepresented.
- Partner with labor, youth, frontline communities, and other stakeholders to develop a green jobs strategy and evaluate practices to bring communities into green jobs as the County transitions to a green economy.
- King County residents, especially frontline communities, BIPOC and young people, have access to job and career pathways that reflect the diverse skill sets, knowledge systems, experiences and diversity of King county, across sectors and seniority levels.
- As King County moves away from industries that negatively impact the environment, King County partners to create career pathways and connections for employees from legacy industries to transition to new opportunities in the green economy.

Based on this vision, the following table outlines priority actions in **Building Partnerships for a Green Jobs Strategy, Building Pathways to Green Jobs Across Sectors, and Working Toward a Just Transition**. Each action identifies key and related County departments and programs that support activities toward achieving the action, as well as the role of King County as an implementer, convener, and/or supporter/advocate. Additional connections to other sections of the SCAP and considerations are indicated by SCAP-wide icons.

An Equitable Green Jobs & Pathways Strategy Development Process

INITIAL STRATEGY

Included in 2020 SCAP

- Initial strategy that includes recommended next steps to develop a full Green Jobs Strategy.
- Include low-hanging fruit actions including climate internships, expanding existing internships programs, etc.
- Initial budget request based on initial strategy.

DEVELOP FULL STRATEGY

Estimated 2020-2022*

- Full Green Jobs Strategy is developed in partnership with labor, frontline communities, and youth.
- Strategy addresses all aspects listed in the ordinance
- Evaluate budget needs for implementation based on the full strategy.

IMPLEMENTATION

Estimated 2023-2025*

- Implementing actions from initial full green jobs strategy
- Data tracking for recruitment, hiring, retention, pathways, etc.

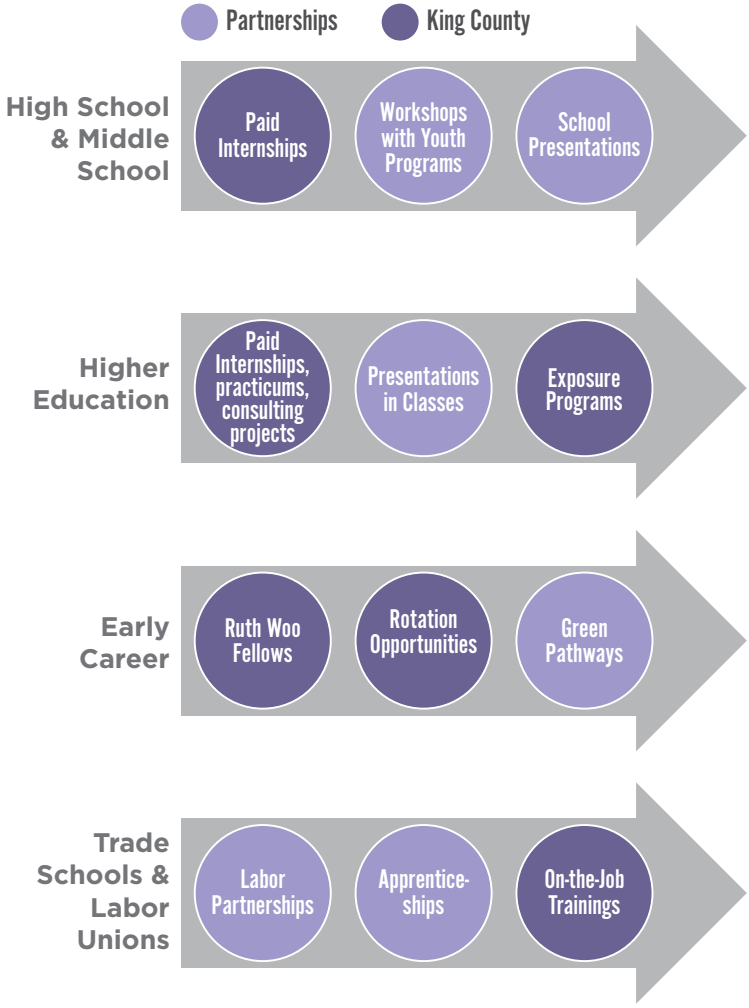
EVALUATION & IMPROVEMENTS

Estimated beyond 2025*

- Evaluate Green Jobs Strategy success and develop a vision for future steps
- Continue to collaborate in partnership with labor, frontline communities, and youth.

* Dependent on resources

Potential Pathway Development



"I just really appreciate the [taskforce] space especially as a Native woman with an environmental science background, I've felt like I have not been included within a lot of the approaches for career pathways within government. I knock on that door and there's no answer, so I felt happy to have some of my expertise utilized. I really think it's important to make sure that race isn't a determinant of your career path. It was cool to me to be able to navigate [this process] because I feel like that's why I subjected myself to college, to be able to work on behalf of our communities being a part of this conversation."

– Pah-tu P.

FOCUS AREA 3: EQUITABLE GREEN JOBS AND PATHWAYS

3.1 Building Partnerships for a Green Jobs Strategy

Priority Actions	King County Role	Connections and Considerations
SRFC 3.1.1 **Partner with frontline communities, CECTF, labor organizations, educational institutions, youth programs, environmental justice and climate equity organizations, businesses, building managers, utilities, tribes, local governments, climate scientists, K4C, and PSRC to develop a green jobs strategy that evaluates and establishes pathways to bring frontline communities, particularly BIPOC, into living-wage green jobs.** *Key Departments/Programs: Climate Action Team, Executive Office* *Related Departments/Programs: Metro, Public Health, DLS, DES, OESJ, DHR, DNRP*	Implement Convene	Public Priority Resource Need Equitable Climate Future Community Leadership

Activities that could be pursued toward the action in **3.1 Building Partnerships for a Green Jobs Strategy**, as collaboratively identified by the CECTF and King County staff:

- Establish interdepartmental green jobs workgroup that includes BIPOC employees in a variety of green jobs and across different seniority levels (including interns) to help inform internal strategies.
- Provide resources and staffing to support the development and implementation of a green jobs strategy that aligns with the SCAP, economic development, and Investing in You goals through a collaborative and coordinated process with stakeholders and relevant external partners.
- Conduct current state analysis, including collecting quantitative and qualitative data on racial and ethnic diversity (with options for multiracial and Indigenous people), of green jobs across sectors within King County government, including contractors.

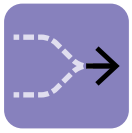
King County Department of Natural Resources and Parks Interns



"We need a Just Transition when we transition away from fossil fuels. But will those jobs be prioritized for the frontline communities? There are good practices available here that we need to follow - Priority Hire is one of them. It is imperative that pathways are created for our communities to access these jobs. A Just Transition means everyone is brought along in the transition, and in the true sense all communities should be brought along equally and equitably."

- Debolina B.

3.2 Building Pathways to Green Jobs Across Sectors (External and Internal Workforce Development)

Priority Actions	King County Role	Connections and Considerations
SRFC 3.2.1 **Develop an equitable green workforce that is representative of the diversity of King County communities and reflects the diverse skill sets, knowledge systems, and experiences of King County communities through targeted hiring, workforce development, community agreements, and creating intentional pathways for frontline communities across sectors and seniority levels.** *Key Departments/Programs: Climate Action Team, OESJ, Executive Office, DNRP, Metro* *Related Departments/Programs: DLS, DES, DHR*	 Implement  Convene	 Resource Need  Reduce Emissions  Build Equitable Practices  Equitable Climate Future

Activities that could be pursued toward the action in **3.2 Building Pathways to Green Jobs Across Sectors**, as collaboratively identified by the CECTF and King County staff:

- Support paid opportunities intentionally targeting underrepresented communities (including BIPOC) such as internships with the Climate Action Team, climate fellowship programs, early career pathway programs, and internal climate-related career development opportunities.
- Promote youth engagement by supporting youth training and climate-related job development programs such as job fairs, presentation, workshops, career days, job shadows, informational interview program, and tours (aligns with GHG 6.4.2).
- Equip managers with the skills, tools, and resources to support employees from frontline communities, including skills to lead inclusive and diverse cross-cultural teams, fostering a workplace culture of inclusion and belonging, and practicing allyship and accountability (aligns with ESJ Strategic Plan).

3.3 Working Toward a Just Transition

SRFC 3.3.1 **Partner with frontline community workers and industries to identify strategies to equitably transition workers to greener jobs, shift to more sustainable practices, and promote green skills development, while prioritizing worker health and economic well-being.** *Key Departments/Programs: Climate Action Team, Executive Office* *Related Departments/Programs: Public Health, Metro, LFI, DNRP*	 Convene  Support/ Advocate	 Health Blueprint  Climate Prep.  Resource Need  Equitable Climate Future

Activities that could be pursued toward the action in **3.3 Working Toward a Just Transition**, as collaboratively identified by the CECTF and King County staff:

- Partner to identify and promote trainings, educational materials, and technical assistance around sustainable practices and green skill development.
- Work with partners and Public Health to promote worker safety, particularly for essential workers and those experiencing climate impacts such as farm and food systems workers exposed to extreme heat and/or wildfire smoke.

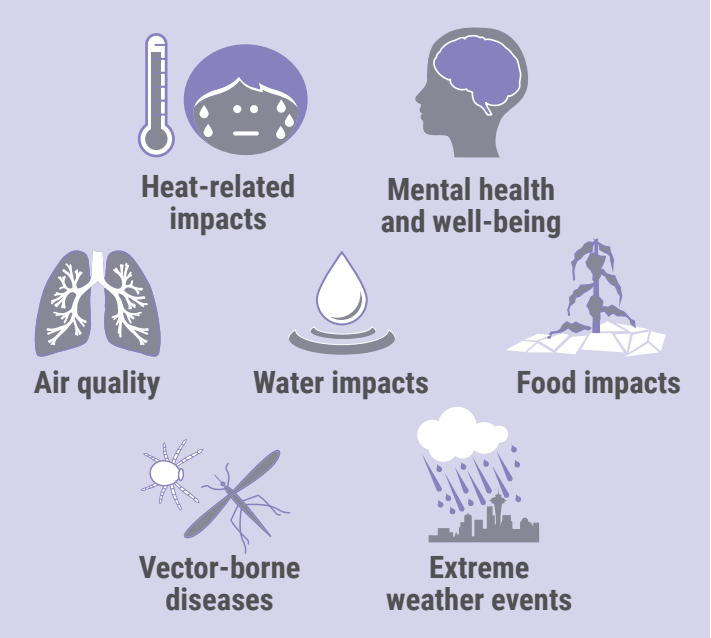
Focus Area 4
Community Health and Emergency Preparedness

Background and Current State

Public and Environmental Health

Climate change is already impacting the health of communities across Washington.[24] Communities of color, Indigenous communities, and low-income communities are some of the most vulnerable to climate-related hazards.[25] The region is seeing projections for clear increases in frequency of extreme heat events, rising sea levels, declining snowpack, ocean acidification, and more frequent flooding.[26] These climate impacts can create conditions that negatively impact public health. Direct impacts, such as respiratory issues from prolonged wildfire smoke, are already being seen. There are also less direct impacts, such as prolonged heat waves and flooding, that reduce agricultural production, which directly impacts outdoor workers through heat-stress and heat-related illness, and increases the price of produce in markets and stores. This makes it harder for low-income families to afford nutritious food items. The region is also seeing climate change creating more obstacles for our frontline communities to live long and healthy lives.[27] King County's frontline communities, especially low-income communities, BIPOC communities, and people experiencing homelessness, are the most likely to be impacted and the least likely to have the resources to respond to climate impacts. The inequities in our health and economic well-being have been underscored by the recent COVID-19 crisis.

Health-Related Climate Change Impacts





Although everyone is vulnerable to these health impacts, some communities will face a larger burden because of existing inequities. That burden is influenced by current and historic racial, social, environmental, and economic inequities that will be exacerbated by climate change. Public Health produced the Blueprint for Addressing Climate Change and Health to confront the intersection of climate change impacts and health. The Blueprint addressed how low-income and communities of color will disproportionately face climate change burdens. These frontline communities have higher rates of asthma, less access to affordable healthy foods, face more barriers to quality healthcare, are more likely to live in flood-prone areas and areas with higher exposure to toxics, and have more difficulty evacuating during emergencies. More recently, in June 2020, Public Health declared that racism is a public health crisis and committed to disrupting and dismantling systemic racism to protect the health and well-being of BIPOC communities.[28]

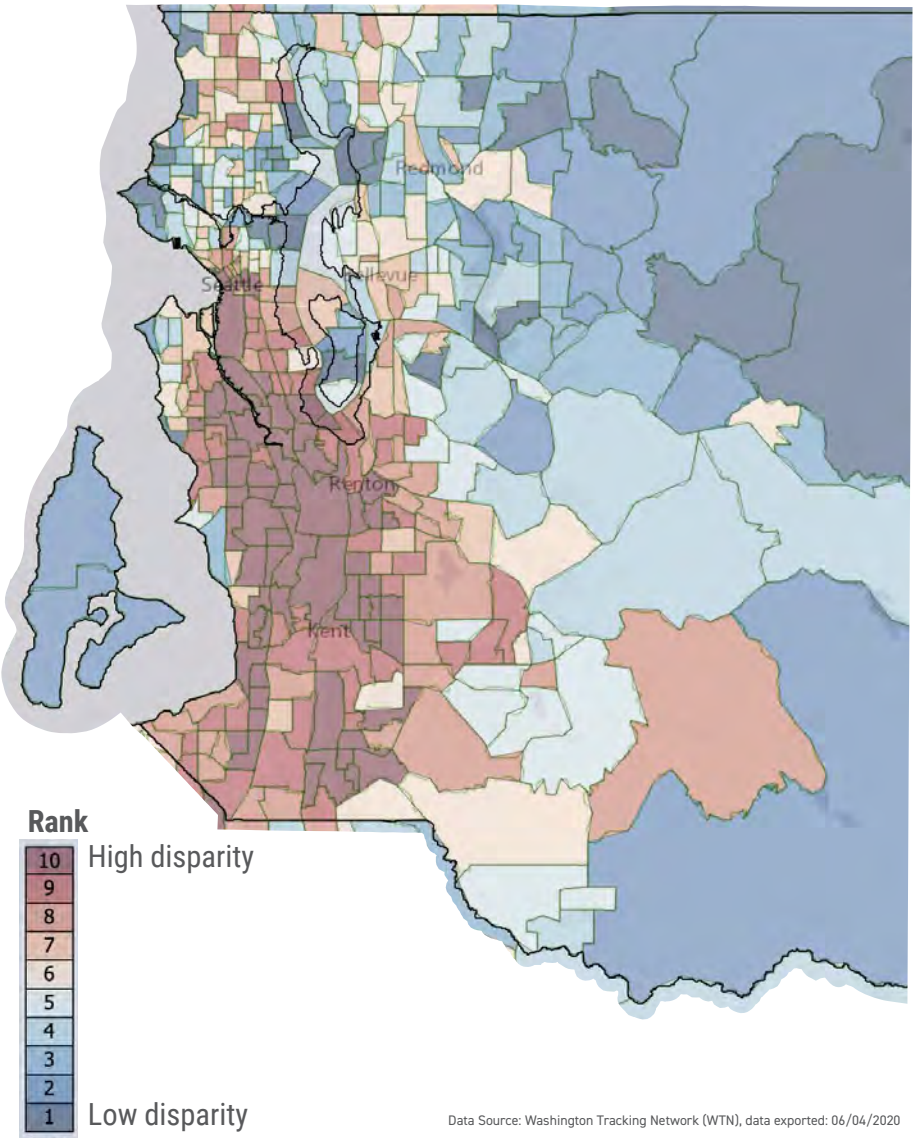
As climate impacts become more severe, the impacts to human health will be more pronounced and disproportionate. Children, older adults, pregnant individuals, those with chronic health conditions, and those experiencing homelessness are also more vulnerable to health impacts associated with climate change.[29] These frontline communities are less likely to have the resources to respond to climate impacts which means the negative health impacts they are already facing will only get worse. Communities of color are already 37 percent more likely to experience poor air quality than white populations.[30] They are also more likely to live near industrial areas, hazardous waste sites, and landfills, which pollute the air with micro particulate matter (PM2.5) and GHGs.[31] Breathing in polluted air can cause asthma and exacerbate respiratory issues. Respiratory issues can make individuals more vulnerable to other respiratory diseases, as the COVID-19 crisis has demonstrated.

The Washington Environmental Health Disparities Map indicates that communities in south King County, where there is a higher concentration of communities of color, face the greatest health disparities. This Environmental Health Disparities Map aims to capture the cumulative impact of environmental hazards and social conditions on communities and includes data around environmental exposures, environmental effects, socioeconomic factors, and health sensitive populations.[32] Furthermore, the Washington State Department of Health has found that Black, American Indian/Alaska Native, and Asian/Pacific Islander individuals have significantly (up to 20 percent) higher rates of death from asthma than non-Hispanic white populations.[33] With an increase in wildfires, there will be prolonged periods of smoke and poor air quality, which will worsen existing respiratory issues that are already seen at higher rates in these frontline communities. Although respiratory issues are not the only concerning health impact, it illustrates how important it is to act now. **Preparing for climate-related public health impacts** and expanding communications and education now will help King County communities, especially frontline communities, be more resilient to climate change.

Changes in exposure to extreme climate- or weather-related events cause and exacerbate stress and mental health disorders, with greater risk for certain populations. Wildfires, heavy rainfall, landslides,

Environmental Health Disparities

Environmental Exposures, Environmental Effects, Socioeconomic Factors, Sensitive Populations

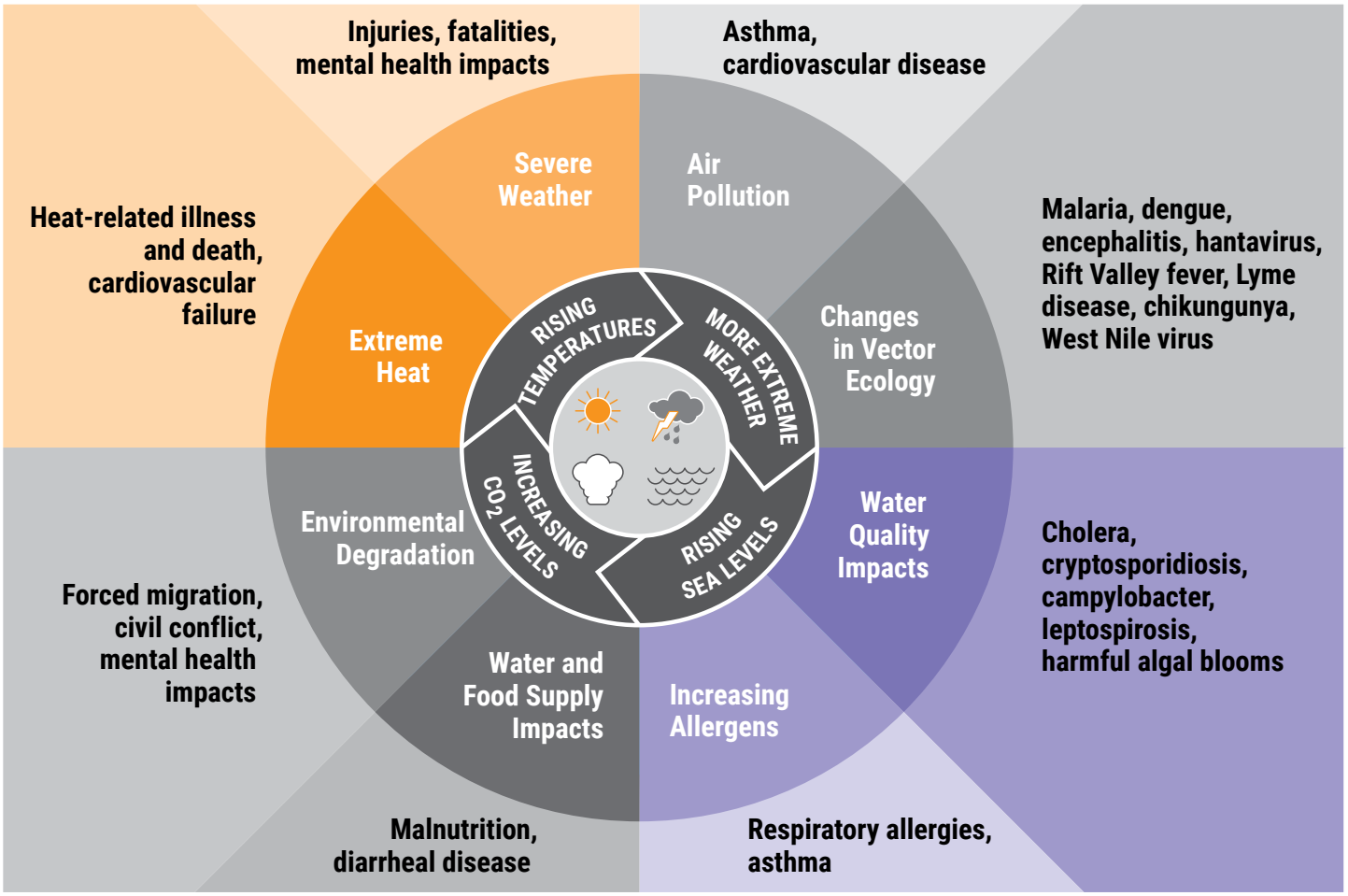


Data Source: Washington Tracking Network (WTN), data exported: 06/04/2020

flooding, and windstorms lead to injury, displacement, and sometimes death, all of which increase stress and anxiety. Some patients with mental illness are especially susceptible to heat. Suicide rates may increase with higher temperatures, dementia is a risk factor for hospitalization and death during heat waves, and certain medications for mental illness interfere with temperature regulation.[34] About 30 percent of people who are chronically homeless suffer from mental illness, and they also tend to live in areas that are more susceptible to urban heat island effects, making them vulnerable to the effects of extreme heat.[35]

Multiple sources of reliable science-based research have identified the climate and health risks that the region and King County are currently facing and those that are projected to be faced in the future. Many aspects of the region's built environment will be impacted, including stormwater systems, homes, roads, parks, and more.[36] Historically, Black communities, Indigenous communities, and communities of color have not equitably benefitted from the region's built environment. For example, most green spaces that act as cooling centers in King County are concentrated in north King County.[37] This causes south King County community members to be much more vulnerable to heat events which are exacerbated by existing health disparities. Collecting and coordinating **climate equity data and mapping** that can be used in decision-making processes will be important as King County determines where to invest resources first. These data around climate equity and community health must be identified in partnership with frontline communities to make sure that the data that is collected is accurately capturing what frontline communities are experiencing and is interpreted and used in a way that addresses the unique needs of these communities.

Impact of Climate Change on Human Health



Source: Adapted from Centers for Disease Control and Prevention: cdc.gov/climateandhealth/effects

Emergency Preparedness

With these heightened risks caused by climate impacts, more frequent emergency situations are likely to occur. Frontline communities across King County have faced systemic and historical inequities, the effects of which are still felt today in the inequitable distribution of information and resources across King County.[38]

The COVID-19 crisis has immensely impacted all King County communities, particularly frontline communities. Historic and existing inequities have led to frontline communities, especially low-income and BIPOC communities, to have pre-existing health conditions, the inability to work from home, lower incomes that cause them to be cost burdened, a lack of access to resources, and a lack of healthy foods close to their homes. Many lessons learned from the COVID-19 crisis can be applied while **preparing for climate emergencies** to allow King County communities, especially frontline communities, to be able to respond, recover, and be resilient in the face of emergency events.

"[In the summer of 2018] I had a hard time breathing, and I had to spend a lot of time inside with the windows closed. I was so impacted by this in many ways, and it was challenging because I love to open my windows in the summertime. I saw other people struggling [with the wildfire smoke]. I have friends and family who have asthma. Every summer since this happened, I always think this is going to happen again, that it's going to get worse. I'm anxious and worried that this is the new normal for us! How are people who were struggling to breathe going to deal with these changes?"

- Dinah W.

The framework for action

The CECTF developed a **vision for Community Health and Emergency Preparedness** in an equitable climate future. The vision statements below guided the development of priority actions that identify steps toward reaching climate equity in King County.

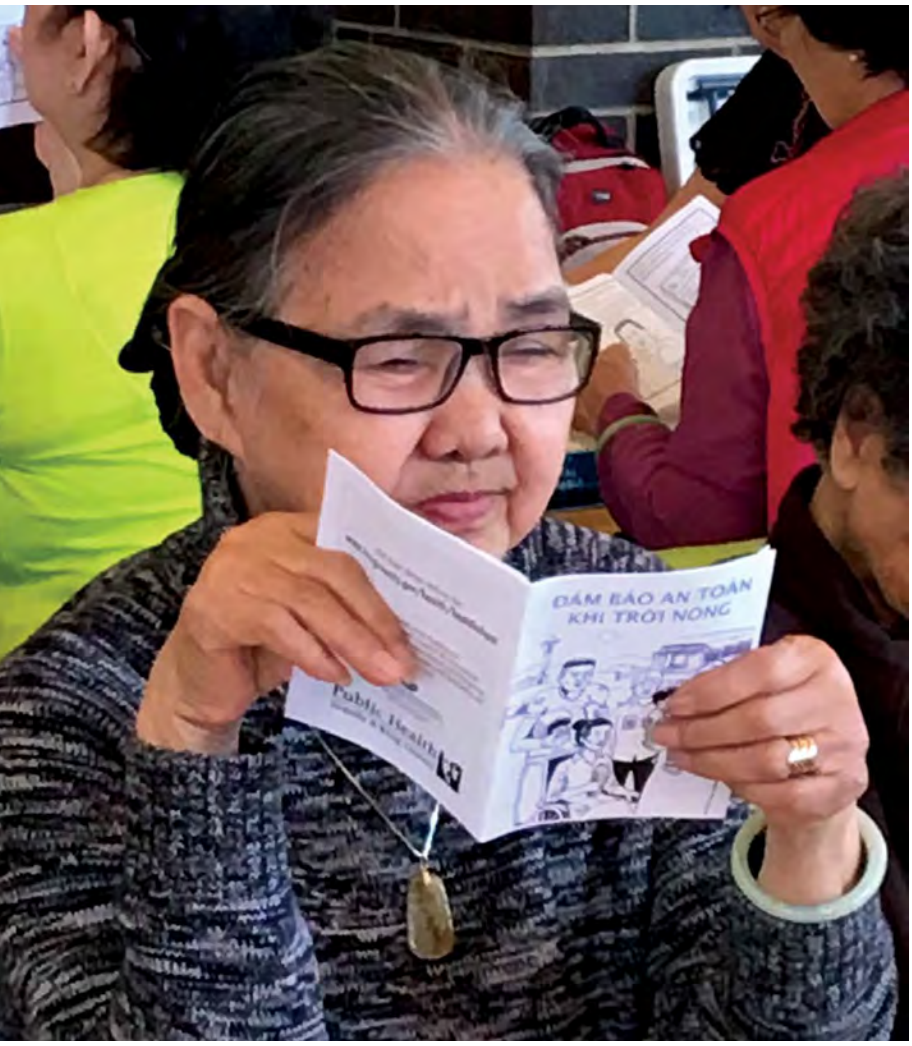
- We envision a future in which race, income, gender, citizenship status, ability, age, sexual orientation, and geographic location are not determinants of health or life expectancy and all frontline communities residents have the resources to be resilient to the health and economic impacts of climate change.
- Frontline communities have culturally-relevant individual and community emergency plans, and are connected to networks, resources, and partnerships that support those plans.
- Frontline communities have the resources and support to respond to extreme weather events and public health emergencies.
- Emergency information is disseminated in multiple languages and through culturally relevant channels and trusted partner networks across King County.

CECTF members presenting climate change and health priorities to the King County Board of Health.



Based on this vision, the following table outlines priority actions in **Expanding Communications and Education, Preparing for Climate-Related Public Health Impacts, Preparing for Climate Emergencies, and Coordinating Climate Equity Data and Mapping.** Each action identifies key and related County departments and programs that support activities toward achieving the action, as well as the role of King County as an implementer, convener, and/or supporter/advocate. Additional connections to other sections of the SCAP and considerations are indicated by SCAP-wide icons. Addressing disproportionate impacts of climate and health equity, especially in frontline communities, is a shared priority with the Preparing for Climate Change section. This work will be coordinated to achieve actions with overlapping objectives and develop joint performance measures.

Community member reading Public Health's stay safe in the heat comic in Vietnamese.



"I think that on top of language access is also making sure that in each community is already prepped to deal with those circumstances so that there is a hub of information coming from the government but the community is already well resourced. Right now, we'll see that if [the government] were to resource and train out smaller CBOs and grassroots organizations to prepare for this [crisis] then [the communities would benefit]. I think there is an opportunity to increase that bandwidth."

- Sameth M.

"We grew up right off the West Seattle freeway by the Nucor steel factory and if you ever drove by that is like plumes of smoke, right in your face, and a lot of traffic. And so again, like I didn't have the words to describe that this is an environmental injustice, but when I found a space that was actively fighting for these things around like healthy housing and, you know, healthy jobs and food. It really resonated with me and I wanted to join that effort."

- Jill M.

"[Our] community members have been impacted with health issues. We had more numbers of people who have asthma or other climate-related diseases. There are some factors that need to be addressed to reduce these numbers."

– Gladis C.

FOCUS AREA 4: COMMUNITY HEALTH AND EMERGENCY PREPAREDNESS

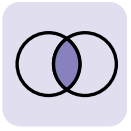
4.1 Expanding Communications and Education

Priority Actions	King County Role	Connections and Considerations
SRFC 4.1.1 **Create and resource opportunities for frontline communities to co-create communications around climate events and health, access emergency resources and warnings, and collaborate on training materials to prepare communities for emergency events and climate-related health impacts while reducing access and participation barriers.** *Key Departments/Programs: Climate Action Team, Public Health, Metro* *Related Departments/Programs: DES (OEM)*	 Implement  Convene	 Climate Prep.  Health Blueprint  Language Access  Build Equitable Practices

Activities that could be pursued toward the action in **4.1 Expanding Communications and Education**, as collaboratively identified by the CECTF and King County staff:

- Collaborate with Public Health and community partners to address gaps in climate and health knowledge and co-develop inclusive and equitable climate and health messaging, resources, and guidance. (Cross-listed action, Prep 3.1.2). Make materials available in multiple languages, using culturally relevant examples.
- Build awareness for frontline communities around how to access preparedness resources and supplies when they face natural disasters or extreme weather events. Integrate climate change and equity messaging into emergency trainings and messaging.

4.2 Preparing for Climate-Related Public Health Impacts

SRFC 4.2.1 **Coordinate agencies to make investments and resources available in frontline communities to prepare for, mitigate, and address disparities in climate-related public health impacts using best available data.** *Key Departments/Programs: Climate Action Team* *Related Departments/Programs: Public Health, DES (OEM), LCI, DNRP*	 Implement  Convene	 Climate Prep.  Health Blueprint  Reduce Emissions  Aligning Initiatives

Activities that could be pursued toward the action in **4.2 Preparing for Climate-Related Public Health Impacts**, as collaboratively identified by the CECTF and King County staff:

- Develop coordinated strategies to systematically remedy disparities in open space access and utilization, green space, and tree canopy coverage to address environmental justice concerns (Cross-listed action, GHG 6.1.3).
- The Climate Action Team will work with internal and external partners to develop and implement coordinated strategies for reducing temperatures and the associated risk of heat-related illness in areas identified as urban heat islands based on heat mapping efforts. (Cross-listed action, Prep 3.1.1)
- Identify ways to reduce susceptibility to adverse health impacts for farm and food systems workers due to climate impacts, such as exposure to extreme heat and smoke from wildfires during peak summer months.

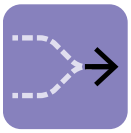
4.3 Preparing for Climate Emergencies

Priority Actions	King County Role	Connections and Considerations
SRFC 4.3.1 **Prioritize the identification of strategies, resources, and training opportunities in partnership with frontline communities to ensure residents, communities, and small businesses can effectively respond and recover after a climate and/or public health emergency event.** *Key Departments/Programs: Climate Action Team, DES (OEM)* *Related Departments/Programs: Public Health, DLS, OESJ*	 Implement  Support/ Advocate	 Climate Prep.  Health Blueprint  Language Access  Solutions for Root Causes

Activities that could be pursued toward the action in **4.3 Preparing for Climate Emergencies**, as collaboratively identified by the CECTF and King County staff:

- Partner with Climate Action Team, Public Health, CECTF, and Office of Emergency Management (OEM) to develop training opportunities for frontline community members (in multiple languages) to become educators in their own communities.
- Work with frontline communities, households, and small businesses identify ways to bolster preparedness programs that address security gaps (food, housing, water, medical supplies, transportation, economic security, etc.) during climate-related crises.

4.4 Coordinating Climate Equity Data and Mapping

SRFC 4.4.1 **Partner with frontline communities to identify, evaluate, prioritize, and disseminate key climate and health indicators and mapping data around climate justice, public health, and emergency preparedness to coordinate decision-making and public awareness.** *Key Departments/Programs: Climate Action Team* *Related Departments/Programs: Public Health, DES (OEM), DNRP*	 Implement  Convene	 Climate Prep.  Health Blueprint  Resource Need  Build Equitable Practices

Activities that could be pursued toward the action in **4.4. Coordinating Climate Equity Data and Mapping**, as collaboratively identified by the CECTF and King County staff:

- Share and accessibly disseminate climate impacts and environmental justice mapping data with the public, especially the County's frontline communities, in accessible formats through trusted community partners.
- Coordinate mapping efforts of environmental justice and climate impacts across agencies and partners including Public Health, OEM, Climate Action Team, and the statewide Environmental Health Disparities Map.
- Decolonize climate data by partnering with frontline communities to inform, identify, evaluate, and prioritize key climate equity and health indicators, in partnership with Public Health and the Preparing for Climate Change section. "Decolonize data" is a term used by many BIPOC communities (but particularly Indigenous communities) to reflect that data should be collected, informed by, and interpreted in collaboration with the communities that data reflects.

Focus Area 5
Food Systems and Food Security

Background and Current State

A major climate vulnerability in the region's food systems is food security—the ability to obtain and use sufficient amounts of safe and nutritious food.[39] Approximately one out of nine households in Washington is food insecure. In south King County, the number of people who are food insecure is almost double the numbers across Washington with one in five residents being food insecure in south King County.[40] Low-income households of color, especially African American and Hispanic households, are twice as likely to have trouble getting food on the table, and there is limited data for American Indian/Alaska Native and Asian American households.[41] This disparity will grow as climate change worsens and threatens the region's food supply and security.

Food systems are a foundation of healthy, resilient communities. Since the early 1960s, global per capita food production has increased significantly, mostly due to more intensive land use and vastly greater inputs of fertilizer and other inorganic inputs, which have had well-documented impacts on increasing GHG emissions and reductions in land and water quality.[42] Although farm output and production is increasing overall, with climate change that production is projected to slow or decline.[43] **Growing, gathering, harvesting,** and sharing food are central to some of the most meaningful and vital community experiences and practices, and there are many vulnerabilities in the region's food systems that have the potential to be severely exacerbated by climate change.

Global and local climate change impacts will affect crop yields, available crop varieties, prices, and the nutritional value of food, putting already vulnerable populations at further risk of food insecurity



as well as increased adverse health impacts.[44] Globally, it is projected that climate change will challenge agricultural systems with heavier rain, flooding, wildfires, and extreme temperatures becoming commonplace.[45] The majority of food consumed in King County is grown in major food processing centers across the United States and outside the region. Reduced production levels in southern latitudes and increasing transportation costs will likely lead to increased local food prices, especially during seasons where significant local or regional production is not adequate.[46] For low-income households that are already having a hard time affording groceries, this will only make it harder to afford healthy foods.

Healthy ecosystems are the foundation of a climate-resilient food system in King County. Locally, climate projections indicate that King County farmers will need to adapt to heavier winter rains and more flooding, which may be a significant problem during the spring and fall "shoulder seasons," and hotter, drier summers during the peak production season. Higher temperatures during the peak growing season will increase demand for already scarce irrigation water and further complicate the challenge of balancing the needs of farming with goals to restore salmon, orca, and other species of concern. Salmon is a vulnerable species that has been integral to the economies, food supply, and ecosystem health of communities in this region—from Tribes managing salmon runs throughout the region to immigrants and refugees fishing in the Duwamish River. Climate change is already impacting water temperatures and habitats salmon rely on. Increasing summer temperatures also has implications for farmer/farmworker well-being and the ability to work and harvest fields effectively.

"Healthy lands and waters are the foundation of a climate-resilient food system. Climate change is impacting the places our foods come from, which impacts the health of the communities who depend on them- from Tribes stewarding salmon runs to immigrant and refugee communities fishing the Duwamish. The huckleberry meadows, camas prairies, and intertidal harvesting zones are here because Native people have always taken care of them, or as Billy Frank Jr. would say 'all of Western Washington was once a food forest.' Following the guidance of Tribal communities who know these landscapes, and also learning from land-based knowledges of other frontline communities, is necessary for protecting the lands, waters and foods that live in them."

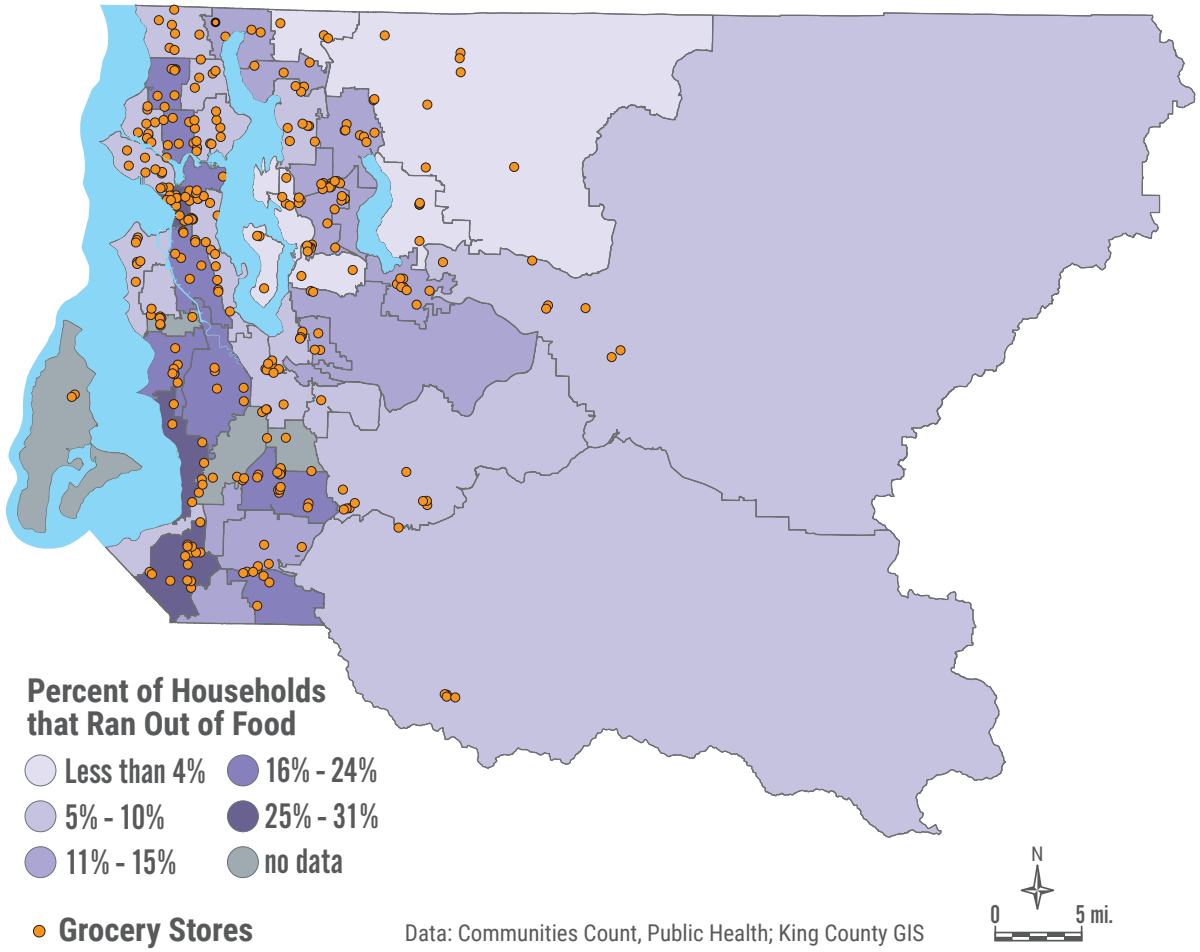
- Brett R.

United Territories of Pacific Islanders Alliance (U.T.O.P.I.A.) Seattle organizing food donations for families experiencing food insecurity during the COVID-19 crisis.



Mel Ponder Photography

Households that ran out of food, King County (2010, 2011, 2013)



Food insecure households and those in the food security gap are those who will be most impacted, as well as those who live in areas experiencing food insecurity (known as "food deserts"). The majority of areas in King County experiencing food hardship and have a lack of accessible grocery stores are located in south King County, as depicted in this map.[47] [48] Due to historic redlining, racial covenants, and marginalization, the majority of people who live in these areas are largely low-income people of color.[49] As prices for food increase, the number of households that will be food insecure is likely to rise. This means that more families will continue to choose cheap, energy-dense food over nutritiously dense food; skip meals; or forego other necessities, such as heating, to afford food. These actions will increase the risk of malnutrition, obesity, cardiovascular disease, higher blood pressure, and more.

King County's Local Food Initiative, which was launched in 2014, works to strengthen the region's local food economy and prioritizes **expanding affordability and accessibility** of healthy foods. As the county works to address climate change and begin shifting to a more regenerative economy, **supporting a just food economy** will be critical to making this transition equitable.

"Our food systems are at risk with the changing climate. There's already famines happening in other places in the world, and even here in the U.S., like droughts and difficulty even growing food and the big agricultural industry is not sustainable. We really do need to become more self-sustaining and prepare for the time when food will be more difficult [to access] and I think that having a local food system will actually set us up for sustainability in the future."

- Jill M.

The framework for action

The CECTF developed a vision for Food Systems and Food Security in an equitable climate future. The vision statements below guided the development of priority actions that identify steps toward reaching climate equity in King County.

- Frontline communities have access to healthy, culturally relevant, and affordable food.
- King County residents, especially frontline communities, have opportunities to become food producers, including access to urban and rural farmland/harvesting grounds, increased agriculture training and education, and technical support for these activities.
- The King County food system sustains the health of the ecosystems that support food production, including surrounding lands and waters.
- The King County food system supports the well-being of the people who produce, distribute, prepare, and serve the region's food.
- King County's food systems acknowledge and support Tribal interests in cultural and natural resources found in the food-producing regions of the County.

"A lot of the things that our communities have already been asking for like access to healthy food, good transportation, living wage jobs, and affordable housing - all of these basic needs that communities have been advocating for decades are also climate resilience strategies and also carbon emissions reductions strategies. When we're meeting people's basic needs and when we're planning for people to be healthy and helping them become climate resilient, we can actually help to reduce carbon emissions too."

- Katrina P.

Based on this vision, the following table outlines priority actions in **Expanding Affordability and Accessibility, Growing, Gathering, and Harvesting,** and **Supporting a Just Food Economy**. Each action identifies key and related county departments and programs that support activities toward achieving the action, as well as the role of King County as an implementer, convener, and/or supporter/advocate. Additional connections to other sections of the SCAP and considerations are indicated by SCAP-wide icons.

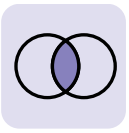
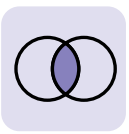
A farmer watering the land next to the compost station at the Living Well Kent greenhouse in Auburn. The goal of Waste 4 Purpose (W4P) is to raise the rates of composting among the African and Middle Eastern Immigrant and refugee community in South King County.



Mother Africa and Living Well Kent

FOCUS AREA 5: FOOD SYSTEMS AND FOOD SECURITY

5.1 Expanding Affordability and Accessibility

Priority Actions	King County Role	Connections and Considerations
SRFC 5.1.1 **Advocate for the expansion of nutrition incentive programs and other support mechanisms for low-income and frontline community members who could be disproportionally impacted by climate-influenced food insecurity to afford fresh, healthy, culturally relevant, and accessible produce while supporting local and BIPOC growers, where possible.** *Key Departments/Programs: DNRP, LFI, Public Health* *Related Departments/Programs: Climate Action Team*	 Convene  Support/ Advocate	 Public Priority  Reduce Emissions  Solutions for Root Causes  Aligning Initiatives
SRFC 5.1.2 **Explore and support the development of programs focused on the production and distribution of affordable and healthy foods to communities that live in areas experiencing food insecurity and have low accessibility to public transit, people with disabilities and/or who have health disparities, and people who are disproportionately impacted by climate change.** *Key Departments/Programs: DNRP, LFI, Public Health* *Related Departments/Programs: Climate Action Team*	 Convene  Support/ Advocate	 Solutions for Root Causes  Aligning Initiatives

Activities that could be pursued toward the action in **5.1 Expanding Affordability and Accessibility**, as collaboratively identified by the CECTF and King County staff:

- Support development of nutrition incentive programs across the County by facilitating knowledge management between assistance programs and local jurisdictions that do not have these programs.
- Partner with food incentive programs, food providers, and relevant stakeholders to develop and expand food assistance and/or incentive programs to address unmet needs, including sharing lessons learned from the COVID-19 crisis around emergency food access.
- Advocate for the sustainability and expansion of nutrition incentive programs (such as FreshBucks) to cover the food security gap and secure ongoing funding for the program (in alignment with the Local Food Initiative, GHG 6.2.1).

"I am an immigrant myself from Kenya. I have lived here for over 40 years. I am able to identify immigrant and refugee challenges and needs they may have as well as create a safe place they can work from. There is a lot of excitement now with people aspiring to be farmers, many of them have been part of a lot of activities like farm tours and food summits. People are searching for land, there is excitement and anxiety because they are unsure how long it will take to do what they need to do. Because of this, people are becoming more aware of the system and resources from King County and believe something good can happen."

– Njambi G.

5.2 Growing, Gathering, and Harvesting

Priority Actions	King County Role	Connections and Considerations
SRFC 5.2.1 **Coordinate across ecosystem health, land access, and food systems programs to expand frontline community capacity and access to healthy lands and waters in which to grow, gather, and/or harvest culturally significant plants, foods, and natural resources in a changing climate.** *Key Departments/Programs: DNRP, LFI, LCI* *Related Departments/Programs: Climate Action Team, DNRP, Public Health, CWHH*	Convene Support/ Advocate	Reduce Emissions Aligning Initiatives Equitable Climate Future

Activities that could be pursued toward the action in **5.2 Growing, Gathering, and Harvesting** identified by the CECTF and KC staff:

- Support the growth of socially disadvantaged food growers, especially immigrant and refugee farmers, by connecting them to opportunities including land access, education, outreach, technical training, and free to low cost inputs (Cross-listed action, GHG 6.2.2).
- Develop communications materials, in multiple languages, on the connections between food, climate change, and food justice.
- Coordinate across ecosystem health programs (CWHH, Open Space Equity Cabinet, 30-Year Forest Plan) to support water quality, open space access, and sustainable agriculture, gathering, and fishing practices.



5.3 Supporting a Just Food Economy

Priority Actions	King County Role	Connections and Considerations
SRFC 5.3.1 **Partner with frontline communities to support a regenerative and sustainable local zero waste food economy that prioritizes the physical and economic vitality of communities, health of food ecosystems, and well-being of food/farmworkers.** *Key Departments/Programs: DNRP, LFI* *Related Departments/Programs: Climate Action Team, Public Health, DLS, CWHH, DES*	Convene; Support/ Advocate	Reduce Emissions; Health Blueprint; Solutions for Root Causes; Equitable Climate Future

Activities that could be pursued toward the action in **5.3 Supporting a Just Food Economy** identified by the CECTF and KC staff:

- Support the development of the community-led food justice coalition in partnership with Public Health and LFI
- Identify ways to reduce susceptibility to adverse health impacts for farm and food systems workers due to climate impacts, such as exposure to extreme heat and smoke from wildfires.
- Develop a Good Food purchasing policy or guidelines that prioritizes and supports local, sustainable, small business and WMBE (women, minority owned businesses and entrepreneurships) food vendors to purchase from for County led and sponsored events.
- Develop a circular economy framework and deliver a zero waste of resources plan that identifies opportunities to support community food banks, community-based compost initiatives, and community-owned food businesses. (Cross-listed, GHG 5.1.1 & GHG 5.2.1)

King County 2019 SCAP Public Workshops.



Focus Area 6
Housing Security and Anti-Displacement

Background and Current State

Climate change is beginning to influence where and how people live as they experience climate impacts and as cities, neighborhoods, and infrastructure are designed to be more sustainable. The impacts of and the ways that people adapt to and mitigate climate change have implications on their housing stock, affordability, and risk of displacement. As articulated in the Climate Change and Displacement in U.S. Communities report by EcoAdapt, "Climate change and economic disparity lay bare the legacy of intentional, racially discriminatory systems that disproportionately hurt low-income and communities of color. What often happens is that the very solutions that curb emissions and protect from these impacts can also cause displacement."[50] More U.S. households are headed by renters than at any point since 1965—many of them People of Color or low-income with job insecurity—in the face of a pandemic this creates a potential displacement emergency.[51]

Affordable housing is a top concern for many frontline communities, including CECTF members, and there is a strong recognition that climate change is likely to have a significant impact on their communities. Some climate change mitigation and adaptation efforts, such as investing in green infrastructure, may unintentionally contribute to higher housing costs. As the region experiences further climate impacts, King County must

> *"A major issue that has risen to the top is around displacement that happens before, during, and after climate disasters. People can't be resilient unless they have a stable place to live and a strong social safety net. And when people are being displaced, they lose that and they are also at more risk when they don't have shelter or those strong bonds."*
>
> - Jill M.



support affordable housing and anti-displacement policies in conjunction with other climate adaptation and mitigation efforts.

Population growth and housing prices have been steadily increasing across the country, forcing frontline communities, especially low-income communities, to move to places further from their places of work, roots, and community to areas that are underserved by public transit. As climate impacts are felt, households with fewer resources will become cost-burdened as housing costs, including utilities, continue to increase. These households will find it more challenging to afford to keep their homes resilient in the face of increased heat waves, extreme weather events, wildfire smoke, and other climate impacts. Low-income households will also become more vulnerable to displacement away from urban centers. This, in turn, increases their vulnerability in the case of a climate emergency as they lose their social networks with shared language, local community gathering spaces, and access to public transit.[52]

Historically, structural racism in the form of racially restrictive covenants, redlining, blockbusting, and other public and private practices have shaped where BIPOC communities live in King County.[53] It is evident that current and historic racial injustice, housing discrimination, and inequitable neighborhood investment contribute to cascading disparities for BIPOC communities, including in access to economic opportunities, health, wealth, and education. Many of these communities have the region's lowest household incomes, the greatest health needs, and have historically lacked public infrastructure investments—making them more vulnerable to climate change impacts.[54]

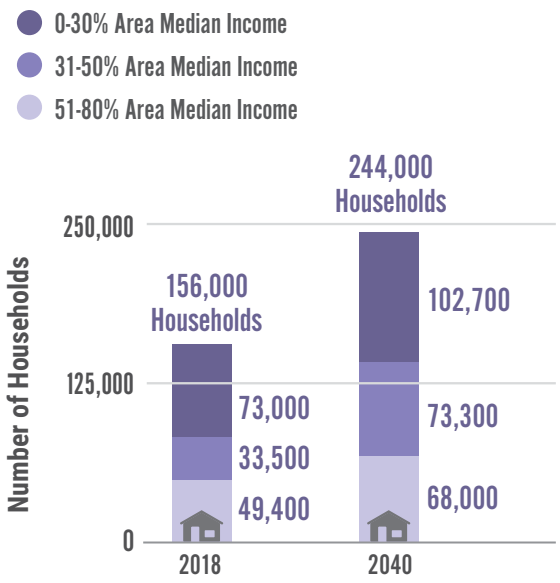
The countywide affordable housing crisis has further exacerbated the inequities caused by historic systemic racism. In 2018, the Federal Department of Housing and Urban Development defined Area Median Income (AMI) for a family of four in King and Snohomish counties as earning an annual income of $103,400. A family of four earning 80 percent AMI has an annual income of $82,720 and could pay monthly housing costs of $2,068 without being cost burdened. However, at $2,432 per month, the average rent in King County exceeded the affordable rent.[55]



King County Internal SRFC Advisory Committee creating a vision for an equitable climate future.

> *"I think that housing is crucial because it's the pillar upon which a lot of other needs are addressed and met and if people don't have a safe place to live and have a roof over their head, it's a lot harder to have good health, support your family, and have a job. This is a climate issue in the sense that if we're not able to stay rooted in place, have access to public transit, and have good jobs, then it's not only bad for the planet but it's also bad for people. "*
>
> - Katrina P.

COST BURDENED HOUSEHOLDS IN KING COUNTY



Data: King County Regional Affordable Housing Report

As the King County Regional Affordable Housing Task Force found, this crisis has not affected all households evenly. Low- and moderate-income households have been disproportionately affected, with 124,000 households in King County being cost burdened. Communities of color and renters are disproportionately likely to be severely cost burdened, paying more than half of their income toward housing costs. Of black households, 56 percent are severely cost burdened, while 35 percent of white households are severely cost burdened.

King County's population has grown faster than the development of new homes. Between 2013 and 2017, King County's population grew by an average of 31,800 people or 13,000 households per year, assuming 2.45 people per household. Over that same time, only 10,100 new housing units were added on average each year. Additionally, King County's population has not grown evenly across the income spectrum. Sixty percent of the new households in King County between 2006 and 2016 earned $125,000 or more per year.[56] More frequent extreme weather and climate events can damage and destroy housing stock, which can drive up homelessness, especially among frontline communities.[57]

This combination of rising housing prices, high population growth, and most of the growth being made up by those with high incomes has created a housing security issue across King County. For households whose budgets are already strained paying for basic needs, climate change impacts can exacerbate concerns around affordability, household resilience, and their sense of stability. As extreme weather events grow in intensity and frequency, the already cost-strained families may be unable to afford to prepare or respond effectively to these climate events.[58] And, as frontline communities are forced to relocate because of rising housing prices and associated property taxes, their vulnerability during climate emergencies increases.

Residential displacement makes households less resilient to climate impacts. When families are displaced from their communities, they lose their local social network and may have less access to information in necessary languages in their new neighborhoods. They also have less connections to their local cultural anchors, including the places they work, play, and worship and to schools, where emergency resources might be available. Community cohesion is an important aspect of climate resiliency because having a strong network near your home can be integral to surviving and thriving during and after a climate event.[59] **Expanding capacity around climate and housing** can help King County communities, especially frontline communities and decision-makers, understand the connections and identify strategies to address barriers frontline communities face around safe, affordable, and climate-resilient housing.



Alignment with the King County Regional Affordable Housing Task Force Five-Year Action Plan

These goal areas from the Regional Affordable Housing Task Force Report align with the CECTF Vision statements.

King County Regional Affordable Housing Task Force

2 **Increase construction and preservation of affordable homes for households earning less than 50% area median income**

3 **Prioritize affordability accessible within a half mile walkshed of existing and planned frequent transit service, with a particular priority for high-capacity transit stations**

4 **Preserve access to affordable homes for renters by supporting tenant protections to increase housing stability and reduce risk of homelessness**

5 **Protect existing communities of color and low-income communities from displacement in gentrifying communities.**



Residential displacement also increases the climate impact of low-income households. Frontline communities, especially low-income communities, rely heavily on public transportation. As rising housing prices force households to move further away from urban centers, their transportation costs go up because they have less access to public transit. This leads to an increase in these displaced households' relative carbon emissions because they are forced to shift to less sustainable practices, such as driving a vehicle to get to their place of work instead of using public transportation or living in homes that are less energy efficient. Therefore, it is important that King County considers **housing vulnerability, climate impacts, and anti-displacement** strategies together in order to best serve its frontline communities.

The King County Regional Affordable Housing Task Force and its successor, the Affordable Housing Committee, have been working to address the housing affordability crisis occurring in King County. The task force's work culminated in a five-year plan to address housing affordability across the County that was released in December 2018. The overarching goal of the plan is to "strive to eliminate cost burden for households earning 80 percent AMI and below, with a priority for serving households at or below 50 percent AMI."[60]

"Increased movement from larger cities to (remote) areas has increased our community's needs for interpretation to access proper health care. When one moves farther from large cities the services provided for refugees and immigrants, who are limited in English speakers, diminish. Even just moving from King County to Pierce County is a huge challenge due to resource availability and accessibility."

- Risho S.

The framework for action

The CECTF developed a **vision for Housing Security and Anti-Displacement** in an equitable climate future. The vision statements below guided the development of priority actions that identify steps toward reaching climate equity in King County.

- Climate change does not disproportionately impact frontline communities' ability to live and thrive in a safe, healthy, and stable environment.
- Frontline communities have increased housing stability, including through expanded and alternative homeownership strategies, and maintain a sense of place and community as climate impacts are experienced.
- Race and income in King County are not predictors of the severity of how climate impacts and repercussions are experienced by frontline communities.



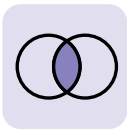
CECTF Members discussing strategies and actions.

- Frontline community members understand climate change, planning, land use, and development, and have access to decision- and policy-making in local government.
- Climate change preparedness, mobility and open space investments, and new amenities do not catalyze resident and business displacement in frontline communities.

Based on this vision, the following table outlines priority actions in **Expanding Capacity around Climate and Housing, and Housing Vulnerability, Climate Impacts, and Anti-Displacement.** Each action identifies key and related county departments and programs that support activities toward achieving the action, as well as the role of King County as an implementer, convener, and/or supporter/advocate. Additional connections to other sections of the SCAP and considerations are indicated by SCAP-wide icons.

FOCUS AREA 6: HOUSING SECURITY AND ANTI-DISPLACEMENT

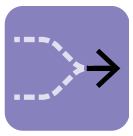
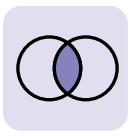
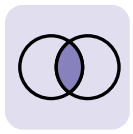
6.1 Expanding Capacity around Climate and Housing

Priority Actions	King County Role	Connections and Considerations
SRFC 6.1.1 **Expand capacity, knowledge, and resources for frontline communities to articulate the connections between housing and climate change through accessible workshops, trainings, informational resources, and/or partnerships.** *Key Departments/Programs: DCHS, Climate Action Team* *Related Departments/Programs: Public Health, DLS, DNRP, Metro*	 Convene  Support/ Advocate	 Aligning Initiatives  Community Leadership  Build Equitable Practices
SRFC 6.1.2 **Address housing insecurities that are exacerbated by climate change by expanding access to affordable housing resources, homeownership strategies, eviction prevention, equitable development, utility assistance programs, and climate-related home improvements.** *Key Departments/Programs: DCHS, Climate Action Team* *Related Departments/Programs: Public Health, DLS, DNRP*	 Convene  Support/ Advocate	 Solutions for Root Causes  Equitable Climate Future

Activities that could be pursued toward the action in **6.1 Expanding Capacity around Climate and Housing**, as collaboratively identified by the CECTF and King County staff:

- Integrate climate equity and sustainability with resources and information around affordable housing, eviction prevention, utility assistance programs, and climate resilient home improvements with frontline communities.
- Support King County Affordable Housing Committee equitable development goals around pathways to homeownership and increasing housing stability, specifically for renters, low-income communities, and communities of color.
- Partner with DCHS and Public Health Learning Communities to support land use planning, development, and zoning workshops for community members to build capacity to influence policy decisions.

6.2 Housing Vulnerability, Climate Impacts, and Anti-Displacement

Priority Actions	King County Role	Connections and Considerations
SRFC 6.2.1 **Integrate climate change considerations into affordable housing policies and programs, strategic plans, and mapping practices that impact decision-making.** *Key Departments/Programs: DCHS, Climate Action Team, DNRP, Metro* *Related Departments/Programs: DLS*	 Implement	 Public Priority  Reduce Emissions  Build Equitable Practices  Aligning Initiatives
SRFC 6.2.2 **Identify community-centered anti-displacement strategies and resources that support climate-resilient infrastructure, reduced housing vulnerability, and economic resilience of frontline community members and small businesses.** *Key Departments/Programs: DCHS, Climate Action Team, DNRP* *Related Departments/Programs: DLS, Metro*	 Convene  Support/ Advocate	 Climate Prep.  Aligning Initiatives  Solutions for Root Causes  Equitable Climate Future

Activities that could be pursued toward the action in **6.2 Housing Vulnerability, Climate Impacts, and Anti-Displacement** identified by the CECTF and KC staff:

- Partner with DCHS Equitable Development Manager, affordable housing developers, King County Metro, DLS, and anti-displacement organizations to promote and incentivize affordable housing near transit and explore ways to prevent frontline community and small businesses from displacement (aligns with GHG 4.6.2).
- Partner with the GreenTools Program to collaborate on a workshop with partners to explore policies that can help to remove barriers to green affordable housing development (aligns with GHG 4.4.1).
- Explore displacement mitigation and relocation resources for displaced community members for those experiencing extreme weather events, as well as those moved for preparedness planning (i.e., floodplains).

"We need to be able to stay rooted in place in order to be resilient against all these climate impacts."

– Vera H.

Focus Area 7
Energy Justice and Utilities

Background and Current State

Energy prices have been rising steadily. For low-income communities of color, especially in south King County, this has resulted in many households having to cut down on other necessities to afford their energy bill. Research done by Puget Sound Sage in 2020 found that when energy bills increase by $50/month, survey respondents report cutting costs by not heating or cooling their home, unplugging appliances, or cutting basic necessities like rent or mortgage payments, food, medicine, childcare, or eldercare.[61]

The major climate-related hazards that threaten utility and housing costs are heat, wildfires, flooding, and sea level rise. For example, heat events will cause increased energy demand in summer, leading to spikes in energy prices, and reduced snowpack can decrease hydropower generation. The more frequent and extreme weather events that come with climate change, like wildfires and drought, could also mean increased costs for electricity users. These climate events can also cause damage to transmission/distributional systems and homes, causing power outages.[62] A majority of King County communities are served by Seattle City Light or Puget Sound Energy. These companies have low-income energy assistance programs, but many low-income households are not actually receiving that assistance. Based on the research done by Puget Sound Sage, only 33 percent of eligible households outside of Seattle receive low-income energy bill assistance, whereas 72 percent of eligible households within Seattle receive bill assistance. Approximately 83 percent of the survey respondents reported not knowing that low-income energy assistance programs exist or believing that they do not qualify.[63] Many of these community members face barriers in applying for energy assistance if English is their second language or they do not speak English at all. It is important that energy assistance is accessible, especially to those who already qualify, to support **reducing energy burden on frontline communities**. As climate impacts are experienced, the cost burden of other basic needs will increase, so it is even more critical that this energy assistance reaches all communities that need it. An equitable transition to more renewable energy requires that these vulnerable households thrive and not just survive.



"In our community-based research [on energy], with a sample size of 352, one of the conclusions was that before we try and advance renewable energy programs and policies we actually need to fix our low-income energy assistance programs. And so one of the concerns that our communities have is that energy bills and prices are going to increase. What we've found is that when energy bills and prices increase in our communities, people have to cut basic needs to pay for a bill that's $50 higher than normal. They unplug appliances like the refrigerators and their food will go bad. They will cut basic needs like food and grocery runs, health care visits, child care, medicine, rent, mortgage - so people are cutting their basic needs in order to pay for high energy."

- Katrina P.

Some climate change mitigation and adaptation efforts, such as requiring home energy transitions to more renewable sources, can create significant burdens on frontline communities. Community members who might be interested in making a home more energy efficient can face barriers around cost, access to resources, and/or a lack of accessible information around energy options in their community and benefits of transitioning to more renewable energy sources.[64] Many of King County's frontline communities are supportive of and interested in transitioning to more renewable energy sources but face barriers in making these changes in their own homes or communities. King County needs to find ways to support expanding **renewable energy and energy efficiency in frontline communities**.

Based on their research, Puget Sound Sage recommends that utility companies and governments meet the need for low-income energy assistance—including bill assistance, weatherization, and energy-efficiency upgrades—if they wish to meet their goals of equitably transitioning to renewable energy and reducing carbon emissions.[65] **Integrating frontline community expertise in energy policy and decision-making** will be critical to ensuring there is not a disproportionate burden on frontline communities as energy companies transition to producing more renewable energy. As the county transitions to using more renewable energy sources, involving frontline communities will be critical to avoiding unintended consequences for ecosystem health and cultural loss, such as the concerns from some Native communities around the impacts of hydropower on salmon and cultural resources.



Throughout the SRFC section development process, CECTF member Debolina Banerjee's (far left) organization, Puget Sound Sage, was also working on a community-based research project on clean energy and communities of color.

The framework for action

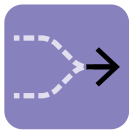
The CECTF developed a **vision for Energy Justice and Utilities** in an equitable climate future. The vision statements below guided the development of priority actions that identify steps toward reaching climate equity in King County.

- Frontline communities are educated on energy sources and alternatives and can accessibly and affordably transition to sustainable energy sources.
- Frontline community members (including renters) do not become financially insecure as utility and energy costs increase.
- Residents (both renters and homeowners) are able to access resources for energy efficiency that provides comfortable living environments, is affordable, and provides resilience against utility price shocks and general increases.

Based on this vision, the following table outlines priority actions in **Reducing Energy Burden on Frontline Communities, Expanding Renewable Energy and Energy Efficiency in Frontline Communities, and Integrating Frontline Community Expertise in Energy Policy and Decision-Making**. Each action identifies key and related county departments and programs that support activities toward achieving the action, as well as the role of King County as an implementer, convener, and/or supporter/advocate. Additional connections to other sections of the SCAP and considerations are indicated by SCAP-wide icons.

FOCUS AREA 7: ENERGY JUSTICE AND UTILITIES

7.1 Reducing Energy Burden on Frontline Communities

Priority Actions	King County Role	Connections and Considerations
SRFC 7.1.1 **Partner with utilities and frontline communities to expand utility assistance and incentive programs to increase affordability and accessibility for frontline communities (especially low-income households) and develop new programs to fill gaps not met by existing programs.** *Key Departments/Programs: Climate Action Team* *Related Departments/Programs: DCHS, Metro, DNRP*	 Convene  Support/ Advocate	 Public Priority  Solutions for Root Causes  Build Equitable Practices

Activities that could be pursued toward the action in **7.1 Reducing Energy Burden on Frontline Communities**, as collaboratively identified by the CECTF and King County staff:

- Partner with utilities, government agencies, and frontline communities to strengthen and expand existing energy-efficiency programs, utility assistance programs, and incentive programs, including addressing low enrollment, barriers to access, and income qualification.
- Identify strategies to address the needs of lower income households in the energy burden gap that do not benefit from existing utility assistance and/or incentive programs due to factors such as strict income restrictions and/or immigration documentation barriers.

7.2 Expanding Renewable Energy and Energy Efficiency in Frontline Communities

SRFC 7.2.1 **Partner with frontline communities to build energy literacy and capacity and support projects that help frontline communities affordably transition to and/or own renewable energy infrastructure and energy-efficient technology.** *Key Departments/Programs: Climate Action Team* *Related Departments/Programs: DCHS, DNRP*	 Convene  Support/ Advocate	 Reduce Emissions  Public Priority  Equitable Climate Future  Language Access

Activities that could be pursued toward the action in **7.2 Expanding Renewable Energy and Energy Efficiency in Frontline Communities**, as collaboratively identified by the CECTF and King County staff:

- Identify opportunities to support programs that increase access to renewable energy for frontline communities including community solar, state-wide solar incentive programs for low-income households, and a renewable energy resource hub.
- Partner with utilities, key stakeholders, and community organizations to support frontline communities in affordably transitioning to and/or owning renewable energy infrastructure, particularly distributed renewable energy generation systems.
- Create and translate climate and energy informational sheets around energy efficiency, community-scale renewable energy projects, and utility assistance for frontline communities.

7.3 Integrating Frontline Community Expertise into Energy Policy and Decision-Making

Priority Actions	King County Role	Connections and Considerations
SRFC 7.3.1 **Advocate for frontline community participation in energy policy, decision-making, and regulatory tables (including outside of King County's jurisdiction), and model frontline community participation within King County's own energy programs and policies.** *Key Departments/Programs: Climate Action Team* *Related Departments/Programs: Executive Office*	Convene; Support/ Advocate	Community Leadership; Solutions for Root Causes; Build Equitable Practices

Activities that could be pursued toward the action in **7.3 Integrating Frontline Community Expertise into Energy Policy and Decision-Making**, as collaboratively identified by the CECTF and King County staff:

- Advocate for frontline community participation in energy policy, including the opportunity to testify/comment before, and/or sit on local and state policy and regulatory bodies, such as the Utilities and Transportation Commission, state legislature, Tribal nations, federal policy-making bodies, and so on.
- Partner with Puget Sound Sage, utilities, frontline communities, and key decision-makers to advance community-driven energy policy recommendations from the Puget Sound Sage Report, Powering Transition: Community Priorities for a Renewable & Equitable Future, and Ideation Lab.
- Require equity assessments and highlight community success stories that lead to energy efficiency improvements and policies which ensure that frontline communities benefit from clean energy and energy efficiency programs.



"Energy justice is more than assistance programs. In an energy dependent world like ours, energy should be a basic human right, just as housing is. It is also about the life cycle cost of energy from a justice point of view. Energy sources also need to be examined for environmental justice impacts. Energy sources continue to have huge impacts on indigenous lands and create disparities. These inequities extend beyond the jurisdictions of administrations."

– Debolina B.

Focus Area 8
Transportation Access and Equity

Background and Current State

Population growth and rising housing prices are forcing low-income communities and communities of color to move to places further from their places of work, roots, and community to areas that are underserved by public transit. Frontline communities, especially low-income communities, rely heavily on public transportation and, as they are forced to move further away from urban centers due to rising housing prices, their transportation costs increase because they have less access to frequent and reliable public transit. Consequently, community members are spending a larger portion of their income on transportation, which takes away from their ability to spend their income on other basic needs. This also leads to an increase in these displaced households' relative carbon emissions because they are forced to shift to less sustainable practices, such as purchasing and driving a vehicle, to get to their place of work instead of using public transportation.

Transportation contributes 36 percent of the GHG emissions in King County.[66] These emissions contribute to global emissions that are accelerating climate change. In King County, community members experience negative health impacts from decreased air quality caused by these transportation emissions.[67] As community members are displaced further from their work, congestion on roads and highways increases, further impacting air quality and the health of King County community members. As public transportation is expanded across the County to improve transit access and meet GHG reduction goals, it is important that transit development agencies are **prioritizing community-driven transit development** and creating **climate resilient transit infrastructure.**

Furthermore, communities that heavily rely on public transportation often are not able to access it close to their homes, especially as they move further from urban centers. King County Metro's 2017 Strategic Plan Progress Report found that only 64 percent of the King County population lives within a quarter mile of a bus stop and that only 50 percent of households are within a half mile walk to a transit stop with frequent service.[68] The map of transit



"I was kind of shocked to move to White Center and actually not have a bus near my house. The transportation system needs to be flexible to have connectivity to like places like the hospital or going to a clinic going to get services. The infrastructure is focused on the nine to five traffic and that's problematic, especially if people do not have a nine to five job already. Riding the bus is definitely an opportunity to create climate resiliency through infrastructure by reducing the carbon footprint, but also having some localized designed infrastructure and bus stops with things that we've talked about like bathrooms, green infrastructure and proper ventilation would be ideal. With the different climate change impacts like heavy smoke, bus stops could be great a spot where people can get out of the elements especially if they're from vulnerable populations"

- Pah-tu P.

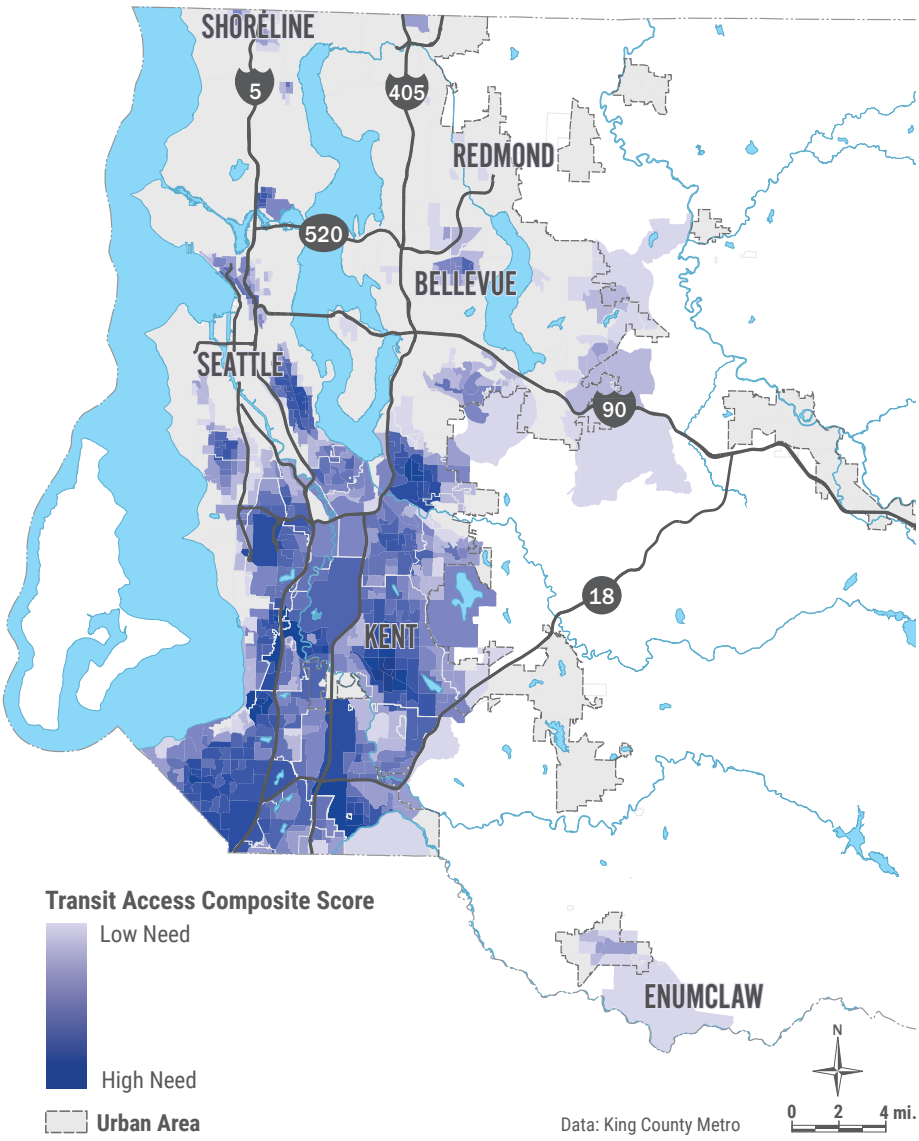
access in King County from the Metro Mobility Framework indicates that the geographic areas with the greatest need for accessible transit are concentrated in south King County.[69] Community members who are displaced because of higher housing prices will need to rely more heavily on transportation, both personal and public, to get to where they live, work, and play.

This combination of increased transportation cost burden caused by displacement away from urban centers and inequitable access to public transportation creates negative impacts for frontline communities, especially low-income communities and communities of color that live in south King County. These constraints will be exacerbated as climate impacts, including emergency weather events, are experienced across the County. **Expanding transit accessibility** to create opportunities for frontline community members to conveniently use public transit to move around King County, regardless of what neighborhood they live in, will be integral to advancing climate resilience in frontline communities.

In 2019, King County Metro convened a Mobility Equity Cabinet to develop the King County Metro Mobility Framework, which envisions an integrated, innovative, equitable, and sustainable future. It includes guiding principles and recommended actions to significantly reduce GHG emissions while advancing equitable outcomes by providing mobility where needs are greatest, improving access to public transit to encourage individuals to use transit over single-occupancy



Transit Access in King County



vehicles, and ensuring equitable and affordable fares. The report was released in October 2019 and adopted by the King County Council in March 2020. It will guide updates to Metro's Strategic Plan for Public Transportation, Service Guidelines, and long-range plan, METRO CONNECTS, as well as the development of Metro's budget and strategic planning practices.[70] Two members of the CECTF are also participants in the Mobility Equity Cabinet, and worked to ensure collaboration and coordination across both groups.

The framework for action

The CECTF developed a **vision for Transportation Access and Equity** in an equitable climate future. The vision statements below guided the development of priority actions that identify steps toward reaching climate equity in King County.

- King County's transit services are resilient, accessible, affordable, and safe for all communities.
- Frontline community members in urban areas can access frequent, accessible, affordable, and reliable public transportation near their homes, particularly in areas where community members are most dependent on public transportation.
- Neighborhood-scale micro-mobility improvements allow first mile/last mile trips to and from transit to be safe, affordable, and healthy.
- Frontline communities with high levels of pollution and disproportionate health outcomes are prioritized for zero-emission buses.
- Public transit infrastructure and services are prepared for and able to respond to disproportionate impacts of current and projected changes in extreme weather events on frontline communities, including transit alerts in multiple languages and service adjustments.
- Public transit infrastructure, including bus stops, are designed to shelter from extreme weather, especially in communities who may be disproportionately impacted by those events.
- Anti-displacement policies accompany transit system improvements that may otherwise lead to transit gentrification.

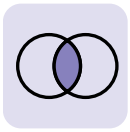
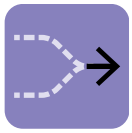
Based on this vision, the following table outlines priority actions in **Expanding Transit Accessibility, Climate Resilient Transit Infrastructure, Prioritizing Community-Driven Transit Development**. Each action identifies key and related County departments and programs that support activities toward



achieving the action, as well as the role of King County as an implementer, convener, and/or supporter/advocate. Additional connections to other sections of the SCAP and considerations are indicated by SCAP-wide icons. Climate resilient, accessible, and equitable public transit is a shared priority with the Reducing GHG Emissions and Preparing for Climate Change sections. This work will be coordinated to achieve actions with overlapping outcomes and develop joint performance measures. These actions also reflect the priorities of the CECTF and Metro Mobility Equity Cabinet around strategies in the Metro Mobility Framework.

FOCUS AREA 8: TRANSPORTATION ACCESS AND EQUITY

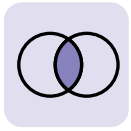
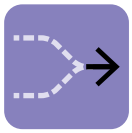
8.1 Expanding Transit Accessibility

Priority Actions	King County Role	Connections and Considerations
SRFC 8.1.1 **Prioritize frontline communities that are in greatest need of public transit in transit accessibility policies and practices. Continue to improve and design accessible communications in multiple languages, enact equitable and affordable fares, and increase mobility by connecting public transit infrastructure.** *Key Departments/Programs: Metro* *Related Departments/Programs: Climate Action Team, DCHS, DLS*	 Implement	 Climate Prep.  Aligning Initiatives  Language Access  Build Equitable Practices

Activities that could be pursued toward the action in **8.1 Expanding Transit Accessibility**, as identified by the CECTF, including relevant priorities from the Mobility Framework developed by the Metro Mobility Equity Cabinet:

- Metro will work to minimize the impact of weather-related service changes on disproportionately impacted communities by expanding ethnic media connections and pursuing other opportunities to create and share service-related information to these communities. (Cross-listed, Prep 3.1.3)
- Increase the level of communication about Metro's services, including innovative mobility services and fare products, such as ORCA LIFT, to ensure that people from all communities know about these services and how to use them. (Metro Mobility Framework - #6 Improve access to mobility)
- Prioritize geographic areas that have high density; a high proportion of low-income people, people of color, people with disabilities, and members of limited-English-speaking communities; and that have limited mid-day and evening transit service to schools, jobs, and child care centers and other ways to build wealth and opportunities. (Metro Mobility Framework #1 – Invest Where Needs Are Greatest)

8.2 Climate Resilient Transit Infrastructure

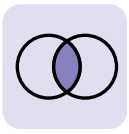
SRFC 8.2.1 **Improve and develop infrastructure that is climate resilient with a design process that uses a clear climate justice lens in capital planning and design processes and emergency planning.** *Key Departments/Programs: Metro* *Related Departments/Programs: Climate Action Team, Public Health, DES (OEM)*	 Implement	 Public Priority  Climate Prep.  Aligning Initiatives  Build Equitable Practices

8.2 Climate Resilient Transit Infrastructure

Activities that could be pursued toward the action in **8.2 Climate Resilient Transit Infrastructure,** as identified by the CECTF, including relevant priorities from the Mobility Framework developed by the Metro Mobility Equity Cabinet:

- The Bus Stop Improvements team will develop and incorporate climate change metrics in the process for selecting and prioritizing bus stop shelter improvements. Beginning in 2021, at least 10 percent of the weather-related improvements will be constructed at bus stops in climate priority areas. (Cross-listed, Prep 3.1.4)
- Review transit emergency plans to ensure that Metro is prepared to provide safe and ongoing transportation during natural disasters, weather emergencies, or climate-related crises. Ensure Metro infrastructure and services support community resilience to climate change (Metro Mobility Framework - #4 Ensure Safety).
- Ensure that transit stops and transfer points are designed and located in ways to promote safety, particularly for BIPOC, people with disabilities, limited-English-speaking communities, women, and LGBTQIA people. Conduct ongoing safety review to assess environmental health and potential safety disparities (Metro Mobility Framework - #4 Ensure Safety).

8.3 Prioritizing Community-Driven Transit Development

Priority Actions	King County Role	Connections and Considerations
SRFC 8.3.1 **Work to ensure the design and planning process of public transit, streetscapes, and accessibility features are community-driven, equitable, minimize displacement, and are built in partnership with frontline communities, including the Metro Mobility Equity Cabinet and the CECTF.** *Key Departments/Programs: Metro* *Related Departments/Programs: Climate Action Team, DCHS, Executive Office, PSB, DLS*	 Implement  Convene	 Reduce Emissions  Community Leadership  Aligning Initiatives  Equitable Climate Future

Activities that could be pursued toward the action in **8.3 Prioritizing Community-Driven Transit Development**, as identified by the CECTF, including relevant priorities from the Mobility Framework developed by the Metro Mobility Equity Cabinet:

- Work to minimize displacement and increase affordable housing options in urban areas near transit by partnering with local jurisdictions and other organizations (Metro Mobility Framework - #5 Encourage dense, affordable housing near transit).
- Use meaningful, inclusive, and community-driven approaches to develop, provide, and evaluate mobility choices and supporting infrastructure that serve low- and no-income people, BIPOC, immigrants and refugees, people with disabilities, and limited-English-speaking communities in ways that work for them (Metro Mobility Framework - #10 Engage deliberately and transparently).
- Partner with DCHS Equitable Development Program, King County Metro, Green Tools Program, and frontline communities to advance and incentivize equitable transit-oriented communities, prioritize the development of affordable housing as a key component of transit-oriented development projects, and implement sustainable building practices that pair with anti-displacement policies (aligns with GHG 4.5.1, Metro Mobility Framework - #5 Encourage dense, affordable housing near transit).

"A lot of the things that our communities have already been asking for like access to healthy food, good transportation, living wage jobs, and affordable housing - all of these basic needs that communities have been advocating for for decades are also climate resilience strategies and also carbon emissions reductions strategies. When we're meeting people's basic needs and when we're planning for people to be healthy and helping them become climate resilient we can actually help to reduce carbon emissions too."

– Katrina P.

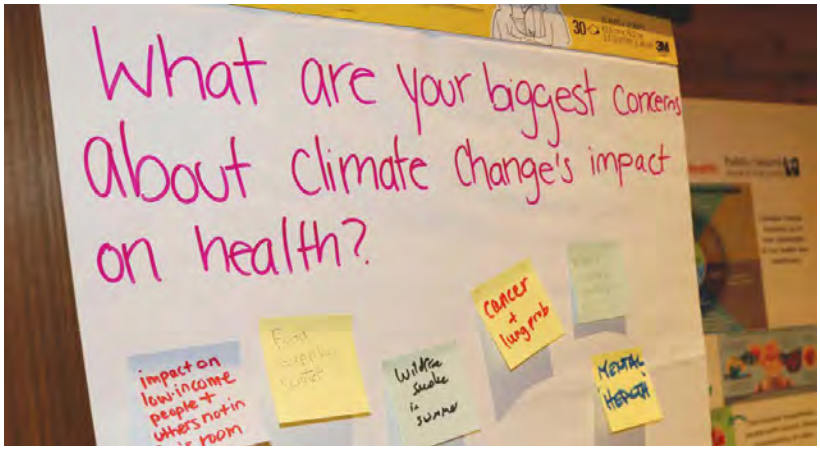






"Community leadership and community-driven policy-making are important because frontline communities have the expertise. We're the ones who have experienced these disproportionate impacts for years, and our ancestors have given us the stories, tools, and talents we need to be leaders in this work. Frontline community members are willing to step up and make real, effective decisions for our communities."

– Vera H.





"I like how [the task force members] came together across race, ethnicity, sexual orientation, etc. We came together, and we spent time sharing about ourselves and trying to get to know each other a little before we started to do the work and talk about climate impacts we were seeing in our communities. It's been a very collaborative process; it has been a very open process. It's been a process where we've shared things about our communities, our lives."

– Dinah W.

SRFC Section Endnotes

1 Lesbian, Gay, Transgender, Bisexual, Queer, Intersex, Asexual, Plus (because this is an evolving acronym, the plus symbol includes all other identities on the gender and sexuality spectrum not included already)

2 ICLEI USA. (2020). Climate Equity.

3 World Resources Institute. (2020). Climate Equity.

4 Urban Sustainability Directors Network. (May 2017). Guide to Equitable Community-Driven Climate Preparedness Planning.

5 Metropolitan King County Council. (2010). Ordinance 16948.

6 King County. (2016). Equity and Social Justice Strategic Plan 2016-2022.

7 Metropolitan King County Council. (2019). Ordinance 19041.

8 UW Climate Impacts Group, UW Department of Environmental and Occupational Health Sciences, Front and Centered and Urban@UW, (2018). An Unfair Share: Exploring the disproportionate risks from climate change facing Washington state communities.

9 Movement Strategy Center. (2017). Community-Driven Climate Resilience Planning.

10 Urban Sustainability Directors Network. (May 2017). Guide to Equitable Community-Driven Climate Preparedness Planning.

11 González, R. (2019). The Spectrum of Community Engagement to Ownership.

12 González, R. (2019). The Spectrum of Community Engagement to Ownership.

13 Kwauk, C. (Sept 2019). Is education standing up to the task of climate action? The Brookings Institution.

14 Gregg, R.M., & Braddock, K.N. (April 2020). Climate Change and Displacement in U.S. Communities: How Communities, Professionals, and Experts are Responding to Climate Change and Displacement. EcoAdapt.

15 Taylor, D.E. (July 2014). The State of Diversity in Environmental Organizations. Green 2.0.

16 Taylor, D.E. (July 2014). The State of Diversity in Environmental Organizations. Green 2.0.

17 United States Census Bureau. (2019). QuickFacts United States.

18 Environmental Leadership Program. (2016). Breaking the Green Ceiling: Empowering People of Color in the Environmental Sector.

19 Taylor, D.E. (July 2014). The State of Diversity in Environmental Organizations. Green 2.0.

20 Got Green. (2015). Breaking the Green Ceiling: Investing in Young Workers of Color, Paid Environmental Internships, Career Pathways.

21 Metropolitan King County Council. (2019). Ordinance 19041.

22 Food Chain Workers Alliance and Solidarity Research Cooperative. (Nov 2016). No Piece of the Pie: U.S. Food Workers in 2016.

23 Climate Justice Alliance. (June 2018). Just Transition Principles.

24 UW Climate Impacts Group, UW Department of Environmental and Occupational Health Sciences, Front and Centered, and Urban@UW, (2018). An Unfair Share: Exploring the disproportionate risks from climate change facing Washington state communities.

25 UW Climate Impacts Group, UW Department of Environmental and Occupational Health Sciences, Front and Centered, and Urban@UW. (2018). An Unfair Share: Exploring the Disproportionate Risks from Climate Change Facing Washington State Communities.

26 Mauger et al. (2015). State of Knowledge: Climate Change in Puget Sound. Climate Impacts Group.

27 Got Green & Puget Sound Sage. (March 2016). Our People, Our Planet, Our Power.

28 Public Health Insider. (June 2020). Racism is a Public Health Crisis: The Transformation Starts Here, It Starts with Us.

29 Public Health—Seattle & King County. (2018). Blueprint for Addressing Climate Change and Health.

30 Clark, L.P., Millet, D.B., & Marshall, J.D. (Sept 2017). Changes in Transportation-Related Air Pollution Exposures by Race-Ethnicity and Socioeconomic Status: Outdoor Nitrogen Dioxide in the United States in 2000 and 2010. Environmental Health Perspectives.

31 Covert, B. (Feb 2016). Race Best Predicts Whether You Live Near Pollution. The Nation.

32 Min, E., Gruen, D., Banerjee, D., Echeverria, T., Freelander, L., Schmeltz, M., Saganić, E., Piazza, M., Galaviz, V.E., Yost, M., Seto, E.Y.W. (2019). The Washington State Environmental Health Disparities Map: Development of a Community-Responsive Cumulative Impacts Assessment Tool. Int. J. Environ. Res. Public Health, 16(22), 4470.

33 Washington State Department of Health. (2013). The Burden of Asthma in Washington State.

34 Crimmins, A., Balbus, J., Gamble, J.L., et al. (2016). The Impacts of Climate Change on Human Health in the United States: A Scientific Assessment. U.S. Global Change Research Program.

35 Public Health—Seattle & King County. (2018) Blueprint for Addressing Climate Change and Health.

36 Mauger et al. (2015). State of Knowledge: Climate Change in Puget Sound. Climate Impacts Group.

37 King County Open Space Equity Cabinet. (2019). Recommendations to King County Executive and Council.

38 Murnan, F., & Park, A. (2015). Understanding King County Racial Inequities.

39 Brown, M.E., Antle, J.M., Backlund, P., et al. (Dec 2015). Climate Change, Global Food Security, and the U.S. Food System.

40 King County Public Health Insider. (2017). It's not Just You. It's the Cost of Food, Too.

41 Northwest Harvest. (2019). Focus on Food Security: The Stress of Poverty and Toll on Health. Northwest Harvest's Focus Group Report 2019.Communities Count.(2019). Food Desert Map: King County Residents Do Not Have Equal Access to Healthy Food (data from 2010–2013).

42 U.S. Climate Resilience Toolkit. (2019). Topic: Food.

43 Intergovernmental Panel on Climate Change. (2014). AR5 Synthesis Report: Climate Change 2014.

44 United States Department of Agriculture. (July 2019). Climate Change and Agricultural Risk Management into the 21st Century.

45 Intergovernmental Panel on Climate Change. (2007). AR4 Climate Change 2007: Mitigation of Climate Change: Chapter 8.

46 Intergovernmental Panel on Climate Change. AR4 Climate Change 2007: Mitigation of Climate Change: Chapter 8.

47 Communities Count.(2019). Food Desert Map: King County Residents Do Not Have Equal Access to Healthy Food (data from 2010–2013).

48 Bolt, K et al. (2019). Healthy Food Availability & Food Bank Network Report.

49 University of Washington. (2018). Segregated Seattle. Climate Change and Displacement in U.S. Communities: How Communities, Professionals, and Experts are Responding to Climate Change and Displacement. EcoAdapt.

50 Gregg, R.M., & Braddock, K.N. (April 2020). Climate Change and Displacement in U.S. Communities: How Communities, Professionals, and Experts are Responding to Climate Change and Displacement. EcoAdapt.

51 Cilluffo, A., Geiger, A.W., and Fry, R. (July 2017). More U.S households are renting than at any point in 50 years. Pew Research Center.

52 Gregg, R.M., & Braddock, K.N. (April 2020). Climate Change and Displacement in U.S. Communities: How Communities, Professionals, and Experts are Responding to Climate Change and Displacement. EcoAdapt.

53 University of Washington. (2018). Segregated Seattle.

54 Open Space Equity Cabinet. (2019). Recommendations to King County Executive and Council.

55 Regional Affordable Housing Task Force. (2019). Final Report and Recommendations for King County, WA.

56 Regional Affordable Housing Task Force. (2019). Final Report and Recommendations for King County, WA.

57 Ortiz, G., Schultheis, H., & Novack, V. A. (Aug 2019). Perfect Storm: Extreme Weather as an Affordable Housing Crisis Multiplier.

58 Federal Emergency Management Agency. (2011). A Whole Community Approach to Emergency Management: Principles, Themes, and Pathways for Action.

59 Federal Emergency Management Agency. (2011). A Whole Community Approach to Emergency Management: Principles, Themes, and Pathways for Action.

60 Regional Affordable Housing Task Force. (2019). Final Report and Recommendations for King County, WA.

61 Puget Sound Sage. (June 2020). Powering the Transition: Community Priorities for a Renewable and Equitable Future.

62 Got Green & Puget Sound Sage. (Mar 2016). Our People, Our Planet, Our Power.

63 Puget Sound Sage. (2020). Powering Transition: Community Priorities for a Renewable & Equitable Future.

64 Center for Social Inclusion. (Feb 2016). Energy Democracy: Co-op Power – A Profile in Cooperative Ownership.

65 Puget Sound Sage. (June 2020). Powering the Transition: Community Priorities for a Renewable and Equitable Future.

66 ICLEI USA. (2017). GHG Emissions in King County: 2017 Inventory Update, Contribution Analysis, and Wedge Analysis.

67 Public Health—Seattle & King County. (2018). Blueprint for Addressing Climate Change and Health.

68 King County Metro Transit. (2018). 2017 Strategic Plan Progress Report.

69 King County Metro. (2019). Mobility Framework Report.

70 King County Metro. (2019). Mobility Framework Report.



Section: Preparing for Climate Change

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Preparing for Climate Change Section Highlights and Priorities

The Preparing for Climate Change section identifies climate preparedness actions that help King County government and communities prepare for the impacts of climate change and increase climate resilience. The actions represent important next steps in an ongoing and necessary pivot toward becoming a more climate-resilient King County.

VISION

King County creates, supports, and implements policies and actions that reduce climate change vulnerabilities equitably and increase the resilience of King County communities, natural systems, and the built environment.

Highlights

The 2020 Preparing for Climate Change section includes a comprehensive set of actions that cover more programs and issue areas while also deepening existing work on climate preparedness. Because climate change exacerbates many existing environmental, health, and safety challenges, the actions that King County takes now to prepare for climate change will also provide near-term benefits.

Many of the 2020 preparedness actions are focused on operationalizing climate action by incorporating a broad range of climate change considerations into decision processes. The section also includes actions that address specific climate change concerns, including more stormwater runoff, changes in forest health and wildfire risk, sea level rise, increased flooding, hotter summer temperatures, and impacts on salmon and other species.

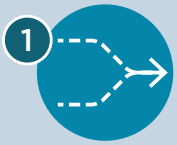
The 2020 Preparing for Climate Change section also introduces a new strategic framework for guiding King County's climate preparedness work in this and future Strategic Climate Action Plans (SCAPs). The framework reflects major themes and priorities that emerged from County staff engagement, public input, and best practices in climate preparedness. Components include an overarching vision of success, five strategies to focus and organize our work, and a performance measurement framework for tracking progress. The five strategies are:

1. Account for climate impacts in policies, plans, practices, and procedures, and implement climate-resilient decisions.
2. Invest in and use best available science and other technical information to inform climate preparedness work at King County.
3. Prioritize health and equity in climate preparedness actions and activities.
4. Strengthen collaborations and partnerships to address climate impacts and increase regional resilience.
5. Invest in public outreach, engagement, and technical assistance related to climate preparedness.

Implementing the performance management framework will be a major focus for 2020–2025. The framework builds on existing biennial reporting practices for climate preparedness actions to include an initial set of performance measures and reporting metrics for each strategy. Finalizing performance measures for the climate preparedness vision is a "Fast Start" priority action.

Finally, the 2020 Preparing for Climate Change section includes new and important opportunities to advance health and equity in King County. The 2020 SCAP includes multiple actions that address climate change-related health impacts and reduce disproportionate impacts on frontline communities. This work will be implemented in coordination with additional preparedness-related actions in the Sustainable & Resilient Frontline Communities (SRFC) section. Understanding and addressing health and equity connections in the implementation of all 2020 climate preparedness actions is also central to this SCAP.

Preparedness Section Highlights and Priorities

Focus Area	Goal/Strategy	Strategy Highlights and Priorities
Mainstream Climate Preparedness 	Account for climate impacts in policies, plans, practices, and procedures, and implement climate-resilient decisions.	• Works with partners to adapt centralized and program-based capital planning processes to account for climate preparedness. • Incorporates climate change into operations and program delivery.
Technical Capacity 	Invest in and use best available science and other technical information to inform climate preparedness work at King County.	• Develops a climate change resource hub and guidance to inform County climate preparedness activities. • Expands research on the impacts of heavy rain events and sea level rise in King County to support long-term planning and infrastructure design.
Health and Equity 	Prioritize health and equity in climate preparedness actions and activities.	In partnership with additional preparedness actions in the SRFC section: • Takes steps to reduce the impacts of extreme events, including urban heat, on frontline communities. • Develops inclusive and equitable climate and health messaging, resources, and guidance.
Community and Organizational Partnerships 	Strengthen collaborations and partnerships to address climate impacts and increase regional resilience.	• Works with internal and external partners to reduce risks related to wildfire, flooding, landslides, and drought. • Deepens and expands partnerships that advance climate preparedness across King County, including through the Puget Sound Climate Preparedness Collaborative.
Outreach and Engagement 	Invest in public outreach, engagement, and technical assistance related to climate preparedness.	• Increases opportunities for sharing information about climate impacts and preparedness in outreach and engagement activities. • Supports technical assistance to the public and partners related to wildfire, agricultural impacts, and hazard mitigation planning.

Introduction

Reducing greenhouse gas (GHG) emissions (also known as "climate mitigation") is the most important action we can take as a county government—and as individuals—to decrease the harmful effects of climate change. The more quickly we reduce emissions, the more quickly we can limit how fast and how much our climate changes. Focusing our efforts on mitigation alone is not an option, however.

Washington state is already experiencing rising temperatures, long-term declines in snowpack, increasing wildfire risk, sea level rise, and other measurable environmental changes consistent with the effects of rising GHG emissions. These changes are expected to accelerate in the coming decades, leading to potentially significant impacts on the region's health, infrastructure, environment, and economy. As a result, we must prepare for and adapt to the impacts of a changing climate ("climate preparedness") even as we work in partnership with other communities and state leaders to reduce GHG emissions.

This section identifies 61 climate preparedness actions, organized under a new strategic framework, that will help King County government and communities prepare for the impacts of climate change and increase climate resilience[1]. The 2020 SCAP climate preparedness actions build on the preparedness priorities and accomplishments of the 2015 SCAP to simultaneously deepen and broaden our work on climate preparedness. The increased focus on preparedness reflects a growing recognition that climate change is accelerating and that effectively reducing climate impacts on government operations, communities, and the built and natural environment will require proactive planning across King County programs.

WHAT IS CLIMATE RESILIENCE?

Resilience is a broad concept that can apply to individuals, communities, and social, economic, and environmental systems. Resilience is the capacity to cope with a hazardous event or long-term trend in ways that maintain essential identities, functions, and structures while also maintaining the capacity to learn, adapt, and/or transform.

Adapted from IPCC 2014[1]

The 2020 SCAP climate preparedness actions also build on King County's long-standing commitment to protect public health and safety, provide critical infrastructure, support economic prosperity, and safeguard natural and Tribal treaty trust resources. Because climate change exacerbates many of the challenges we already face with issues like natural hazards, habitat loss, aging infrastructure, and health and income disparities, the actions we take now to prepare for climate change will also create near-term benefits. In that sense, preparing for climate change is inherently part of good government and a necessary component to being responsible stewards of public resources.

Finally, the 2020 SCAP climate preparedness actions advance King County's commitment to equity and social justice, creating important synergies with the Sustainable & Resilient Frontline Communities (SRFC) section. Applying an equity lens to the development and implementation of our climate preparedness efforts provides a crucial opportunity to reduce the disproportionate impacts of climate change on Black, Indigenous, and People of Color (BIPOC) communities and people living with low incomes, and to support the development of sustainable and resilient frontline communities. Coordination and collaboration with the priorities and activities identified in the SRFC section will be a priority as we implement the 2020 SCAP and continue to build out a portfolio of preparedness activities.

How to Read this Section

The Preparing for Climate Change section identifies priority actions that King County will undertake in 2020–2025 as part of its ongoing commitment to prepare for the impacts of climate change. Actions are organized by strategy in each of the following focus areas:

- **Focus Area 1:** Mainstream Climate Preparedness;
- **Focus Area 2:** Technical Capacity;
- **Focus Area 3:** Health and Equity;
- **Focus Area 4:** Community and Organizational Partnerships; and
- **Focus Area 5:** Outreach and Engagement.

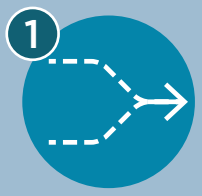
Each focus area includes one climate preparedness strategy and associated priority actions. Each strategy also includes a brief description of the strategy, strategy outcomes, and performance measures. Each priority action includes a title, brief description, and designated action owner.

Climate preparedness priority actions are grouped into one of two tables. The first table lists cross-organizational actions that support preparedness efforts across King County government. These actions will be implemented by the County's Climate Action Team. The second table lists actions for specific impacts or department-based preparedness needs and opportunities. These actions will be implemented by the department and division specified in the action. One or both tables are found in each strategy.

Additional information on how to read the climate preparedness priority action tables is provided in the figure on the next page.

Landslide along the Preston Lake Alice Trail, January 2020





Mainstream Climate Preparedness



Technical Capacity



Health and Equity



Community and Organizational Partnerships



Outreach and Engagement

How to Read Priority Action Tables in the Preparedness Section

CATEGORY

Prep. 1.1.1

Action Number

Priority Action details and *responsible agencies*.

Priority Action: a near term action that King County will take in support of broader goals and strategies. Actions will occur by 2025, unless otherwise noted, and many include earlier deadlines. The Executive reports to the King County Council on progress related to each Priority Action every 2 years.

Icon(s)

King County Role: the County's role(s) in delivering each Priority Action

Icon(s)

Connections and Considerations throughout the SCAP and related Deep Dive topics

King County Role



Implement

An action where King County has a lead role in carrying out the activity—may include cases where the County has direct control over an outcome and possesses or can acquire the necessary tools/staffing to make progress on an action.



Convene

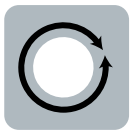
An action where King County needs external partners and collaborators to complete the action and King County is taking an active role in that work by convening partnerships for collective climate action.



Support/Advocate

An action where King County's primary role is supporter and/or advocate for the action. This includes actions that would need to be undertaken by other entities or where King County does not have control over the activities necessary to complete an action.

Connections and Considerations



K4C: Aligns with commitments made in collaboration with the King County-Cities Climate Collaboration (K4C).



Resource Need: Commitments where there are pending or unmet resource needs to accomplish the work.



Public Priority: Responds to a recurring theme heard in 2020 SCAP public engagement process.



Fast Start: Priority action to be accomplished by the end of 2022.



Health Blueprint: Consistent with the priorities of Public Health—Seattle & King County's Blueprint for Addressing Climate Change and Health.



Reducing Emissions: Consistent with the priorities of the Reducing Greenhouse Gas Emissions section.



Climate Equity: Consistent with the priorities of King County's Climate Equity Community Task Force (CECTF).

icons with blue

Deep Dive Topic Areas: Topics discussed with King County staff via Deep Dive workshops (see page 248)

Developing the 2020 SCAP Preparedness Actions

The climate preparedness actions for the 2020 SCAP reflect progress resulting from work completed for the 2015 SCAP as well as priorities and ideas gathered from multiple engagement approaches. These approaches included topically focused "deep dive" workshops with King County staff, an internal open house workshop with King County staff, external stakeholder meetings, and three public workshops. Public input submitted via an online SCAP public comment tool also informed the 2020 preparedness actions. This section summarizes major themes and contributions from these processes.

Strategic guidance on development of the climate preparedness actions was provided by an inter-departmental Climate Preparedness Steering Committee created for the 2020 SCAP process. Additional strategic guidance was provided by the County's interdepartmental Climate Leadership Team, a senior level climate cabinet that works collaboratively across departments to ensure that King County is on track to advance the goals, targets, and priority actions in the SCAP.

2015 SCAP Climate Preparedness Accomplishments

The 2015 SCAP included 19 climate preparedness actions aimed at reducing climate change impacts on King County operations and core functions, such as flood risk reduction, stormwater management, public health, and emergency management. The actions focused on three major areas of work: increasing infrastructure, community, and ecosystem resilience; strengthening regional partnerships; and enhancing technical understanding of climate change impacts on King County.

Accomplishments related to the 2015 SCAP are briefly summarized here. Additional information is available in Appendix IV: 2015 Strategic Climate Action Plan Accomplishments. Continued work on these topics is planned as part of the 2020 SCAP.

- **Increased sea level rise preparedness** by updating local land use codes for Vashon and Maury islands to reduce the risks of sea level rise to shoreline development, and developing adaptation plans for King County-owned assets potentially affected by sea level rise.
- **Strengthened the connection between climate preparedness and hazard mitigation** by updating resources related to landslide hazard risks in King County and incorporating climate change considerations into the update of the County's Regional Hazard Mitigation Plan.

King Tide at Alki, January 2019

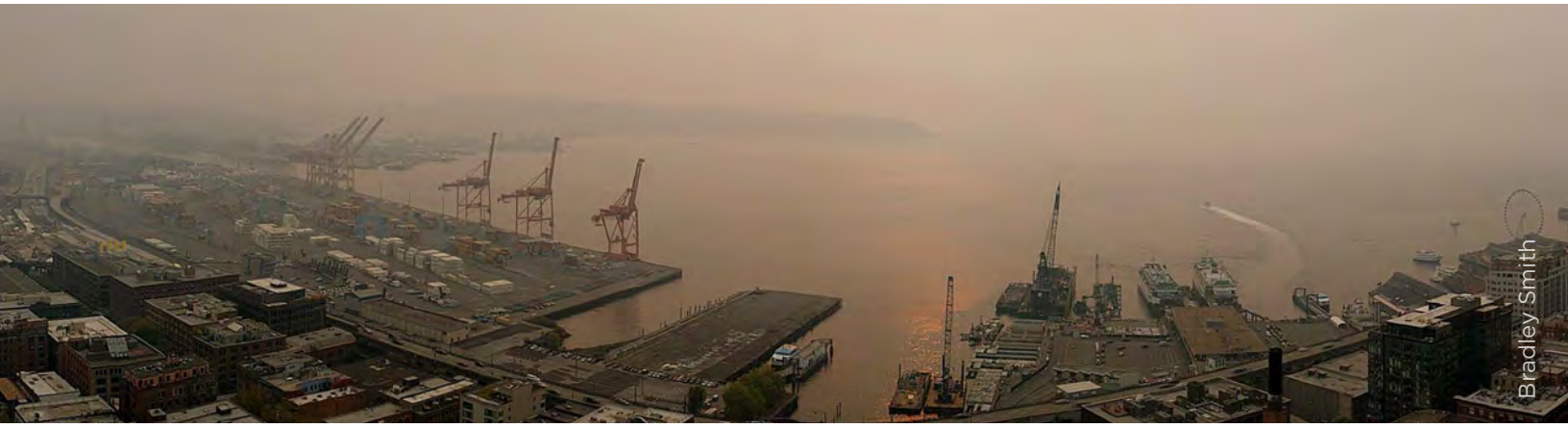


- **Increased our understanding of the connections between public health and climate change** by leveraging grant funding and other financial and technical assistance to develop the County's first strategic plan for Public Health—Seattle & King County (Public Health) action on climate change (Blueprint for Addressing Climate Change and Health).
- **Addressed climate change impacts on summer water supply and streamflow** by expanding recycled water use in the Sammamish Valley and actively participating in regional forums focused on streamflow management.
- **Supported planning for salmon recovery in a changing climate** by partnering with watershed-based salmon recovery teams and other technical experts to develop climate change and salmon issue papers for use in salmon recovery and habitat restoration activities in King County.



- **Strengthened regional partnerships for climate preparedness** with the launch of the Puget Sound Climate Preparedness Collaborative, a consortium of local, county, and tribal governments, regional agencies, and other organizations working together to enhance coordination and improve the outcomes of climate change preparedness efforts in the Puget Sound region.
- **Enhanced our technical understanding of climate change impacts on King County** by partnering with the University of Washington to conduct preliminary research on projected changes in heavy rainfall, flood flows, and wastewater conveyance in the County.

Seattle waterfront during a period of heavy wildfire smoke, August 2018



Same location, October 2018



Key Themes: County Staff Engagement

A key step in developing the 2020 SCAP climate preparedness actions was a series of 20 thematically based "deep dive" meetings or workshops with King County staff. Major deep dive themes are noted below. The deep dive discussions identified six major categories of activity for strengthening climate preparedness in King County:

Deep Dive Topic Areas


Flooding



Wastewater Conveyance


Public Health


Stormwater Management


Forest Health & Wildfire


Biodiversity


Salmon Recovery & Fish Passage


Sea Level Rise


Parks & Open Space


Agriculture


Landslide Hazards


Hazard Mitigation


Transit & Roads


Capital Planning & Design


Solid Waste


King County Facilities

Health and equity are considered throughout all topic areas.

1. **Integration:** Additional work is needed to fully incorporate climate preparedness considerations into policies, plans, and processes. In some cases, this requires developing the technical methods and guidelines needed to support evaluation of climate impacts as part of capital planning and project delivery, operations, and strategic planning.
2. **Assessment :** Additional investment in research and technical studies is needed to inform specific climate preparedness decisions that King County programs are looking to make.
3. **Implementation:** While there is a considerable amount of work still needed to identify how we will specifically adapt to climate change, there are steps that King County can take now to reduce those impacts. This includes accelerating ongoing work that reduces the risks associated with existing challenges made worse by climate change, such as flooding and salmon recovery.
4. **Partnership:** We need to continue building strong internal and external partnerships and collaborations focused on the complex range of issues affected by climate change in King County and the Puget Sound region. This includes partnerships with state and local governments, tribal governments, and community-based organizations.
5. **Outreach:** King County outreach, engagement, and technical assistance activities provide an important opportunity to build a shared understanding of why climate change matters in King County and ways to reduce climate impacts. We need to leverage existing outreach, engagement, and technical assistance efforts while also seeking new opportunities to connect with the public.
6. **Equity:** Climate preparedness efforts have a role to play in how we advance equity and social justice in King County. We need to develop preparedness actions that specifically target the disproportionate impacts of climate change on some King County communities while also ensuring that health and equity are considered in the implementation of all climate preparedness actions.

Collectively, these categories—reflected in the 2020 SCAP preparedness strategies and actions—provide strategic insight into how the County should work to reduce climate risks and build climate resilience across King County communities, the built and natural environment, and County operations and core functions.

Flooding along the Snoqualmie River



Key Themes: Public Engagement

King County residents are concerned about climate change. Residents expressed a clear sense of urgency in the need for action on climate change and concern about climate change impacts. The most frequently identified impacts of concern were sea level rise, wildfires, more severe weather, drought/water scarcity, health impacts from heat events/wildfire smoke, food security, and climate change-driven migration.

King County needs to get ahead of the risk. Residents want to see the County get ahead of climate risks by planning for climate change now, rather than delaying action. Recommendations for action included reducing or removing infrastructure in floodplains or other hazardous areas, preparing infrastructure for climate change, modifying codes to account for sea level rise, supporting the development of green stormwater infrastructure, increasing water conservation, and increasing ecosystem resilience by restricting the use of bulkheads on shorelines.

King County should lead by example. Residents would like to see the County provide more examples of what communities are doing to prepare for climate change, including model codes or toolkits, as a way of getting more communities involved in taking action.

King County should increase communication, engagement, and technical assistance related to climate change. Residents would like to see the County be more active in providing information on climate change and related hazards. This includes more information on ways that individuals can reduce GHG emissions and prepare for climate change; increased engagement with private property owners and the business community; and more public announcements before extreme events, especially to people living with low incomes and underrepresented communities.

Additional information on SCAP-related outreach activities and public feedback is included in Appendix VI: Community Engagement Summary.

Public meeting attendees were encouraged to share their concerns.



A Strategic Framework for Action

The accelerating pace of climate change and the long timeframes over which we will be dealing with the consequences of rising GHGs require looking at climate preparedness as part of "the new normal." In that sense, the 2020 SCAP climate preparedness actions represent important next steps in an ongoing and necessary pivot toward becoming a more climate-resilient King County.

But what does a climate-resilient King County look like? How does the County direct its work to achieve that goal? And how will we know if we are on the right track to achieving that goal? To help answer these questions, the 2020 SCAP introduces a new strategic framework for guiding our preparedness work in this and future SCAPs. The new framework provides:

- an overarching vision of success that identifies characteristics of success for our climate preparedness work;
- five strategies to focus and organize our work; and
- a performance measurement framework for tracking progress toward our vision.

Each of these elements is discussed in the following sections.



Strategic Framework for Climate Preparedness



Describes the broader "end state" that motivates King County's climate preparedness efforts. Includes vision-level performance measures.

Identifies key groups of activities for achieving the vision of success. Includes strategy-specific outcomes and five-year performance measures. Success at this level supports multiple outcomes at the vision level.

Identifies priority actions for the current 5-year SCAP period. Success at this level supports outcomes for one or more strategies.

Characterizing Success

Preparing for and adapting to the impacts of climate change in King County is not a one-time activity, nor can our success in this effort be defined by a single metric. To help define success, the Climate Preparedness Steering Committee was asked to identify what successful adaptation to climate change would look like. The exercise explored success in three areas: building organizational capacity for preparedness, delivering and implementing adaptive actions, and assessing outcomes. The suggested timeframe provided to guide the exercise was the 2080s.

VISION

King County creates, supports, and implements policies and actions that reduce climate change vulnerabilities equitably and increase the resilience of King County communities, natural systems, and the built environment.

The resulting vision of success is shown at right. In describing success, the Steering Committee emphasized the importance of building organizational capacity and flexibility to prepare for and adapt to a rapidly changing climate. Success requires ensuring that staff have the technical capacity, skills, and authority to account for climate impacts in decision processes. Increasing integration and coordination of preparedness efforts across programs and with external partners is also critical.

Achieving our vision of success also requires a demonstrated understanding of and commitment to addressing the impacts of climate change on health, equity, and social justice. We need to work with communities—particularly those disproportionately affected by climate change—to develop the information, tools, and on-the-ground changes needed to reduce the harmful effects of climate change and build stronger and more resilient communities. We need to lead by example and, in doing so, help other jurisdictions accelerate their own climate preparedness efforts and contribute to climate resilience more broadly in the Puget Sound region. Finally, we need to have the courage to go beyond incremental change to engage in deeper, more transformational change where needed. We expect to revisit and refine this initial vision and characteristics in partnership with others over time.

Addressing climate change impacts on local agriculture helps support a thriving farm economy.



Climate Preparedness Strategies

Five overarching strategies related to mainstreaming climate preparedness, building technical capacity, prioritizing health and equity, strengthening partnerships, and investing in outreach and engagement are presented as a strategic framework for organizing and guiding climate preparedness work in King County. The five strategies reflect:

- major themes that emerged from staff and public engagement processes;
- emerging best practices in climate preparedness; and
- components of success identified by the Climate Preparedness Steering Committee.

A description of each strategy, including outcome statements, associated performance measures, and priority actions, is provided in this section. The outcome statements briefly describe what King County will achieve as a result of completing strategy actions and ultimately delivering on each strategy. As with the strategies, the outcome statements are not tied to a particular year (e.g., "by 2030") or length of time (e.g., "within 20 years").

Priority actions are organized by strategy. The suite of actions associated with each strategy will change with future SCAP updates to reflect progress made and work still to be done. Although many actions benefit more than one strategy, each action is listed only once. Many actions also address preparedness needs for multiple climate impacts.

Climate Preparedness Focus Areas and Strategies

MAINSTREAM CLIMATE PREPAREDNESS	1	Account for climate impacts in policies, plans, practices, and procedures, and implement climate-resilient decisions.	
TECHNICAL CAPACITY	2	Invest in and use best available science and other technical information to inform climate preparedness work at King County.	
HEALTH AND EQUITY	3	Prioritize health and equity in climate preparedness actions and activities.	
COMMUNITY AND ORGANIZATIONAL PARTNERSHIPS	4	Strengthen collaborations and partnerships to address climate impacts and increase regional resilience.	
OUTREACH AND ENGAGEMENT	5	Invest in public outreach, engagement, and technical assistance related to climate preparedness.	

Performance Measurement Framework

Performance measurement is a key component of King County's action on climate change. Progress on SCAP actions, goals, and targets are reported every two years to the King County Council and the public. This process provides transparency by showing if and how SCAP actions are delivering on intended outcomes. Performance measurement can help identify when it is time to set new goals and targets. Performance measurement can also identify barriers that limit progress. In both cases, the knowledge gained from performance measurement helps the County know how to move forward with its work in order to achieve SCAP goals.

Performance measurement for climate preparedness is an emerging field of practice challenged by the nature of what is being measured and the time frames over which measurement is needed to determine success. For example, performance measures based on reducing damage caused by extreme events such as floods or wildfire (e.g., measuring risks avoided) can be affected by differences in the frequency or specifics of individual events, making it more challenging to draw conclusions about effectiveness over short periods of time.

Performance measurement for climate preparedness is also challenged by the lack of an overarching quantifiable metric for tracking progress over time. This stands in contrast to performance measurement approaches for reducing GHG emissions, where the emission reduction benefits of different types of activities (e.g., reducing vehicle miles traveled, increasing green building practices) can be translated into a quantifiable change in carbon dioxide emissions that is cumulatively tracked over time.

A new climate preparedness performance measurement framework is proposed as part of the 2020 SCAP (see figure). The framework builds on existing biennial reporting practices for the climate preparedness actions to include performance measurement at the strategy and vision level, as described below. The framework reflects experience with performance reporting in King County as well as key insights on the development and use of performance measurement approaches for climate preparedness as reported in Runsten 2018:[2]

- focus on a limited number of performance measures that are manageable in scope;
- leverage existing performance measures where possible;
- expect the need to adjust or change performance measures; and
- set targets after more experience with the performance measures.

As a new framework, adjustments will be needed. Performance measures may need to be modified or replaced. Additional measures may also be added. Our experience with this framework and any needed adjustments will be documented as part of SCAP reporting.

Strategy Performance Measures

The 2020 Preparing for Climate Change section includes a limited number of performance measures and reporting metrics for the five climate preparedness strategies. Most of the performance measures are qualitative but intended to be comparative over time, providing opportunity to describe the degree to which King County is making progress on its preparedness work and strategy outcomes. The potential for quantitative measures will be evaluated based on the types of detail that emerge from reporting on the measures.

Climate Preparedness Performance Measurement Framework

VISION – CLIMATE PREPAREDNESS

King County creates, supports, and implements policies and actions that reduce climate change vulnerabilities equitably and increase the resilience of King County communities, natural systems, and the built environment.

VISION-LEVEL PERFORMANCE MEASURES

Forthcoming (a 2020 SCAP action), related to the following

Climate resilient **communities**

Climate resilient **natural systems**

Climate resilient **built environment**

STRATEGY-LEVEL PERFORMANCE MEASUREMENT

New (included in the 2020 SCAP)

Strategy 1 Performance measures	*Strategy 2 Performance measures*	*Strategy 3 Performance measures*	*Strategy 4 Performance measures*	*Strategy 5 Performance measures*
Strategy 1 Account for climate impacts in policies, plans, practices, and procedures, and implement climate-resilient decisions.	**Strategy 2** Invest in and use best available science and other technical information to inform climate preparedness work at King County.	**Strategy 3** Prioritize health and equity in climate preparedness actions and activities.	**Strategy 4** Strengthen collaborations and partnerships to address climate impacts and increase regional resilience.	**Strategy 5** Invest in public outreach, engagement, and technical assistance related to climate preparedness.

PRIORITY ACTION-LEVEL PERFORMANCE MEASUREMENT

Continuing (since 2015 SCAP)

Strategy 1 Priority action status reporting	*Strategy 2 Priority action status reporting*	*Strategy 3 Priority action status reporting*	*Strategy 4 Priority action status reporting*	*Strategy 5 Priority action status reporting*

Vision Performance Measures

Selecting performance measures for the vision of success is a "Fast Start" 2020 SCAP climate preparedness action (Action 1.1.4).

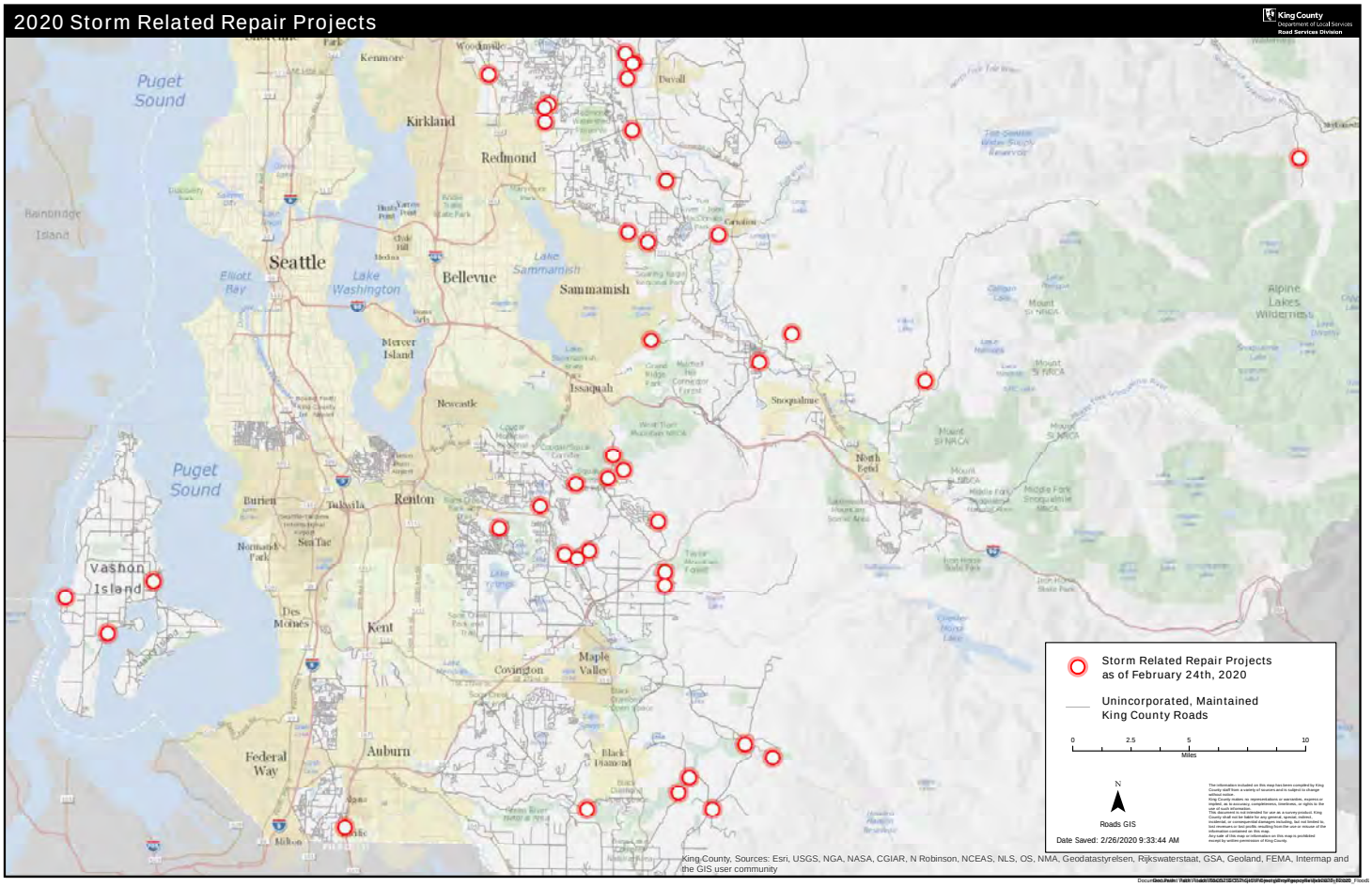
The County's vision of success for climate preparedness describes the broader end state or desired future that King County is ultimately looking to achieve with respect to climate preparedness. This vision—and the resulting approach for performance measurement at the vision level—is centered on three key goals: climate resilient communities, climate resilient natural systems, and a climate resilient built environment.

While these goals are central to the vision of success, SCAP actions are not the sole determinants for achieving that vision. As a result, performance measures at the vision level will reflect the effectiveness of our SCAP actions *and* the effectiveness of actions taken by King County and other jurisdictions, agencies, and organizations in and beyond the King County region. For example, climate preparedness efforts by other King County communities will influence how quickly we see achieve our vision of success.

Progress on our vision will also be governed by actions taken by King County and others to address underlying stressors that can exacerbate climate impacts on people, places, and systems. These underlying issues can include:

- existing disparities in asthma rates and cardiovascular disease driven by inequities in income and healthcare access that leave some communities disproportionately affected by projected increases in wildfire smoke and extreme heat events;

The February 2020 winter storm event resulted in over $10M in damages to the unincorporated King County road system. At one point during the storm, over 30 roads were temporarily closed due to flooding and storm related issues.



- habitat loss and pollution, which can leave species and habitats more vulnerable to climate change impacts; and
- aging infrastructure and inadequate funding for infrastructure maintenance, which can leave infrastructure more at-risk of damage and failure during extreme events.

Leveraging existing King County performance metrics will be a priority when selecting the vision-level performance measures. Performance measures for climate resilient natural systems, for example, may include connected floodplains, healthy forests, natural shorelines, and restored habitat. Using existing performance management structures reduces the amount of additional data collection and performance reporting required for programs. Leveraging existing measures also helps link the SCAP and the climate preparedness vision of success to other County efforts, creating synergies between efforts. This includes performance measures and targets being developed for the Department of Natural Resources and Parks' (DNRP) Clean Water Healthy Habitat initiative.

Other related program efforts with potentially relevant performance management metrics include the King County Hazard Mitigation Plan, the Land Conservation Initiative, the Clean Water Plan, the Stormwater Services Strategic Plan, the Flood Hazard Management Plan, Community Health Indicators, and numerous King County asset and service performance metrics. New metrics will also be identified and adopted, if needed.

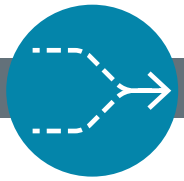
Reporting on Performance Measures

In general, progress on meeting SCAP priority actions, target measures, and outcomes are reported every two years in accordance with the reporting requirements of King County Code 18.50. Reporting on the performance measures for this new framework will be integrated into current SCAP reporting practices as follows. Adjustments to this reporting approach will be made as needed based on lessons learned in implementing the approach.

- **Action Performance Measure Reporting.** As noted above, progress on individual SCAP actions is currently reported biennially to the King County Council and will continue as part of this performance management framework. Reporting is based on action status (complete or ongoing, in progress, needs attention). Notable accomplishments related to those actions are reported qualitatively every five years as part of each SCAP update.
- **Strategy Performance Measure Reporting.** Strategy performance measures will be reported on twice within any five-year SCAP cycle and timed to align with SCAP biennial reporting. Due to the time required for data collection and the frequency of SCAP progress reports, strategy-level reporting in the five-year SCAP period will include one interim and one in-depth assessment. The interim assessment will be submitted with the first biennial report following adoption of a SCAP. The interim assessment will use examples, case studies, and other summary information to show if and how we are making progress on each strategy. The in-depth assessment, based on staff interviews and other data collection methods, will be submitted with the second biennial report following SCAP adoption. The more detailed assessment will be used to inform development of new SCAP actions.
- **Vision Performance Measure Reporting.** Vision-level performance measure reporting is expected to occur once per SCAP cycle and will be timed to coincide with the in-depth strategy performance assessment described above or as part of the five-year SCAP updates. The specific timing will be finalized with selection of the vision level performance measures.

The 2020 SCAP Climate Preparedness Actions

FOCUS AREA 1: MAINSTREAM CLIMATE PREPAREDNESS



Strategy 1: Account for climate impacts in policies, plans, practices, and procedures, and implement climate-resilient decisions.

About this strategy: Effectively preparing for climate change requires accounting for climate impacts in the policies, plans, practices, and procedures that influence day-to-day decision-making and outcomes at King County. Effectively preparing also requires looking beyond adjustments to individual policies, plans, practices, and procedures to understand where more transformative changes in how King County does it work may be needed to achieve climate-resilient outcomes. Finally, effectively preparing requires acting on what we are learning and evaluating the effectiveness of those actions over time, ultimately implementing well-informed decisions that reduce climate impacts and increase resilience. In this way, preparing for climate change inherently becomes part of what the County does rather than an activity considered separate from other decision-making and implementation activities.

Strategy outcomes: King County is developing and implementing climate-resilient decisions that account for and reduce climate impacts equitably on King County communities, natural systems, and the built environment. As part of this work, King County is identifying and pursuing opportunities to implement more transformative approaches to how we do our work. King County is also evaluating climate preparedness action outcomes to support institutional learning and to inform ongoing climate preparedness activities.

Strategy 1 Performance Measures	*Reporting Metric or Target*
1. King County policies, plans, practices, and procedures require consideration of climate impacts, where relevant, as part of decision processes.	*By 2025:* King County programs have successfully delivered on updates identified in the 2020 SCAP actions. *By 2030:* King County programs have identified and updated remaining relevant policies, plans, practices, and procedures.
2. King County is accounting for climate impacts in decision processes and implementing climate resilient actions.	Qualitative assessment (comparative over time) of if/how King County programs are making progress on: • clearly articulating if/how climate change affects a planned activity or other type of decision; • adjusting decisions or actions to account for climate impacts; and • implementing climate-resilient actions.
3. SCAP climate preparedness actions are achieving their expected outcomes.	Target for *completed* actions: 100% Combined quantitative and qualitative assessment (comparative over time) of if/how King County's climate preparedness actions are delivering on the expected outcomes identified for those actions. The time frame for when SCAP action outcomes will be achieved will depend on the action and may extend beyond any single five-year SCAP window.

1.1. STRATEGY 1 ACTIONS SUPPORTING PREPAREDNESS ACROSS DEPARTMENTS

Priority Actions	King County Role	Connections and Considerations
Prep. 1.1.1 **Adapt centralized capital planning and review processes to include climate considerations earlier in project planning and budgeting stages.** *(Climate Action Team)* The Climate Action Team will partner with the Capital Projects Management Working Group, the Office of Performance, Strategy and Budget, and other partners to identify and implement changes in capital planning and budgeting processes that support early inclusion of climate mitigation and preparedness options in those processes. This includes looking at steps related to project planning, chartering, predesign, and budgeting.	 Implement	 Public Priority; Reduce Emissions; Capital Planning
Prep. 1.1.2 **Establish an interdepartmental King County climate preparedness workgroup.** *(Climate Action Team)* The Climate Action Team will establish an interdepartmental climate preparedness workgroup to support implementation of SCAP preparedness actions and to provide technical input on other cross-organizational preparedness needs.	 Implement	 Fast Start
Prep. 1.1.3 **Develop a funding toolbox for financing climate preparedness needs.** *(Climate Action Team)* The Climate Action Team will evaluate the role of traditional and emerging options for funding climate preparedness, including options for incentivizing preparedness investments, and develop recommendations for how those funding tools could be used to fund preparedness needs.	 Convene	 Public Priority
Prep. 1.1.4 **Finalize performance measures for climate preparedness.** *(Climate Action Team)* The Climate Action Team will develop a final list of performance measures for King County's climate preparedness efforts. These performance measures will leverage existing and emerging performance measurement frameworks to track progress on reducing climate impacts and increasing the resilience of King County communities, natural systems, and the built environment.	 Implement	 Fast Start

1.2. STRATEGY 1 ACTIONS FOR SPECIFIC IMPACTS OR PROGRAM AREAS

Priority Actions	King County Role	Connections and Considerations
Prep. 1.2.1 **Develop and implement a climate change capital planning strategy for flood mitigation projects.** *(DNRP)* The Water and Land Resources Division will examine approaches to incorporating more adaptability in the design and building of capital projects for flood mitigation as part of the update to the King County Flood Hazard Management Plan. Results from this work will inform the development of a strategic approach to integrating climate change into flood mitigation capital projects.	 Implement	 Flooding  Sea Level Rise  Capital Planning
Prep. 1.2.2 **Improve permitting guidance related to sea level rise and bulkheads.** *(DLS)* The Permitting Division, in partnership with WLRD and the Climate Action Team, will develop updated guidance for property owners and county staff related to sea level rise, shoreline development, and bulkheads. This work will also include improved guidance and/or recommended code changes related to bulkheads that add clarity to the administrative interpretation of existing code, inclusive of sea level rise considerations.	 Implement	 Sea Level Rise
Prep. 1.2.3 **Develop guidance and recommendations to further incorporate climate change considerations within Wastewater Treatment Division programs, projects, and operations** *(DNRP)* The Wastewater Treatment Division (WTD) will establish a Climate Adaptation Work Group and utilize their expertise to further develop, document, and communicate guidance and procedures for systematically addressing climate change impacts within WTD programs, projects, and operations. This includes developing guidance that helps establish division-wide priorities and coordination of recommended adaptation efforts.	 Implement	 Wastewater Conveyance

1.2. STRATEGY 1 ACTIONS FOR SPECIFIC IMPACTS OR PROGRAM AREAS

Priority Actions	King County Role	Connections and Considerations
Prep. 1.2.4 **Develop a methodology and standard for assessing climate resiliency for stormwater management.** *(DNRP)* The Water and Land Resources Division will develop a methodology and standard for conducting climate resiliency analyses for stormwater management. This includes evaluating the impacts of additional climate change scenarios at more locations around the County to better understand the effects and broader implications of increased rainfall on stormwater infrastructure in King County. Results from this work will help inform what combination of regulatory changes, operational changes, and capital investments will achieve the best outcomes for climate resiliency.	 Implement	 Stormwater Management
Prep. 1.2.5 **Include the effects of future climate conditions in prioritization of fish passage barriers.** *(DNRP)* The Water and Land Resources Division will work with partners to develop and implement a fish passage barrier prioritization method that includes evaluation of how climate change may affect fish passage. WLRD will then incorporate the prioritization output into the planning of fish passage restoration across county agencies.	 Implement	 Salmon Recovery
Prep. 1.2.6 **Factor future climate conditions into design, operation, and maintenance of assets in streams.** *(DNRP)* The Water and Land Resources Division will work with King County agencies responsible for fish passage barriers to develop guidance, methods, and standards for incorporating projected climate change impacts on King County streams into county asset management efforts that affect fish passage.	 Implement	 Salmon Recovery

1.2. STRATEGY 1 ACTIONS FOR SPECIFIC IMPACTS OR PROGRAM AREAS

Priority Actions	King County Role	Connections and Considerations
Prep. 1.2.7 **Update the King County Habitats of Local Importance and Species of Local Importance lists in the King County Comprehensive Plan to account for climate impacts.** *(DNRP)* The Water and Land Resources Division will use existing literature, data, and expert input to evaluate climate change impacts on species and habitats in King County. Results from the assessment will be used to update the King County Comprehensive Plan. Results from the evaluation will also inform open space management, acquisition, habitat restoration, and other activities undertaken by the County and regional partners.	 Implement	 Biodiversity
Prep. 1.2.8 **Update King County's Comprehensive Plan Biodiversity Conservation Approaches and DNRP's Ecological Lands Handbook to account for the impacts of climate change**. *(DNRP)* The Water and Land Resources Division will update the Comprehensive Plan's Biodiversity Conservation Approaches section and the DNRP Ecological Lands Handbook to reflect our current understanding of climate change impacts on ecological systems. This update will help ensure that recommendations and decisions based on these documents are made with the best currently available information.	 Implement	 Biodiversity
Prep. 1.2.9 **Update Parks operating protocols and communications plans to account for wildfire and other extreme weather events**. *(DNRP)* King County Parks will review current operating protocols and communications plans to ensure that existing protocols are adequate relative to recent trends in extreme events and projected climate impacts. New protocols for managing wildfire smoke exposure for staff will also be developed.	 Implement	 Fast Start  Parks & Open Space

1.2. STRATEGY 1 ACTIONS FOR SPECIFIC IMPACTS OR PROGRAM AREAS

Priority Actions	King County Role	Connections and Considerations
Prep. 1.2.10 **Incorporate best available information on climate impacts into the implementation of the 2020–2025 Parks, Recreation, Trails and Open Space Levy.** *(DNRP)* King County Parks will implement levy commitments with consideration given to climate change preparedness, as appropriate. This includes, for example, incorporating anticipated climate change impacts into capital planning, project delivery, and asset management; including SCAP-related considerations in Parks' grants and funding awards; addressing climate change considerations in the 2021 update of King County's Open Space Plan; and prioritizing urban equity acquisitions that produce multiple benefits, like addressing urban heat island effects and providing green stormwater benefits.	 Implement	 Parks & Open Space
Prep. 1.2.11 **Incorporate best available information on climate change impacts into the delivery of capital planning, capital projects, and program delivery for Roads.** *(DLS)* The Roads Division will incorporate information about climate change impacts into Division capital planning, capital projects, and program delivery to the extent feasible under available funding to help ensure that service reliability, public safety, equity, and environmental goals are met in the face of a changing climate.	 Implement	 Transit & Roads  Capital Planning
Prep. 1.2.12 **Update Metro operating protocols and plans to account for wildfire smoke and other extreme events.** *(Metro)* King County Metro will review current operating protocols to ensure that existing protocols are current with recent trends in extreme events and expected climate change impacts. New protocols for managing wildfire smoke will also be developed.	 Implement	 Fast Start  Transit & Roads

FOCUS AREA 2: TECHNICAL CAPACITY

Strategy 2: Invest in and use best available science and other technical information to inform climate preparedness work at King County.

About this strategy: King County is committed to using best available science and other technical information to inform its climate preparedness work. This strategy includes drawing on existing climate change research and technical studies conducted by other departments and organizations, as well as directly funding and/or conducting new studies and technical assessments specific to County decision needs. This also includes building internal staff capacity and expertise to apply best available science related to preparedness needs.

Strategy outcomes: King County is applying best available science related to climate impacts and adaptation practice in decision-making, contributing to the development of more climate-resilient decisions. The County is also identifying, funding, and/or participating in development of research and technical assessments needed to support climate-resilient decision-making.

Strategy 2 Performance Measures	*Reporting Metric or Target*
1. King County staff are accessing and applying relevant research, data, guidance, and other technical information related to climate impacts and climate preparedness.	King County staff report knowing where to find relevant climate information and feel they have the technical guidance needed to consistently apply that information in decisions.
2. King County is funding or otherwise pursuing the technical information and research needed to inform climate-resilient decision-making, and sharing that technical information with others.	Examples and qualitative assessment of if/how King County is making progress on identifying, funding, and/or participating in the development of research and technical assessments, and what we are learning from that work.

Reducing flood risk while supporting habitat complexity (Stossel Revetment Emergency Repair, 2018)



2.1. STRATEGY 2 ACTIONS SUPPORTING PREPAREDNESS ACROSS DEPARTMENTS

Priority Actions	King County Role	Connections & Considerations
Prep. 2.1.1 **Develop and maintain a Climate Change Resource Hub to inform climate preparedness activities at King County.** *(Climate Action Team)* The Climate Action Team will develop and maintain a common set of climate resources to support incorporation of climate impacts considerations into County decision processes and other activities. Shared resources include best practice guidelines, technical studies, data, GIS resources, training opportunities, and tools.	Implement	Reduce Emissions; Climate Equity; Capital Planning
Prep. 2.1.2 **Develop a shared set of climate change scenarios for use in capital planning and other decision-making across County programs.** *(Climate Action Team)* The Climate Action Team will partner with the Capital Projects Management Working Group and others to develop a common set of climate change scenarios and technical guidance for use by King County programs. The scenarios and guidance will be included in the Climate Change Resource Hub and updated as needed based on best available science.	Implement	Fast Start; Capital Planning

Murray Combined Sewer Overflow Storage Facility construction



2.2. STRATEGY 2 ACTIONS FOR SPECIFIC IMPACTS OR PROGRAM AREAS

Priority Actions	King County Role	Connections & Considerations
Prep. 2.2.1 **Evaluate how projected changes in flooding affect infrastructure and flood mitigation activities in King County.** *(DNRP)* As part of the Flood Hazard Management Plan update, the Water and Land Resources Division will examine how currently projected climate-driven changes affect future flood risk, and in turn evaluate impacts to future flood mitigation efforts in King County. The RFMS will also look at relevant data with stakeholders to evaluate the impact of sea level rise on coastal properties and evaluate risk reduction measures for properties throughout the county. These efforts will be aimed at developing a more flood- and climate change-resilient community.	 Implement	 Public Priority  Flooding  Sea Level Rise
Prep. 2.2.2 **Assess the hydraulic impacts of saltwater intrusion on the Wastewater Treatment Division conveyance system and develop a strategy for addressing those impacts.** *(DNRP)* The Wastewater Treatment Division (WTD) will conduct a salinity intrusion study to provide an updated understanding of the scope and scale of salinity intrusion into the wastewater conveyance system. WTD will also develop recommendations for reducing salinity intrusion in the wastewater conveyance system.	 Implement	 Wastewater Conveyance  Sea Level Rise
Prep. 2.2.3 **Expand the Wastewater Treatment Division's assessment of how projected changes in rainfall intensity affect the wastewater system.** *(DNRP)* The Wastewater Treatment Division will expand an initial assessment of heavy rain events completed as part of the 2015 SCAP to include data from up to ten additional climate scenarios, providing a more robust assessment on how changes in the intensity, duration, and magnitude of heavy rain events in King County affect wastewater conveyance and treatment.	 Implement	 Wastewater Conveyance

2.2. STRATEGY 2 ACTIONS FOR SPECIFIC IMPACTS OR PROGRAM AREAS

Priority Actions	King County Role	Connections & Considerations
Prep. 2.2.4 **Partner with the U.S. Geological Survey to aid in the development of their Puget Sound Coastal Storm Modeling System.** *(DNRP)* The Wastewater Treatment Division (WTD) will partner with the U.S. Geological Survey to evaluate projected changes in the magnitude, frequency, and timing of coastal flooding along key segments of the King County shoreline important to WTD. The study will also assess the influence of sea level rise on groundwater levels in the lower Duwamish River valley and evaluate potential changes in bluff erosion at a limited number of locations on Vashon Island.	Convene	Wastewater Conveyance Sea Level Rise
Prep. 2.2.5 **Investigate the use of smart system technology and operational adjustments to optimize performance of existing stormwater assets.** *(DNRP)* The Water and Land Resources Division will pilot the use of remote sensors to monitor facility performance in real time and use that information to identify options for modifying facility outlet control devices to improve performance. Stormwater Services will also evaluate stormwater management methods and practices that could increase climate resilience. This includes evaluating changes in maintenance cycles/intervals to maximize performance and bio-swale vegetation management.	Implement	Stormwater Management

Roadside rain gardens absorb large amounts of stormwater from streets and sidewalks.



2.2. STRATEGY 2 ACTIONS FOR SPECIFIC IMPACTS OR PROGRAM AREAS

Priority Actions		King County Role	Connections & Considerations
Prep. 2.2.6	**Assess potential benefits of levee setbacks on summer low-flow conditions.** *(DNRP)* The Water and Land Resources Division will examine the potential benefits of levee setbacks on groundwater recharge in floodplains and determine if, and to what degree, any benefit could help mitigate projected decreases in summer flows as a result of climate change.	 Implement	 Salmon Recovery
Prep. 2.2.7	**Evaluate projected changes in summer streamflow volumes in major King County watersheds.** *(DNRP)* The Water and Land Resources Division will utilize a recently expanded set of climate change streamflow data to evaluate projected changes in summer low streamflows for the Green and Snoqualmie Rivers. Analyses for the White and Cedar Rivers are contingent on data availability. Information from this assessment will be used to inform salmon recovery and habitat restoration projects, strategic planning, and outreach efforts.	 Implement	 Salmon Recovery
Prep. 2.2.8	**Assess King County irrigation water needs.** *(DNRP)* The Water and Land Resources Division will conduct a comprehensive, countywide assessment of agricultural water need in King County to better understand current and future demand for agricultural water in King County, and to identify actionable opportunities for addressing this demand in concert with other water needs, including instream flows for salmon recovery. Results from the assessment will help inform long-term planning related to agricultural production in King County.	 Implement	 Fast Start  Agriculture
Prep. 2.2.9	**Conduct a climate change impacts assessment for agricultural production in King County.** *(DNRP)* The Local Food Initiative will coordinate collection of available scientific information to assess climate change impacts on King County agriculture. The assessment will also identify actions that farmers and King County agricultural programs can take to address climate change impacts, helping to sustain a healthy and thriving King County farm economy over the long term.	 Convene	 Climate Equity  Agriculture

2.2. STRATEGY 2 ACTIONS FOR SPECIFIC IMPACTS OR PROGRAM AREAS

Priority Actions	King County Role	Connections & Considerations
Prep. 2.2.10 **Develop a systematic approach for updating and maintaining King County's landslide inventory database and landslide hazard mapping.** *(DNRP)* The Water and Land Resources Division, in partnership with other internal and external partners, will update the County's current landslide inventory database and landslide hazard maps along river corridors and all areas in unincorporated King County, with the goal of developing a more systematic approach for mapping hazards, tracking events, and sharing landslide information relevant to public safety, land use, permitting, asset management, flood risk, and emergency management decisions.	 Implement	 Resource Need  Landslide Hazards
Prep. 2.2.11 **Explore opportunities to update the 2006 vulnerable roads assessment and incorporate climate change impacts as a factor in that assessment.** *(DLS)* The Roads Division will explore opportunities to update the 2006 vulnerable roads assessment and incorporate climate change impacts as an evaluation factor in that assessment. Information from that assessment will be used to inform capital planning and project delivery in Roads, among other activities.	 Implement	 Public Priority  Transit & Roads  Resource Need
Prep. 2.2.12 **Conduct a climate change vulnerability assessment for Metro and identify actions that can be taken to address those impacts.** *(Metro)* Metro will conduct a climate change vulnerability assessment that evaluates and prioritizes climate change impacts for current and planned Metro operations, assets, and service delivery, including the proposed South Base in south King County. Metro will also identify actions for equitably addressing priority impacts identified in the assessment.	 Implement	 Fast Start  Transit & Roads
Prep. 2.2.13 **Evaluate how groundwater levels at King County International Airport change in response to seasonal changes in rainfall and tidal fluctuations.** *(DES)* King County International Airport will partner with WLRD to evaluate the sensitivity of groundwater levels at the airport to seasonal changes in rainfall and tidal fluctuations. The assessment, which will leverage USGS modeling work planned as part of the 2020 SCAP, will inform long-term planning related to stormwater management and adapting airport infrastructure and operations to the impacts of climate change.	 Implement	 King County Facilities

2.2. STRATEGY 2 ACTIONS FOR SPECIFIC IMPACTS OR PROGRAM AREAS

Priority Actions	King County Role	Connections & Considerations
Prep. 2.2.14 **Develop a sustained monitoring program for tracking offsite stormwater flows that affect King County International Airport.** *(DES)* King County International Airport will develop a sustained monitoring program for tracking offsite stormwater flows onto airport grounds to better understand the potential effects of offsite drainage on stormwater management capacity. Information from that monitoring program will examine 1) how much runoff is entering airport property, 2) how that runoff varies based on seasonal patterns and antecedent conditions, and 3) the effectiveness of efforts to reduce that runoff.	 Implement	 King County Facilities  Stormwater Management
Prep. 2.2.15 **Evaluate the impacts of heavier rain events on stormwater capacity at King County International Airport.** *(DES)* King County International Airport will leverage new climate change scenarios for rainfall in King County to examine how projected changes in rainfall intensity and duration affect stormwater capacity at the airport. Information from the assessment will be used to support long-term planning and asset management at the airport.	 Implement	 King County Facilities  Stormwater Management
Prep. 2.2.16 **Complete a climate change vulnerability assessment and action strategy for the Solid Waste Division.** *(SWD)* The Solid Waste Division (SWD) will conduct a rapid climate change vulnerability assessment that evaluates and prioritizes climate change impacts on SWD assets and operations, and identifies actions for addressing key impacts. Results from the assessment will help SWD be strategic in addressing climate change impacts as part of asset management and long-term planning.	 Implement	 Solid Waste

FOCUS AREA 3: HEALTH AND EQUITY



Strategy 3: Prioritize health and equity in climate preparedness actions and activities.

About this strategy: Climate change affects all King County residents, but not all residents are affected in the same way. Existing inequities related to health care, housing, employment, language, and other socioeconomic factors can create disproportionate impacts on people living with low incomes, immigrant and refugee communities, people with disabilities, and BIPOC communities (i.e., frontline communities). People living in or near areas affected by specific types of climate-related hazards, such as river and coastal flooding or wildfires, can also be affected in disproportionate ways, particularly those who have limited resources or awareness of how to prepare for, adapt to, or recover from those hazards. Finally, health factors (e.g., age, pregnancy), and underlying medical issues such as cardiovascular, respiratory, kidney, cerebrovascular, or mental health disease can increase vulnerability to climate impacts.

Grounding our climate preparedness work in climate and health equity, with a focus on frontline communities and other potentially vulnerable populations, will help ensure that our efforts help address disproportionate impacts. As a strategy closely linked to the focus of the Sustainable & Resilient Frontline Communities section, the activities pursued under this strategy, including the priority actions listed below and performance measurement, will be informed by and coordinated with the work of the Sustainable & Resilient Frontline Communities section.

Strategy outcomes: King County's climate preparedness efforts are contributing to improved climate equity and health outcomes and increased climate resilience in communities disproportionately affected by climate change.

Strategy 3 Performance Measures	*Reporting Metric or Target*
1. King County is developing and implementing actions specifically focused on improving climate equity and related health outcomes for disproportionately impacted communities.	Qualitative assessment (comparative over time) of if/how King County programs are making progress on: • developing and implementing climate preparedness actions specifically focused on addressing climate equity and health disparities; and • including targeted efforts related to climate equity and health disparities in the development and implementation of other climate preparedness activities.

3.1. STRATEGY 3 ACTIONS FOR SPECIFIC IMPACTS OR PROGRAM AREAS

Priority Actions	King County Role	Connections & Considerations
Prep. 3.1.1 **Develop and implement an Urban Heat Island Strategy.** *(Climate Action Team)* The Climate Action Team will work with internal and external partners to develop and implement strategies for reducing temperatures and the associated risk of heat-related illness in areas identified as urban heat islands. The strategy will leverage and build on ongoing efforts related to mapping surface temperatures in King County, increasing tree canopy, providing access to green space and open space, and green building.	 Convene	 Climate Equity  Health Blueprint  Reduce Emissions
Prep. 3.1.2 **Develop messaging and guidance to prepare equitably for and mitigate climate-related health impacts.** *(Public Health)* Public Health will collaborate with agency and community partners to address gaps in climate and health knowledge and co-develop inclusive and equitable climate and health messaging, resources, and guidance.	 Convene	 Climate Equity  Health Blueprint
Prep. 3.1.3 **Account for equity in how Metro creates and shares information about changes in service related to extreme weather events.** *(Metro)* Metro will work to minimize the impact of weather-related service changes on disproportionately impacted communities by expanding ethnic media connections and pursuing other opportunities to create and share service-related information to these communities.	 Implement	 Climate Equity  Transit & Roads
Prep. 3.1.4 **Design bus stops to account for more extreme weather events, particularly at stops serving communities who may be disproportionately impacted by those events.** *(Metro)* The Bus Stop Improvements team will develop and incorporate climate change metrics in the process for selecting and prioritizing bus stop shelter improvements. Beginning in 2021, at least 10% of the weather-related improvements will be constructed at bus stops in climate priority areas.	 Implement	 Climate Equity  Health Blueprint  Transit & Roads

FOCUS AREA 4: COMMUNITY AND ORGANIZATIONAL PARTNERSHIPS

Strategy 4: Strengthen collaborations and partnerships to address climate impacts and increase regional resilience.

About this strategy: Collaborations and partnerships are critical to addressing the complex challenges of climate change. Strengthening collaborations and partnerships between County departments and with other jurisdictions and organizations provides opportunities to align preparedness activities, leverage limited resources, share lessons learned, stay informed of issues relevant to King County's climate preparedness efforts, and develop equitable approaches to reducing impacts that match the scale of the challenges and opportunities presented by climate change.

Effective and equitable collaborations and partnerships is a shared priority for the Climate Preparedness and Sustainable & Resilient Frontline Communities sections. Activities pursued under this strategy, including the priority actions listed below and performance measurement, will be informed by and coordinated with priorities and activities identified in the Sustainable & Resilient Frontline Communities section.

Strategy outcomes: King County's climate preparedness efforts have been strengthened through strong internal and external collaborations and partnerships, and are contributing to climate resilience more broadly in King County and the Puget Sound region.

Strategy 4 Performance Measure	*Reporting Metric or Target*
1. King County is building and/or supporting the collaborations and partnerships necessary to make progress on climate preparedness outcomes and improving regional climate resilience.	Qualitative assessment (comparative over time) of if/how King County programs are building and sustaining collaborations and partnerships related to climate preparedness, and if/how those collaborations and partnerships are resulting in progress on preparedness priorities.

Restoring fish passage, Zackuse Creek culvert replacement (before and after)



4.1. STRATEGY 4 ACTIONS SUPPORTING PREPAREDNESS ACROSS DEPARTMENTS

Priority Actions	King County Role	Connections & Considerations
Prep. 4.1.1 **Expand the K4C model for collaboration to include climate preparedness topics and issues.** *(Climate Action Team)* The Climate Action Team will partner with King County-Cities Climate Collaboration (K4C) to plan and prepare for the impacts of climate change on K4C communities and the King County region. This includes identifying shared climate impact concerns and pursuing opportunities for addressing those concerns.	Convene	K4C; Public Priority
Prep. 4.1.2 **Strengthen the role of the Puget Sound Climate Preparedness Collaborative in advancing and aligning local and regional climate preparedness efforts.** *(Climate Action Team)* The Climate Action Team will work with other members of the Puget Sound Climate Preparedness Steering Committee to grow and sustain the work of the Collaborative. This includes pursuing financial sustainability for the Collaborative, expanding opportunities to engage with communities about climate preparedness, and addressing key knowledge gaps related to climate preparedness.	Convene	Public Priority

Irrigating with recycled water at Starfire Sports in Tukwila



4.2. STRATEGY 4 ACTIONS FOR SPECIFIC IMPACTS OR PROGRAM AREAS

Priority Actions		King County Role	Connections & Considerations
Prep. 4.2.1	**Increase coordination around planning for sea level rise in the lower Duwamish.** *(Climate Action Team)* The Climate Action Team will partner with the City of Seattle, Seattle Public Utilities, the Port of Seattle, and others to increase coordination around organizational efforts to plan for sea level rise in the lower Duwamish waterway. This includes identifying shared information needs and other opportunities for coordinated and/or collaborative near-term and longer-term work on sea level rise in the lower Duwamish.	 Convene	 Public Priority  Sea Level Rise
Prep. 4.2.2	**Expand the use of recycled water in the Sammamish Valley to help mitigate projected changes on summer low streamflows.** *(DNRP)* The Wastewater Treatment Division will continue work with key stakeholders including farmers, drinking water systems, and Tribes to evaluate how recycled water can be expanded to reduce water withdrawals and benefit streamflow in the Sammamish Valley. Actions include connecting new irrigation customers where economically feasible and evaluating interest and costs of expanding recycled water to serve irrigation needs for agriculture in the Sammamish Valley.	 Convene	 Wastewater Conveyance
Prep. 4.2.3	**Work with partners to explore changes in regulated streamflow management for the Green River to account for climate impacts on salmon.** *(DNRP)* The Water and Land Resources Division will work with partners to explore if changes in flow management at Howard Hanson Dam on the Green River could be utilized to ameliorate the expected impacts of climate change, while meeting operational and regulatory expectations. Adjustments could include changing the timing of releases or the depth of release from the reservoir to help address high summer temperatures in downstream reaches.	 Support/ Advocate	 Salmon Recovery

4.2. STRATEGY 4 ACTIONS FOR SPECIFIC IMPACTS OR PROGRAM AREAS

Priority Actions		King County Role	Connections & Considerations
Prep. 4.2.4	**Partner with major landowners and land managers to better understand and enhance the role of upper watershed forests in reducing climate change impacts on salmon.** *(DNRP)* The Water and Land Resources Division will partner with WRIA teams, the Rural Forest Commission, major forest landowners and land managers to assess the benefits of upper watershed forests for salmon recovery and habitat restoration in a changing climate, and recommend strategic approaches for maximizing those benefits.	 Convene	 Salmon Recovery
Prep. 4.2.5	**Work with partners to update the Wildlife Habitat Network to include and enhance habitat connectivity needs related to vulnerable species and habitats in King County.** *(DNRP)* The Water and Land Resources Division will work with partners to update the Wildlife Habitat Network to account for and enhance climate change-related habitat connectivity needs for vulnerable species and habitats in King County. Results from the assessment will support regional efforts related to open space management, land acquisition, and habitat restoration.	 Convene	 Biodiversity
Prep. 4.2.6	**Work with King County programs and regional partners to evaluate and support the use of beaver as an adaptation strategy for addressing hydrologic change, where appropriate.** *(DNRP)* The Water and Land Resources Division will evaluate the use of beaver as an adaptation strategy for addressing climate change impacts on water quality, streamflow volume, and riparian habitat, and develop recommendations on how and where beaver can be strategically incorporated into a climate change response to hydrologic change. Project staff will also work with other County programs and regional partners to support and enhance those benefits, where appropriate.	 Convene	 Resource Need  Biodiversity

4.2. STRATEGY 4 ACTIONS FOR SPECIFIC IMPACTS OR PROGRAM AREAS

Priority Actions	King County Role	Connections & Considerations
Prep. 4.2.7 **Develop a King County Wildfire Risk Reduction Strategy.** *(DES)* The Office of Emergency Management will partner with King County communities, fire districts, and other organizations to develop an integrated King County strategy for wildfire. The strategy will review current efforts to address wildfire risk in King County and develop recommendations for addressing identified gaps and opportunities.	 Convene	 Public Priority  Forest Health & Wildfire  Hazard Mitigation
Prep. 4.2.8 **Develop guidelines for sourcing tree seedlings to help forest planting practices account for climate change.** *(DNRP)* The Water and Land Resources Division will convene forestry practitioners and academics to discuss adapting forest planting practices to account for climate change, and develop a state of the science paper on assisted migration in the PNW with specific recommendations for tree planting that can be used to inform forest planting decisions by King County, small private forest landowners, and others.	 Convene	 Forest Health & Wildfire
Prep. 4.2.9 **Ensure that all forest plans developed and approved by King County and partners account for climate change.** *(DNRP)* The Water and Land Resources Division will work with public and private forestland partners to ensure that all forest plans developed and/or approved by King County include strategies to minimize risk from climate change. This applies to forest stewardship plans developed to guide management of King County-owned forest lands as well as forest plans developed for private forest landowners who want to enroll in **the** Public Benefit Rating System and other Current Use Taxation program.	 Implement  Convene	 Forest Health & Wildfire

Priority Actions	King County Role	Connections & Considerations
Prep. 4.2.10 **Develop and Implement a King County Wildfire Smoke Strategy.** *(Public Health)* Public Health, in partnership with the Office of Emergency Management, the Climate Action Team, the Puget Sound Clean Air Agency, and King County communities, will develop and implement a strategy for responding to and mitigating the health effects of wildfire smoke on King County residents, with an emphasis on those who are disproportionately impacted by wildfire smoke.	 Convene  Public Health	 Climate Equity  Hazard Mitigation  Resource Need  Fast Start

4.2. STRATEGY 4 ACTIONS FOR SPECIFIC IMPACTS OR PROGRAM AREAS

Priority Actions	King County Role	Connections & Considerations
Prep. 4.2.10 **Account for climate change impacts in the Agricultural Land Resource Strategic Plan for the Snoqualmie Valley.** *(DNRP)* The Water and Land Resources Division will work with partners to include consideration of climate impacts and resiliency in the Agricultural Land Resource Strategic Plan for Snoqualmie Valley. Doing so will help ensure that future management and infrastructure improvements developed through the strategy account for climate change.	 Convene	 Agriculture
Prep. 4.2.11 **Work with partners to ensure that climate change mitigation and preparedness are incorporated into farm plans and strategies.** *(DNRP)* The Water and Land Resources Division will work with partners to help ensure that farm plans include information related to climate mitigation and climate preparedness. This includes incorporating actions to make farms more resilient to climate change and to minimize or offset carbon emissions generated on farms.	 Convene	 Agriculture
Prep. 4.2.12 **Work with partners to help farmland owners elevate homes within the Snoqualmie River 100-year floodplain and increase access to high ground for animals and equipment during floods.** *(DNRP)* The Water and Land Resources Division will work with the Flood Control District, farmers, farmland owners, and other partners to minimize asset risk exposure to flooding. This includes pursuing opportunities to elevate homes that are vulnerable to flooding, increase access to higher ground for farm animals and equipment, and construct new farm pads, when appropriate compensatory flood storage can be identified and created.	 Convene	 Agriculture  Flooding

4.2. STRATEGY 4 ACTIONS FOR SPECIFIC IMPACTS OR PROGRAM AREAS

Priority Actions	King County Role	Connections & Considerations
Prep. 4.2.13 **Increase interdepartmental coordination related to landslide response, reporting, and risk reduction in King County.** *(DNRP)* The Water and Land Resources Division will form an interdepartmental landslide hazard committee for the purpose of identifying and updating landslide response roles and resources, increasing public awareness of landslide hazards and preparedness, and updating policies and codes, as appropriate, to address current and projected landslide risks.	Implement	Landslide Hazards
Prep. 4.2.14 **Develop and implement a climate change health impact surveillance strategy for Public Health.** *(Public Health)* Public Health will work with partners to develop climate, health and resilience data indicators and surveillance systems for monitoring climate-related health impacts. Information collected through these systems will inform timely public health action and provide a clearer understanding of trends in health status, inequities, and vulnerabilities related to climate impacts.	Convene	Resource Need; Public Health

Clearing a landslide from Jones Road (2009)



FOCUS AREA 5: OUTREACH AND ENGAGEMENT



Strategy 5: Invest in public outreach, engagement, and technical assistance related to climate preparedness.

About this strategy: Successfully preparing for and adapting to climate change requires building a shared understanding of how climate change affects King County, how the County is actively working to reduce climate impacts and build resilience, and what individuals and communities can do to reduce climate risks. This includes outreach and engagement work to King County staff, residents, and businesses.

Effective and equitable outreach, engagement, and technical assistance related to climate preparedness is a shared priority for the Climate Preparedness and Sustainable & Resilient Frontline Communities sections. Activities pursued under this strategy, including the priority actions listed below and performance measurement, will be informed by and coordinated with priorities and activities identified in the Sustainable & Resilient Frontline Communities section.

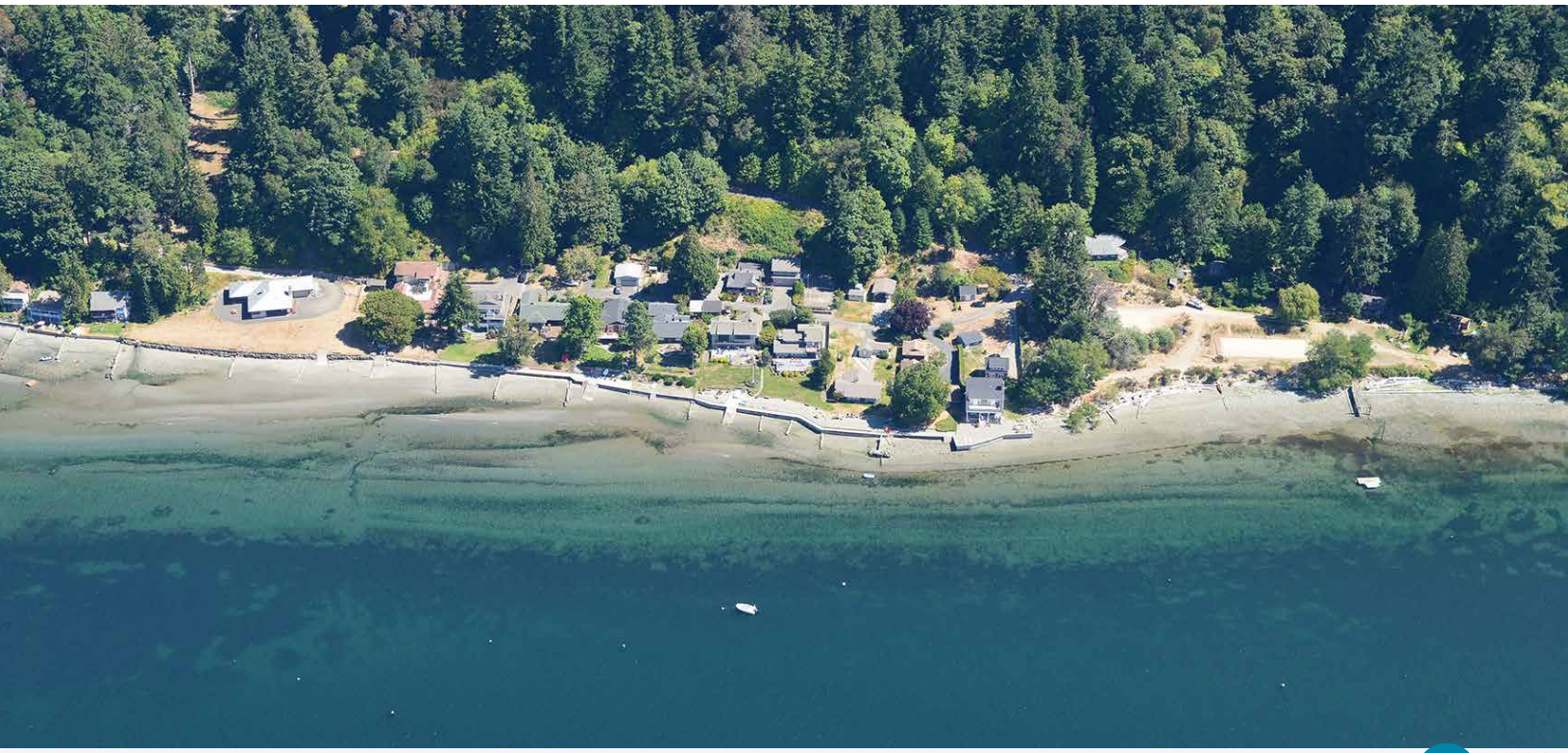
Strategy outcomes: King County staff and residents are learning about and acting on information about climate change impacts on King County, the County's efforts to address climate change, and actions they can take to reduce the impacts of climate change.

Strategy 5 Performance Measures	*Reporting Metric or Target*
1. Relevant King County staff have the tools, resources, and information needed to support increased outreach, engagement, and technical assistance about climate change with the communities they serve.	Communications staff and other public facing staff involved in outreach, engagement, and technical assistance activities in programs engaged in climate preparedness work at King County report having the tools, resources, and information needed to support increased outreach, engagement, and technical assistance related to climate change. Results will be comparative over time.
2. King County programs are creating a diverse range of opportunities for residents to access, view, or otherwise learn about climate impacts in King County, local efforts to address climate change, and actions that residents can take to reduce the impacts of climate change on their families and communities.	Qualitative assessment (comparative over time) of if/how relevant King County programs are sharing information about climate change with residents and related measures of effectiveness.

5.1 STRATEGY 5 ACTIONS FOR SPECIFIC IMPACTS OR PROGRAM AREAS

Priority Actions	King County Role	Connections & Considerations
Prep. 5.1.1 **Incorporate information on changing flood risk and ways to reduce that risk into outreach for coastal and river floodplain property owners.** *(DNRP)* The Water and Land Resources Division will develop and integrate information about climate change impacts on flood risk and floodplain management into its communications and engagement activities, helping to build greater public understanding of how climate change affects river and coastal flooding and capacity for resilience to current and future flood risk.	Implement	Public Priority; Flooding
Prep. 5.1.2 **Increase outreach and engagement related to sea level rise on Vashon-Maury Island.** *(DNRP)* The Water and Land Resources Division will work with internal and external partners to increase outreach and engagement related to sea level rise on Vashon-Maury Island. This includes incorporating information on sea leave rise into ongoing engagement work like the like Shore Friendly and DLS's once a week Vashon permit office. The Division and its partners will also seek opportunities for more focused discussions on sea level rise, including, for example, public workshops specifically focused on sea level rise.	Implement	Sea Level Rise

Vashon Island shoreline



5.1 STRATEGY 5 ACTIONS FOR SPECIFIC IMPACTS OR PROGRAM AREAS

Priority Actions	King County Role	Connections & Considerations
Prep. 5.1.3 **Develop and implement a holistic stormwater and climate change communications strategy for use by King County and community partners.** *(DNRP)* The Water and Land Resources **Division** will develop and implement a stormwater/climate change communications strategy as part of Stormwater Service's Strategic Communications Plan for use by the County and partner jurisdictions that emphasizes the health, safety, and ecological benefits of a climate-resilient stormwater management program.	Implement	Stormwater Management
Prep. 5.1.4 **Increase technical assistance related to wildfire.** *(DNRP)* The Water and Land Resources Program will work with partners to ensure that public and private forestlands within the wildland/urban interface are managed to be as adaptable as possible in the face of a changing climate. This includes expanding the incorporation of "Firewise" practices across a range of scales (individual homes to communities) and supporting the development of clear plans for wildfire response, community evacuation and wildfire disaster recovery.	Convene	Public Priority Forest Health & Wildfire

Community outreach and engagement are important to developing a shared understanding of our climate challenges and opportunities



5.1 STRATEGY 5 ACTIONS FOR SPECIFIC IMPACTS OR PROGRAM AREAS

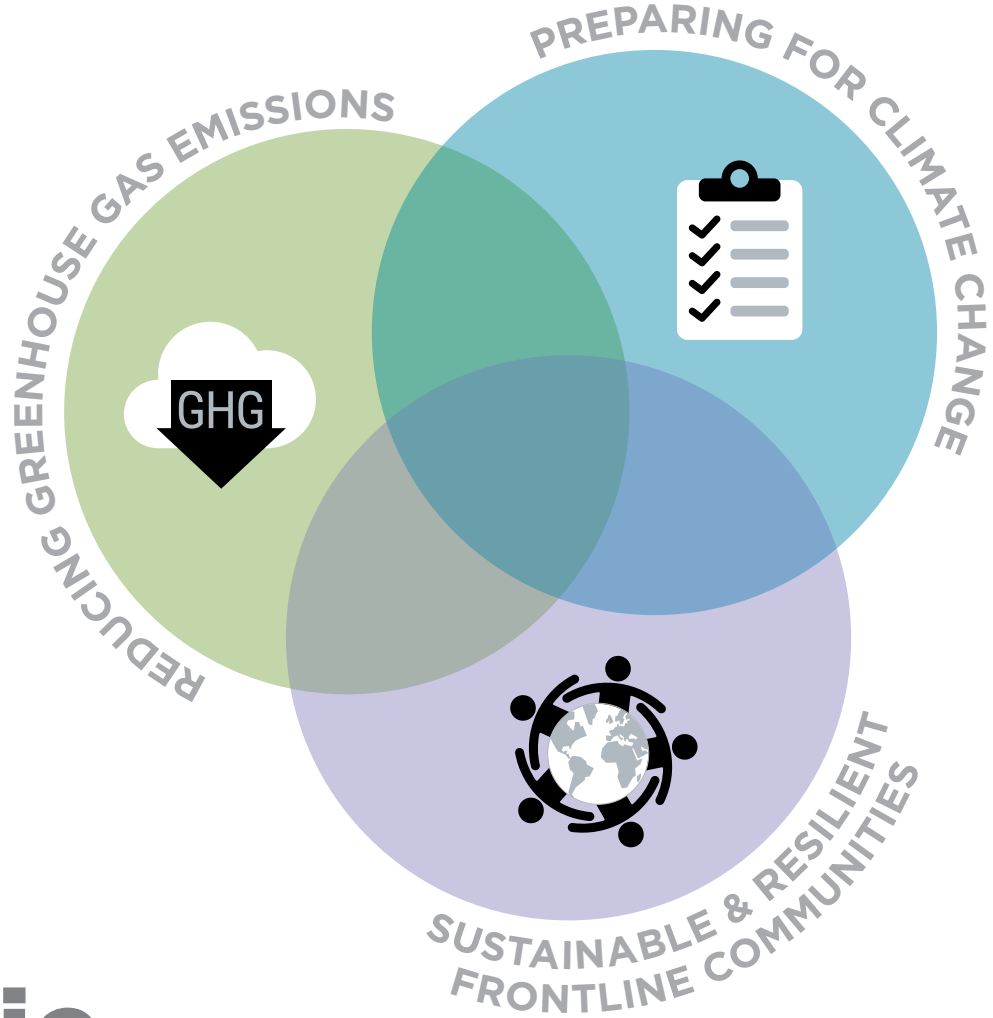
Priority Actions	King County Role	Connections & Considerations
Prep. 5.1.5 **Incorporate information on climate change impacts and action into Parks communications materials and other engagement activities.** *(DNRP)* King County Parks will incorporate information on climate change impacts and preparedness, as well as the division's role and actions to address those challenges, into ongoing communications and engagement activities. This may include, for example, incorporating information into web content, social media postings, printed materials, and presentations; developing on-site informational and interpretive signage; and sharing information through community engagement processes.	 Implement	 Parks & Open Space
Prep. 5.1.6 **Support increased farmer participation in federal disaster insurance programs.** *(DNRP)* The Water and Land Resources Division will work with partners to raise producer awareness of Federal agricultural disaster relief programs that can help reduce the economic consequences of crop loss. This work will also assist farmers with program enrollment if it is deemed to be an appropriate business decision.	 Implement  Support/ Advocate	 Agriculture
Prep. 5.1.7 **Conduct trainings for partner jurisdictions on climate change and hazard mitigation.** *(DES)* The Office of Emergency Management will host trainings with partner jurisdictions on incorporating climate change into hazard mitigation. The trainings will include information on how climate change affects natural hazards in King County; how to evaluate and adjust hazard mitigation strategies to account for climate impacts, including the potential for disproportionate impacts on frontline communities; and best practices for sharing information about climate risks with the public.	 Implement	 Hazard Mitigation

Preparedness Section Endnotes

1 IPCC. (2014). Climate Change 2014: Synthesis Report. Contribution of Working Groups I, II and III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change [Core Writing Team, R.K. Pachauri and L.A. Meyer (eds.)]. IPCC, Geneva, Switzerland, 151 pp.

2 Runsten, K. (2018). Climate Ready Boston?: Identifying indicators to evaluate the City of Boston's efforts to implement its climate change adaptation initiatives. Master's Thesis, Massachusetts Institute of Technology.

APPENDICES



KING COUNTY

2020

Strategic Climate Action Plan

King County

CLIMATE ACTION

Clean Future. Strong Communities.



2020 SCAP Appendices

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Appendix I: Glossary of Key Terms

Adaptation	In human systems, the process of adjustment to actual or expected climate and its effects, in order to moderate harm or exploit beneficial opportunities. In natural systems, the process of adjustment to actual climate and its effects; human intervention may facilitate adjustment to expected climate.[1]
Adaptive capacity	The combination of the strengths, attributes, and resources available to an individual, community, society, or organization that can be used to prepare for and undertake actions to reduce adverse impacts, moderate harm, or exploit beneficial opportunities.[2]
Anthropogenic	Made by people or resulting from human activities. Typically used in the context of emissions that are produced as a result of human activities.[3]
Biogas	Collected from natural decomposition processes of organic waste materials at landfills, wastewater treatment plants, and dairies. With limited or no cleaning, biogas can be used for heating and electricity generation.
Carbon dioxide (CO_2)	A naturally occurring gas in the earth's atmosphere. It is also a byproduct of human activities such as burning fossil fuels. Carbon dioxide is the principal greenhouse gas produced by human activity.[4]
Carbon footprint	The total amount of greenhouse gases that are emitted into the atmosphere each year by a person, family, building, organization, or company. A person's carbon footprint includes greenhouse gas emissions from fuel that an individual utilizes directly, such as by heating a home or riding in a car. It also includes greenhouse gases that come from producing the goods or services that the individual uses, including emissions from power plants that make electricity, factories that make products, and landfills where trash gets sent.[5]
Carbon neutral	A process where there is no net release of CO_2. For example, growing biomass takes CO_2 out of the atmosphere, whereas burning it releases the gas again. The process would be carbon neutral if the amount taken out and the amount released were identical. A company or country can also achieve carbon neutrality by means of carbon offsetting.[6]
Carbon offsetting	A way of compensating for emissions of CO_2 by participating in, or funding, efforts to take CO_2 out of the atmosphere. Offsetting often involves paying another party, somewhere else, to save emissions equivalent to those produced by your activity.[7]
Carbon sequestration	The process of storing carbon dioxide. This can happen naturally, as growing trees and plants turn CO_2 into biomass (wood, leaves, and so on). It can also refer to the capture and storage of CO_2 produced by industry.[8]
Carbon sink	Any process, activity, or mechanism that removes carbon from the atmosphere. The biggest carbon sinks are the world's oceans and forests, which absorb large amounts of carbon dioxide from the earth's atmosphere.[9]
Climate	Climate in a narrow sense is usually defined as the average weather, or more rigorously, as the statistical description in terms of the mean and variability of relevant quantities over a period of time ranging from months to thousands or millions of years. The classical period for averaging these variables is 30 years, as defined by the World Meteorological Organization. The relevant quantities are most often surface variables such as temperature, precipitation, and wind. Climate in a wider sense is the state, including a statistical description, of the climate system. In various chapters in this report different averaging periods, such as a period of 20 years, are also used.[10]
Climate change	A change in the state of the climate that can be identified (e.g., by using statistical tests) by changes in the mean and/or the variability of its properties and that persists for an extended period, typically decades or longer. Climate change may be due to natural internal processes or external forcings, or to persistent anthropogenic changes in the composition of the atmosphere or in land use.[11] human activity. Global warming is one aspect of climate change.[12]

Climate equity	Climate equity ensures that all people have access and opportunity to benefit from climate solutions, while not bearing an unequal burden of the impacts of climate change. This requires a holistic approach to equity in climate work that divides the burden of responding to climate change amongst those who contribute the most to the issue, while sharing the opportunities and benefits that equitable climate action presents with those that are most impacted.[13, 14]
Climate justice	Climate justice is the application of racial, environmental, social, and economic justice to climate response, which recognizes the continued legacy of systems of oppression and environmental exploitation. This shift in approach widens the focus from reducing greenhouse gases and addressing climate impacts to include, at its heart, the leadership of people and communities most vulnerable to climate impacts.[15] Achieving climate justice means creating a just, healthy, sustainable future for everyone that recognizes economic, political, social, and civil rights.
Consumption-based emissions	Greenhouse gas emissions associated with goods and services. These include embodied emissions associated with the production, transportation, use and disposal of goods, food, and services.
Disproportionate climate impacts	Individual residents and communities will experience the impacts of climate change differently. Working to advance environmental justice will be important as the impacts of climate change will fall disproportionately on communities of color, immigrants, refugees, people with pre-existing health conditions, and lower income residents.[16]
Embodied Carbon	Carbon emissions that occur when extracting materials and making building products.[17]
Emissions	Greenhouse gases that are put into the atmosphere from human activities. The release of greenhouse gases and/or their precursors and aerosols into the atmosphere over a specified area and time period.[18]
Energy efficiency	Using less energy to provide the same service.[19]
Environmental justice	The fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies.[20]
Extreme events	A weather event that is rare at a specific place and time of year, including, for example, heat waves, cold waves, heavy rains, periods of drought and flooding, and severe storms.[21]
Extreme precipitation events	An episode of abnormally high rain or snow. The definition of "extreme" is a statistical concept that varies depending on location, season, and length of the historical record.[22]
Fossil fuels	Natural resources, such as coal, oil, and natural gas, containing hydrocarbons. These fuels are formed in the earth over millions of years and produce carbon dioxide when burned.[23]
Fossil-based natural gas	Comprised mostly of methane and other hydrocarbons, this gas is formed underground through the long decay of organic materials. This is the typical type of natural gas delivered to homes and businesses through an extensive nationwide piping network. Much of this gas is currently extracted through a process called hydraulic fracturing, or “fracking.”

Frontline communities	Frontline communities are those that are disproportionately impacted by climate change due to existing and historic racial, social, environmental, and economic inequities, and who have limited resources and/or capacity to adapt. These populations often experience the earliest and most acute impacts of climate change, but whose experiences afford unique strengths and insights into climate resilience strategies and practices. Frontline communities include Black, Indigenous, and People of Color (BIPOC) communities, immigrants and refugees, people living with low incomes, communities experiencing disproportionate pollution exposure, women and gender non-conforming people, LGBTQIA people, people who live and/or work outside, those with existing health issues, people with limited English skills, and other climate-vulnerable groups.
Greenhouse gases (GHGs)	Greenhouse gases are those gaseous constituents of the atmosphere, both natural and anthropogenic, which absorb and emit radiation at specific wavelengths within the spectrum of thermal infrared radiation emitted by the Earth's surface, by the atmosphere itself, and by clouds. This property causes the greenhouse effect. Water vapor (H_2O), carbon dioxide (CO_2), nitrous oxide (N_2O), methane (CH_4), and ozone (O_3) are the primary greenhouse gases in the Earth's atmosphere.[24]
Greenhouse effect	Trapping and buildup of heat in the atmosphere (troposphere) near the earth's surface. Some of the heat flowing back toward space from the earth's surface is absorbed by water vapor, carbon dioxide, ozone, and several other gases in the atmosphere and then reradiated back toward the earth's surface. If the atmospheric concentrations of these greenhouse gases rise, the average temperature of the lower atmosphere will gradually increase.[25]
Hazard Mitigation	Hazard mitigation describes actions taken to help reduce or eliminate long-term risks caused by natural, manmade, or technological hazards, such as flooding, earthquakes, dam failure, or cyber incidents.[26]
Just transition	Just transition is a vision-led, unifying, and place-based set of principles, processes, and practices that build economic and political power to shift from an extractive economy to a regenerative economy. This means approaching production and consumption cycles holistically and waste-free. The transition itself must be just and equitable, redressing past harms and creating new relationships of power for the future through reparations. If the process of transition is not just, the outcome will never be. Just transition describes both where we are going and how we get there.[27]
Methane	Methane is the second most important man-made greenhouse gas. Sources include both the natural world (wetlands, termites, wildfires) and human activity (agriculture, waste dumps, leaks from coal mining).[28]
Ocean acidification	The process by which ocean waters have become more acidic due to the absorption of human-produced carbon dioxide, which interacts with ocean water to form carbonic acid and lower the ocean's pH. Acidity reduces the capacity of key plankton species and shelled animals to form and maintain shells.[29]
Ozone	A colorless gas consisting of three atoms of oxygen, readily reacting with many other substances. Ozone in the upper atmosphere protects the earth from harmful levels of ultraviolet radiation from the sun. In the lower atmosphere, ozone is an air pollutant with harmful effects on human health.[30]
Particulate matter (PM)	Very small pieces of solid or liquid matter such as particles of soot, dust, fumes, mists, or aerosols. The physical characteristics of particles, and how they combine with other particles, are part of the feedback mechanisms of the atmosphere.[31]
Pre-industrial levels of carbon dioxide	The levels of carbon dioxide in the atmosphere prior to the start of the Industrial Revolution. These levels are estimated to be about 280 parts per million (ppm) (by volume). The current level is around 380 ppm.[32]
Preparedness	Actions taken to build, apply, and sustain the capabilities necessary to prevent, protect against, and ameliorate negative effects.[33]

Renewable energy	Renewable energy is energy created from sources that can be replenished in a short period of time. The five renewable sources used most often are biomass (such as wood and biogas), the movement of water, geothermal (heat from within the earth), wind, and solar.[34, 35]
Renewable hydrogen blended natural gas	The blending of up to 15 percent hydrogen into existing natural gas supplies. The hydrogen is created by renewable energy sources, for the purpose of reducing greenhouse gas emissions related to natural gas consumption.
Renewable natural gas	The term for biogas from landfills, wastewater treatment plants, dairies, and other anerobic digestion processes that has undergone extensive purification to meet quality standards such that it can be injected into natural gas pipelines as a direct substitute for fossil-based natural gas.
Resilience	Resilience is a broad concept that can apply to individuals, communities, and social, economic, and environmental systems. Resilience is the capacity to cope with a hazardous event or long-term trend in ways that maintain essential identities, functions, and structures while also maintaining the capacity to learn, adapt, and/or transform. *(Adapted from IPCC 2014)*[36]
Risk	Risks are threats to life, health and safety, the environment, economic well-being, and other things of value. Risks are often evaluated in terms of how likely they are to occur (probability) and the damages that would result if they did happen (consequences).[37]
Sea level rise	An increase in the mean level of the ocean. Eustatic sea level rise is a change in global average sea level brought about by an alteration to the volume of the world ocean. Relative sea level rise occurs where there is a net increase in the level of the ocean relative to local land movements. Climate modelers largely concentrate on estimating eustatic sea level change. Climate impact researchers focus on relative sea level change.[38]
Social vulnerability	Every community must prepare for and respond to hazardous events, whether a natural disaster like a tornado or disease outbreak, or a human-made event such as a harmful chemical spill. A number of factors, including poverty, lack of access to transportation, and crowded housing may weaken a community's ability to prevent human suffering and financial loss in a disaster. These factors are known as "social vulnerability."[39]
Storm surge	The temporary increase, at a particular locality, in the height of the sea due to extreme meteorological conditions (low atmospheric pressure and/or strong winds). The storm surge is defined as being the excess above the level expected from the tidal variation alone at that time and place.[40]
Stressor	Something that affects people and on natural, managed, and socioeconomic systems. Multiple stressors can have compounded effects, such as when economic or market stress combines with drought to negatively impact farmers.[41]
Urban heat island effect	The relative warmth of a city compared with surrounding rural areas, associated with changes in runoff, the concrete jungle effects on heat retention, changes in surface albedo, changes in pollution and aerosols, and so on.[42]
Vector-borne diseases	An organism, such as an insect, that transmits disease-causing microorganisms such as viruses or bacteria. Vector-borne diseases include, for example, malaria, dengue fever, and Lyme disease.[43]
Vulnerability	The degree to which physical, biological, and socioeconomic systems are susceptible to, and unable to cope with, adverse impacts of climate change.[44]
Weather	The state of the atmosphere regarding temperature, cloudiness, rainfall, wind, and other meteorological conditions. Weather is not the same as climate, which is the average weather over a much longer period.[45]

Appendix I Endnotes

1 Intergovernmental Panel on Climate Change. (2012). Glossary of Terms.
2 Intergovernmental Panel on Climate Change. (2012). Glossary of Terms.
3 National Aeronautics and Space Administration. (n.d.). Glossary. Earth Observatory.
4 U.S. Forest Service. (2014).Climate Change Glossary.
5 Environmental Protection Agency. (May 2013). Environmental Justice-Related Terms As Defined Across the PSC Agencies.
6 BBC News. (April 2014). Climate Change Glossary.
7 BBC News. (April 2014). Climate Change Glossary.
8 BBC News. (April 2014). Climate Change Glossary.
9 BBC News. (April 2014). Climate Change Glossary.
10 Intergovernmental Panel on Climate Change. (2012). Glossary of Terms.
11 Intergovernmental Panel on Climate Change. (2012). Glossary of Terms.
12 BBC News. (April 2014). Climate Change Glossary.
13 ICLEI USA. (2020). Climate Equity.
14 World Resources Institute. (2020). Climate Equity.
15 United Nations. (May 2019). Climate Justice. Sustainable Development Goals.
16 Environmental Protection Agency. (May 2013). Environmental Justice-Related Terms As Defined Across the PSC Agencies.
17 The Carbon Leadership Forum. (Feb 2017). Embodied Carbon Benchmark Study.
18 U.S. Forest Service. (2014).Climate Change Glossary.
19 Katofsky, R. (Oct 2017). Energy efficiency as a resource: The power of getting more from less. Utility Dive.
20 Environmental Protection Agency. (May 2013). Environmental Justice-Related Terms As Defined Across the PSC Agencies.
21 U.S. Global Change Research Program. (n.d.). Glossary.
22 U.S. Global Change Research Program. (n.d.). Glossary.
23 BBC News. (April 2014). Climate Change Glossary.
24 Intergovernmental Panel on Climate Change. (2012). Glossary of Terms.
25 Heffner, H. (Oct 2016). Climate, Energy, and Society: Glossary. Auburn University.
26 City of Los Angeles Emergency Management Department. (2020). What is Hazard Mitigation?
27 Climate Justice Alliance. (June 2018). Just Transition Principles.
28 BBC News. (April 2014). Climate Change Glossary.
29 U.S. Global Change Research Program. (n.d.). Glossary.
30 U.S. Global Change Research Program. (n.d.). Glossary.
31 National Aeronautics and Space Administration. (n.d.). Glossary. Earth Observatory.
32 BBC News. (April 2014). Climate Change Glossary.
33 U.S. Global Change Research Program. (n.d.). Glossary.
34 U.S. Global Change Research Program. (n.d.). Glossary.
35 BBC News. (April 2014). Climate Change Glossary.
36 Intergovernmental Panel on Climate Change. (2014). Climate Change 2014: Synthesis Report.
37 U.S. Global Change Research Program. (n.d.). Glossary.
38 U.S. Forest Service. (2014).Climate Change Glossary.
39 Centers for Disease Control and Prevention. (2018). CDC's Social Vulnerability Index (SVI).
40 Intergovernmental Panel on Climate Change. (2012). Glossary of Terms.
41 U.S. Global Change Research Program. (n.d.). Glossary.
42 Intergovernmental Panel on Climate Change. (2012). Glossary of Terms.
43 U.S. Global Change Research Program. (n.d.). Glossary.
44 U.S. Global Change Research Program. (n.d.). Glossary.
45 U.S. Global Change Research Program. (n.d.). Glossary.

Appendix II: 2020 SCAP Improvements

King County advanced the following 2015 SCAP strengths and worked toward several 2020 SCAP improvements as summarized below.

Strengths of the 2015 SCAP continued in the 2020 SCAP

Transparency. Establishment of clear measures for target outcomes and an accountability framework for reporting performance on internal and external target outcomes.

Concept of "ambitious and achievable" drives actions. Targets and actions are informed by what is technically possible and what is needed to achieve long-term outcomes, allowing for the setting of some "stretch" targets.

Comprehensive view of climate change action. The County takes a wide view of climate change action rather than a narrow view (e.g., providing a coordinated and flexible structure for multiple and varied climate actions across departments and sectors rather than focusing on a singular issue or a narrow set of issues).

Work at two scales. The County recognizes the need to amplify progress by working at both the internal County operations scale and the countywide and regional scales.

Weave climate considerations and commitments throughout all King County operations. Climate actions are institutionalized into internal County operations through an inter-department team structure.

2020 SCAP Improvements

Enhanced public stakeholder and community engagement in development of the 2020 SCAP. Improved outreach and inclusion efforts, including multiple forums to bring community and partner voices into up-front planning and development of the 2020 SCAP.

Integrated and prioritized equity-driven climate strategies. Aligned climate change actions with the County's 2016 Equity and Social Justice Strategic Plan and the 2018 Blueprint for Addressing Climate Change and Health published by Public Health—Seattle & King County.

Updated strategies, priority actions, target outcomes, and vision statements. Analyzed what is working, what is not working, what needs to be improved upon, and what needs to be added.

Partnered with frontline communities. Co-developed a new framework for activating community-driven and grassroots-scale understanding of climate impact problems, priority actions, and target outcomes.

Updated countywide GHG reduction target outcomes. Worked with partners to update community-scale emissions targets and countywide-scale emissions targets, embracing scientific and technological innovations.

Improved accountability. Made the plan more ambitious, outcomes-focused, achievable, and accountable to a broader range of stakeholders.

Embraced new tools for integration of climate change knowledge in County operations. Supported the creation of tools and recommendations that will help County departments to integrate climate change awareness and strategies in their plans and processes.

Expanded innovative funding approaches. Bold and sustainable revenue to implement climate priorities is critical to advance the SCAP. The 2020 SCAP includes recommendations both at the countywide scale, such as restoration of the Conservation Futures Tax to fund the Land Conservation Initiative, and operational strategies, such as adding new flexibility to the Fund to Reduce Energy Demand, an internal program that finances efficiency projects that result in cost savings.

Integrated climate change information and solutions within and across County departments. The 2020 SCAP recognizes that success in achieving climate action goals requires mindful integration of climate change information and solutions across all County departments and programs, including the incorporation of information on community-level climate impacts and climate change preparedness work with communities in day-to-day County operations.

Improved internal County agency responsibility for SCAP implementation. Built momentum for an integrated model for sharing climate information and actions across County departments and agencies, increasing the responsibility assumed by such departments and agencies for successful climate outcomes.

Appendix III: King County's Approach to Climate Action

King County has embraced a distributed approach to acting on climate change, in an effort to breakdown silos and ensure that climate action is embedded throughout the work of the government.

Integrated Approach to Climate Action
King County established an interdepartmental Climate Leadership Team (CLT) in 2014 to frame policy choices, make recommendations to the Executive, allocate resources to implement priority actions, and oversee development of the SCAP. The CLT is made up of leadership from the Office of the Executive and County departments and has grown over the years to include more County department representatives. The CLT is a working committee that meets at least monthly and has decision-making power, including oversight of a cost-shared budget for climate action contributed to by multiple departments.

Inter-Agency Staff Team
The CLT is staffed and supported by an interdepartmental staff team called the "Climate Action Team." Climate Action Team positions are embedded in County agencies with primary responsibility for climate action leadership and they carry out activities to support the achievement and integration of SCAP priority actions across County departments. Three Climate Action Team leads have responsibility for the three sections of the 2020 SCAP. This innovative model for tackling climate change challenges in a large county government places climate work closer to daily operations, work plans, programs, and decision-making processes, and has been extremely effective integrating or "mainstreaming" climate change work across County departments.

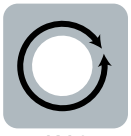
Embrace Collaboration
External partnerships are foundational to the County's climate work. Although not representative of all County's climate partnerships, the following three collaborative efforts are particularly important for developing and advancing SCAP priorities:

Embrace Collaboration COUNTY CLIMATE PARTNERSHIPS

King County-Cities Climate Collaboration (K4C)

The K4C is a partnership between the County, sixteen cities, and the Port of Seattle to coordinate and enhance local government climate and sustainability efforts. Through focused, coordinated action, K4C is committed to maximizing the impact of individual and shared efforts. In 2019, K4C partners updated shared actions to reduce GHG emissions and accelerate progress toward a clean and sustainable future. This update to the K4C's Joint County-City Climate Commitments ("Commitments") reflected changes in the regulatory landscape, technical developments, and updated emissions information.

The principles and actions of the K4C are focused on practical, near-term, collaborative opportunities between partners and King County. This shared vision builds on the significant work that many K4C partners and the County are already undertaking. K4C partners that have signed on to the Commitments will actively pursue those strategies, policies, and actions to make the most impact given the size, location, and development patterns of their jurisdictions. The updated GHG emissions reduction pathways established by K4C in the Commitments frame each GHG reduction focus or goal area of the 2020 SCAP. Many SCAP strategies and priority actions also mirror the K4C commitments and are flagged with a "K4C Alignment" icon.


K4C

Puget Sound Climate Preparedness Collaborative

Established in October 2017, this partnership seeks to enhance coordination and improve climate change preparedness outcomes in the Puget Sound region. The Puget Sound Climate Preparedness Collaborative currently includes 21 member organizations and partners representing five counties of the Puget Sound region, three municipalities, a growing number of tribal governments, and regional organizations such as Port of Seattle, Northwest Seaport Alliance, and Sound Transit. A major strategic focus is building local awareness and regional capacity for climate preparedness and serving as a catalyst for advancing preparedness policies and actions across jurisdictions. King County serves as co-chair for the collaborative.

Climate Equity Community Task Force (CECTF)

This is a new task force partnership formed in Spring 2019 specifically to guide development of the new section of the 2020 SCAP entitled "Sustainable & Resilient Frontline Communities." Approximately 22 multi-ethnic and multi-racial community leaders brought experiences, unique strengths, and insights into climate resilience strategies and practices. These leaders formed the Climate Equity Community Task Force (CECTF), representing frontline communities—those that are disproportionately impacted by climate change due to existing and historic racial, social, environmental, and economic inequities, and who have limited resources and/or capacity to adapt.

The CECTF collaborated with the King County Climate Action Team over the last year and a half to co-develop the SRFC focus areas, priority actions, and activities. The CECTF will pivot toward supporting implementation of and accountability for the SRFC section and the 2020 SCAP. King County believes that authentic partnerships with frontline communities will ensure their representation in climate change work, the mitigation of environmental injustices, and equitable distribution of environmental benefits.

Commitment to Transparency and Accountability. King County is committed to the following internal and external accountability and transparency practices in the implementation of the SCAP:

- Every two years, a public report is transmitted to the King County Council for review at legislative sessions that are open to the public. Members of the public are always welcome to ask questions or comment at such sessions. The 2020 SCAP meets biennial reporting requirements of King County Code 18.50, providing an update on performance for 2015 SCAP priority actions, target measures, and outcomes.
- CLT continuously tracks progress on the SCAP. As an internal decision-making body, the CLT works with the inter-agency Climate Action Team staff to consider adjustments to actions and budget recommendations based on plan progress and new opportunities or obstacles.
- Starting with the 2020 SCAP, frontline community leaders and residents will have the opportunity to track the progress of priority actions in the new SRFC section. CECTF will continue to work with County staff as active partners in implementing and assessing plan progress.

Appendix IV: 2015 Strategic Climate Action Plan Accomplishments

This appendix highlights accomplishments, current actions, and programs related to commitments made in King County's 2015 Strategic Climate Action Plan (2015 SCAP). The 2020 Strategic Climate Action Plan (2020 SCAP) both builds on these programs and accounts for lessons learned over the past five years as these actions have been adopted. Data and information about 2015 SCAP performance measures are also included within the main body of the 2020 SCAP.

Highlights are organized in the same structure as the 2020 SCAP, starting with greenhouse gas-related accomplishments. ***Note that the Sustainable & Resilient Frontline Communities section is a new section in the 2020 SCAP; therefore, details about work related to this section are not included in this appendix.***

Reducing Greenhouse Gas Emissions



Focus Area 1: Greenhouse Gas Targets and Policy

Began to Use King County "Shadow Price of Carbon" in Decision-Making

In January 2018, Executive Constantine approved a proposal to implement a consistent, countywide shadow price of carbon and establish internal carbon reduction fees on vehicle and building emissions. This was a priority action in the 2015 SCAP. A shadow price of carbon sets a price per unit of carbon for use in decision-making and alternative analysis without charging an actual fee.


County Operations

King County uses the State of Washington's social cost of carbon, which is adjusted annually. Fleet Services has incorporated the shadow cost of carbon into life cycle costs analyses when adding new technologies to the fleet. In the 2019/2020 biennium, Fleet Services also established an internal carbon fee based on the incremental vehicle emissions that exceeded the 2015 SCAP goal. The funds collected were used to plant trees in support of the County's 1 Million Trees initiative.

Stronger Fossil Fuel Policies and Guidelines

Through the 2020 King County Comprehensive Plan update, King County adopted new polices, regulations, and permitting guidelines to ensure protection of public health and safety, air and water quality, and habitats from the impacts of fossil fuel extraction, processing, production, transport, storage, and use. The stronger elements adopted in the County's land use and development regulations make it more difficult to expand or develop major fossil fuel infrastructure, such as oil and gas terminals or storage facilities, in the county. The updated regulations also effectively prohibit developing new or expanding existing coal mines in King County.


County Operations



Metro Transit Named Best Large Transit Agency in North America

Metro Transit operates a transportation system that provides half a million rides every weekday and is nationally recognized for its performance, lowering the region's transportation emissions substantially. In 2018, the American Public Transportation Association named Metro the best large transit system in North America for its achievements in ridership, safety, innovation, sustainability, and equity.


Countywide

Grew Transit Ridership Year-Over-Year

Ridership in King County has increased year-over-year from 2010 through 2018; however, starting in 2015, the growth in ridership has not kept pace with population growth. Transit ridership is on the decline nationwide and its growth is also slowing in King County. External factors such as lower fuel costs, increased teleworking, higher car ownership, and the rise of alternatives such as Uber and Lyft are contributors to this trend. For Metro, factors such as service levels, safety, and real time information pose challenges to growing ridership and providing mobility to all residents of King County.


Countywide

Improved conditions to walk, roll, and bike to transit through Safe Routes to Transit (SR2T) Program

Since 2017, Metro has been partnering with jurisdictions to design and build safe and convenient bike and walk connections to transit services. Projects have been completed in Federal Way, Redmond, Seattle and Skyway, and are underway in Tukwila, Bellevue and White Center. These projects added or improved sidewalks, pedestrian crossings and bike facilities to help people reach services safely. More Safe Routes to Transit projects are planned to target areas with priority populations, including Renton, Kent and Auburn to support a major service restructure; Skyway; and Des Moines (in conjunction with Sound Transit). Through 2019, Metro has passed-through about $2.8M in grants and local funds for such projects, with up to $2.9M planned in 2020-21. Metro also incorporates access improvements in RapidRide projects, thus far including plans for RapidRide H, I and R lines.


Countywide

Shifted Single-Occupancy Rides to Transit

King County Metro promotes the capacity of individuals to consistently choose mobility options that reduce their reliance on single-occupancy vehicles through partnerships with cities, community groups, and organizations for campaigns: Just One Trip; In Motion; and ORCA Youth and Schools strategy. In 2018, King County Metro brought its long-standing In Motion program to Kent Valley and South Bellevue. This program reaches out to residents, students, and employees to invite them to try out alternatives to driving alone and shifted over 5,000 drive-alone trips to another option, as recorded by participants online, saving 54,000 vehicle miles, 2,500 gallons of gasoline, and 49,000 pounds of carbon dioxide emissions.


Countywide

Launched "Feeder to Fixed" Service Pilots

From 2018 to 2019, Metro piloted its Ride2 Program to research and test on-demand, feeder-to-fixed route shuttles in Eastgate and West Seattle. The pilot aimed to reduce traffic congestion, facilitate transit use, and manage parking resources. With Ride2,


Countywide

customers could request a ride to or from a transit hub within a defined service area using a smartphone app or call center. Rides were designed to be shared, with multiple customers riding together. Metro received funding for the program from the Seattle Transportation Benefit District. The Ride2 Pilot Program lasted for a year and provided Metro with valuable data to inform future programming to meet customers' needs.

Launched Via to Transit Pilot to Support Car-Free Lifestyle


Countywide

In April 2019, Metro launched Via to Transit, a pilot project aimed at making it more convenient for customers to connect with the region's growing high-capacity fixed-route transit system. Customers in the service areas can use the Via app or call customer support to request a ride to or from several Link light-rail stations where they can board buses or a Link train. Via to Transit makes it easier for customers to access transit and live car-light or car-free lifestyles. Seventeen percent of riders used Via to Transit to replace single-occupancy vehicle or Uber/Lyft trips and 22 percent were new users to the stations. Metro chose to pilot this service in priority neighborhoods, as defined by high percentage of low-income people, people of color, and people with limited English proficiency and with limited mobility options.

Increased Mobility through ORCA LIFT Fare Subsidy


Countywide

In 2020, Metro is planning to launch the ORCA LIFT subsidy program, aiming to increase mobility for tens of thousands of people in extreme poverty, enabling connections to services, employment, and education. Eligible customers receive a fully subsidized transit pass, good for one year of unlimited rides on Metro and Sound Transit services. Those earning 80 percent of federal poverty or less are eligible for the program and can enroll at Department of Social and Health Services (DSHS), Public Health - Seattle & King County, and Catholic Community Services offices around the region.

With support from Robert Wood Johnson Foundation's Evidence for Action initiative, Metro will apply a rigorous and participatory evaluation strategy to determine if the program is meeting the goals of increasing mobility, health, and quality of life for participants. The program was developed in response to a County Council proviso and engagement with community partners and customers. A Stakeholder Advisory Group, which included 31 diverse organizations, provided input to program design and priorities. Customers provided feedback and input through conversations led by community partners and through a survey. County Council unanimously approved the program proposal in 2020.

Focused on Zoning for Density in the Urban Core


Countywide

King County, working with its cities, focused growth in cities and unincorporated urban areas. Cities have zoned for increased capacity, and the County has supported this by retaining lower densities, larger lot sizes, and strategic approaches to investments in rural areas that minimize growth pressure. The County has also implemented very strong land use measures to protect natural resource lands, along with programs to support farms and farming. Combined, these approaches have successfully focused growth into the urban growth area, consistent the Countywide Planning Policies and the Growth Management Act.

Focused on Transit-Oriented Development


Countywide

King County has prioritized Transit-Oriented Development since the 2015 SCAP, to increase ridership opportunities close to new growth. Metro established a staff advisory group to develop a Metro Equitable Transit-Oriented Development Policy. This group produced a draft policy; an external engagement plan to refine the policy is underway. In addition, at

the Northgate transit center, King County Metro Transit released a developer solicitation for transit-oriented development, in partnership with funders at the Department of Community and Health Services and the City of Seattle, to include at least 200 units of affordable housing to householders making at or below 60 percent of the area median income at no cost to the developer.

Launched the Trailhead Direct Program to Increase Access to Trailheads


Countywide

Trailhead Direct started with a single-route feasibility test in 2017 in response to dangerous overcrowding and illegal parking at popular trailheads. In 2018, King County Metro and Parks launched a two-year pilot project, in partnership with REI Co-op and Clif Bar & Company. The program has been a booming success in both increasing access to outdoor recreation opportunities, and in reducing single-occupancy vehicle trips. In the second season of the program, passengers boarded Trailhead Direct for more than 17,500 hikes, a 75 percent increase over its first year.

Planned for Fleet Electrification


County Operations

In 2020, the King County Council adopted Ordinance 19052 to accelerate the adoption of electric vehicles. The ordinance established the following goals for King County fleet electrification: a 100 percent zero-emission revenue bus fleet by 2035; a 67 percent zero-emission ADA paratransit fleet by 2030; a 100 percent zero-emission rideshare fleet by 2030; installation of 125 chargers at King County-owned park-and-rides by 2030; 50 percent of light-duty County fleet vehicles to electric by 2025 and 100 percent by 2030; 50 percent of medium-duty vehicles are transitioned to electric by 2028 and 100 percent by 2033; 50 percent of heavy-duty vehicles are transitioned to electric by 2038 and 100 percent by 2043; and installation of 150 chargers by 2030 in County facilities.

In support of this initiative, King County Metro will purchase additional battery electric buses for service in 2021, with a focus on operations in south King County to improve air quality in the neighborhoods most in need of decreased pollution. To help inform its battery bus purchase and operations, Metro conducted a test of 10 leased battery electric buses from three manufacturers.

Other fleet electrification initiatives at the County include:

- Metro is conducting a study of the feasibility and strategic approach for transitioning its non-fixed route bus fleets to zero emissions.
- Metro is upgrading vehicle chargers at sites throughout King County, including at Metro park-and-rides, and other County facilities.
- The Facilities Management Division is conducting an electric vehicle infrastructure analysis and implementation study for County facilities that supports the fleet electrification goals, which will outline the infrastructure development, financial investment, financing options, policy changes, and technical resources needed to support fleet electrification in County buildings.
- Metro's Mobility Services is piloting ten plug-in hybrid Chrysler Pacificas in their Rideshare fleet.

Improved Travel Planning and Efficiency with Automatic Vehicle Location System


County Operations

The Fleet Services Division partnered with Transit Non-Revenue Vehicles, the King County International Airport, and the Solid Waste Division to implement an Automatic Vehicle Location (AVL) System for non-revenue vehicles. This initiative equipped King County's non-revenue vehicles with hardware devices and deployed a web-based platform to view real-time and historical vehicle data. The AVL System has automated data collection to drive decisions on issues such as right-sizing the fleet, minimizing fuel consumption and greenhouse gas emissions, and leaner management of field operations. Using this innovative technology will help County agencies optimize routing and dispatch, improve response times, facilitate data-driven capital and operating decisions, and expedite sharing of accurate real time service information (such as snow plowing) with the public.

Focus Area 3: **Building and Facility Energy Use**

Supported Energy Efficiency through K4C and Local Codes

Energy use in buildings at the countywide scale rose through 2019 due to continued population growth and construction in King County. While building codes continue to get stronger for new construction, much work needs to be done to retrofit the existing commercial and residential building stock. King County and other members of the K4C have been active in supporting stronger national and state energy codes that set the foundation for efficient local codes.


Countywide

Worked to Eliminate Financing Barriers to Efficiency Retrofits

Several challenging barriers exist that slow the current pace of home and commercial building efficiency retrofits, despite the clear benefits of clean indoor air, comfort, and financial savings from reduced energy consumption. King County is working to overcome the information and financing barriers that prevent more residents and business owners from investing in their homes and facilities.


Countywide

Tracked Legislation and Supported Utility Programs to Reduce Fossil Fuel use in Buildings

In 2015, carbon emissions from fossil-fuel natural gas were 29 percent of all residential and commercial emissions in King County and rose in 2017 to 35 percent. As electricity supplies become cleaner through the passage of the Clean Energy Transformation Act, there is an additional benefit of replacing fossil fuel uses with an increasingly clean electrical energy. Other state legislation passed in 2019 calls for increased utility efficiency targets for fossil fuel natural gas. King County seeks to work in partnership with the utilities and communities to develop awareness and programs that will save residents and businesses energy and money


Countywide

Advocated for Clean Electricity Programs and Policies

Although installed residential and commercial solar capacity has grown every year since 2015, increasing to 57 MW and meeting the goals of the 2015 SCAP Countywide Buildings and Facility Energy Measure 2, it remains a very small percentage of the overall electricity mix. However, interest in solar energy is strong among King County residents. King County is seeking to work with utilities on public-private partnerships to develop medium- to utility-scale systems on County land or facilities. Under this program, the utility's customers would purchase the renewable energy from the utility, enjoying the benefit of solar energy with no upfront cost or work involved with installing a rooftop system.


Countywide

King County continues to advocate at the state level for policies that will create a stable regulatory environment, spurring commercial and residential solar in the County, providing for equitable access to solar, and creating or retaining family wage jobs that are supported by the industry.

In 2019, King County received Silver Sol Smart community designation from the Department of Energy, reflecting simplification of codes and processes to speed up permitting and reduce the time and paperwork need to develop a solar system installation.

In 2019, the Washington State legislature passed the Clean Energy Transformation Act (E2SSB 5116) that mandates that utilities provide a 100 percent energy supply from non-carbon emitting sources by 2045. The act sets interim targets that eliminate coal from the electricity supply by 2025 and that

utilities provide 80 percent carbon-free electricity by 2030. With successful implementation of this bill, and other measures already in process, the County's electricity supply nearly achieves the goal of 90 percent renewable electricity countywide as set by the 2015 SCAP Target 2 & K4C Joint Commitments Measure: Increase countywide renewable electricity use 20 percent beyond 2012 levels by 2030; phase out coal-fired electricity source by 2025; limit construction of new natural gas-based electricity power plants; support development of increasing amounts of renewable energy resources.

Executive Constantine and other elected officials strongly supported this bill and other bills that protect clean air and advance a clean energy economy. The Executive and elected officials from the K4C testified in person at nine hearings, made phone calls to individual state legislators, and signed a joint letter of support for the Clean Energy Transformation Act. The strong representation of local elected leaders had a significant impact on the passage of the CETA and other bills.

Increased the County's Operating Energy Reduction Goals and Financed Improvement Projects



King County's agencies are focused on reducing energy use and taking actions to consume cleaner and less carbon-producing energy sources. A key benchmark for performance under the 2015 SCAP was the reduction of energy use in existing county facilities, which is targeting a 7.5 percent reduction by the end of 2020. This 2020 SCAP increases the 2025 goal that was set in the 2015 SCAP from a reduction of 10 percent to 12.5 percent, compared to the 2014 baseline.

Each County agency has a variety of ways by which they make progress to reduce energy use, reflecting the diversity of operations and agency-specific issues. Savings opportunities vary based the intensity of past efficiency work, facility designs, asset age, and types of energy-consuming equipment. For example, there are big differences between: industrial pumping and wastewater treatment equipment in the Wastewater Treatment Division; roadway lighting and traffic control equipment in the Road Services Division; typical commercial office operations of downtown Seattle county office buildings; and 24/7 operations of correctional facilities. Yet, common needs like lighting, ventilation, and water and space heating exist across all types of facilities. County staff continually work to identify and capture savings opportunities appropriate to their agency's operations.

To make investments in energy reduction actions, agencies can apply for financial resources. These resources include agency operating and capital budgets, along with the County's Fund to Reduce Energy Demand (FRED), an internal loan program through which the county issues bonds to fund projects. FRED loans fund projects that have paybacks of 10 years or less, with annual loan payments covered by utility bill savings. As of 2020, the FRED program has been expanded by the County to allow loans of up to 20 years. Longer-term loans support further progress toward County energy goals by investing in cost effective projects with longer service lives and longer paybacks, such as solar panel installations and mechanical system upgrades. Between 2015 and 2020, over $9.6 million was invested in projects through the County's internal FRED program.

Reduced Fossil Fuel use in County-Owned Buildings and Facilities



In recent years, King County has pursued fossil fuel reduction actions in its buildings and facilities. Examples including installations of high efficiency and/or condensing boilers and hot water tanks, and the conversing of natural gas mechanical systems to high efficiency heat pump and heat recovery technologies. The handful of County buildings that have completed natural gas heating-to-heat pump retrofits have been able to significantly reduce energy use in the facilities. A proactive approach and new investments will be necessary to make further progress to reduce natural gas and propane use.

Expanded Production of Renewable Energy, Became one of Country's Largest RNG Producers



King County's Cedar Hills Landfill and wastewater treatment plants have the potential to create and utilize significant volumes of renewable energy from the waste products handled in their operations.

At Cedar Hills, after being buried solid waste begins a long-term decomposition process that results in the generation of methane. At the South Wastewater Treatment Plant, solids captured during the treatment process are placed in anaerobic digesters. The biogas generated by anaerobic digestion at both facilities reaches a Renewable Natural Gas (RNG) quality that meets or exceeds the quality of standard natural gas that is delivered to homes and businesses through pipelines. Collectively, the biogas originating from the County's Cedar Hills Landfill and South Wastewater Treatment Plant result in King County being one of the largest producers of RNG in the country.

In addition to generating RNG, the County's wastewater treatment facilities use biogas for the generation of electricity (West Point and South Plant) and facility heating (Brightwater, South Plant, and West Point). King County is also a large generator of solar energy at its facilities, with plans in place for additional solar panels at existing facilities, and new construction projects striving for net zero energy status.

Pursued Carbon Neutral Energy Sources



Compared to the nation as a whole, the electric power generation mix in the Pacific Northwest has a lower direct greenhouse gas impact, due to the prevalence of hydroelectric power. King County government sources its power from Seattle City Light (SCL), Puget Sound Energy (PSE), and Snohomish Public Utility District (SnoPUD). SCL's power is over 90 percent hydro. In addition, SCL purchases carbon offsets ensure carbon neutral power is delivered to all customers.

In 2019, King County began sourcing PSE's Green Direct power, which is a 100 percent wind/solar resource. This significantly reduced the County's operational GHG footprint. The County also purchases some electricity from SnoPUD, primarily for the Brightwater wastewater treatment facility. As of 2020, King County began purchasing renewable power for a small percentage of SnoPUD power from carbon sources.

Moving forward, the County will closely examine the quality of the electricity resources it purchases. Carbon-free electricity is not an end point and does not equate to the lowest environmental impact. Onsite generation of solar power at a facility reduces power distribution and transmission losses, making it the highest priority for power needs, subsequent to reducing use through energy efficiency. For utility power purchases, greater consideration needs to be given to the embodied energy of renewable and carbon-free generation infrastructure, as well as other non-carbon habitat and environmental impacts. In addition, some studies have indicated that reservoirs behind hydroelectric dams may generate significant GHG emissions. The County's current status of carbon-free power will continue to be evaluated to better understand ongoing and life cycle GHG emissions and environmental impacts associated with hydroelectric, nuclear, solar and wind generation.

Focus Area 4: **Green Building**

Provided Green Building Education for Unincorporated Area Customers

The King County Permitting Division provides a Green Building Handbook and a Solar Smart handout. Both resources encourage unincorporated area customers to make green building decisions which will help to save energy and reduce costs.


Countywide

The Solar Smart handout also provides comprehensive information on how and where to apply for federal, state, and Puget Sound Energy incentives when installing a solar energy system in unincorporated King County. This resource also highlights common codes to be aware of and how to apply for a permit with the Permitting Division, when necessary. This document helped King County achieve the Solsmart Silver Designation in 2019 in recognition of a jurisdiction that has removed barriers to the installation of solar.

Grew the Construction and Demolition Debris Diversion Program

King County provides the tools and assistance needed to help obtain the highest diversion rates possible on construction, demolition, and deconstruction projects. Tools available include jobsite waste guidelines, waste management plan and report templates, sample waste recycling specifications, directory of local construction waste recyclers, and more. Available assistance includes presentations to jobsite workers on building material reuse, salvage, and recycling; site visits to assess diversion options; and research on recycling options for hard to recycle commodities.


Countywide

Participated in Regional Code Collaboration and Partnerships with King County Jurisdictions

The Solid Waste Division's GreenTools Program provides support and resources to jurisdictions within King County through the Regional Code Collaboration (RCC), resulting in the ability for all jurisdictions to engage in conversations and actions associated with green building when they may not otherwise have the capacity to do so. The RCC facilitates peer-to-peer discussions, code development, trainings, tool development, and technical support. These efforts continue to strengthen regional relationships, allowing jurisdictions to work on solutions to common green building challenges. The RCC has been successful at developing codes promoting green building that are available for any jurisdiction to adopt, including strong 2015 Energy Code amendments, multifamily recycling, increased use of salvaged lumber, and a Living Building Challenge Demonstration Ordinance.


Countywide

Supported Third Party Development and Green Building Programs

King County supports diverse third-party green building certification programs in order to increase the number of green buildings, help build regional capacity to implement green building programs, and to support verification of the health and environmental benefits of these programs. Promotion and support is delivered in the form of technical assistance to and in partnership with community forums, conference participation, code development, training development, pilot projects, and research and sponsorships of programming. These programs and certifications include LEED, Built Green, the Living Building Challenge, Evergreen Sustainable Development Standard (ESDS), Salmon Safe, Sustainable Sites Initiative, and Envision; in partnership with the Master Builders Association, Cascadia Green Building Council, International Living Future Institute, WA State Department of Commerce, and the Northwest EcoBuilding Guild.


Countywide

Updated C&D Recycling Requirements

The King County Solid Waste Division provided education on a 2016 C&D Ordinance which required the designation of C&D processing facilities and transfer stations and banned readily recyclable C&D materials from the landfill.


Countywide

Proposed Strong Green Building Codes

King County was successful in researching and developing codes such as solar readiness, energy efficiency, a demonstration ordinance for Living Building Challenge certification called for through the 2015 SCAP but was unable to complete this process due to lack of resources. In 2020, King County will hire one FTE to help complete the tasks of both the 2015 and 2020 SCAP.


Countywide

Supported Green Building in Affordable Housing

King County provides financial assistance for affordable housing and community infrastructure through grants provided by both the Department of Community and Human Services (DCHS) and the King County Community Development Program. DCHS awards can be tied to green building requirements for dwelling units meeting King County's Green Building Ordinance, resulting in equitable access to healthier homes serving seniors, people with disabilities, homeless young adults, veterans, and chronically homeless people.


Countywide

DCHS awarded $500,000 to Willowcrest Townhomes from the Transit Oriented Development fund, which promotes housing development in proximity to high-capacity public transit services. Executive Constantine described Willowcrest Townhomes as a "leading example" of how it is possible to achieve equity, mobility, and sustainability goals while creating new housing. The King County Community Development Program supports sustainable development in the projects it funds, such as replacing inadequate sidewalks in neighborhoods, rehabilitating deteriorated buildings, and replacing crumbling water lines. Results included increasing walkability and encouraging climate-friendly forms of transportation, extending the building life, preserving embodied energy, and saving water. These investments serve underrepresented populations and reduce countywide emissions.

Continued Implementation of Green Building Ordinance

King County capital projects continue to improve on implementing green building and sustainable development practices. Project highlights – Georgetown Wet Weather Treatment Station - Envision Platinum; Foothills Trail - Salmon Safe; LOOP Facility – LEED Platinum; and Passenger Only Ferry Terminal – Sustainable Infrastructure Scorecard Platinum. In 2019, 82 percent of completed projects achieved Platinum level using the King County Sustainable Infrastructure Scorecard or LEED rating system.


County Operations

Added Equity and Social Justice Requirements for Capital Projects

King County required incorporation of equity and social justice (ESJ) considerations in all County-owned capital projects through the Sustainable Infrastructure Scorecard, which all capital projects are required to complete. The County has developed nine ESJ credits that are applied through the Scorecard. These include: 1) Develop project specific equity and social justice plan; 2) Partner and collaborate with Stakeholders partnering and collaboration; 3) Assemble diverse project team; 4) Conduct Equity Impact Review; 5) Site design and construct to counter know disparities; 6) Realize pro-equity elements of ESJ Plan; 7) Advance economic justice; 8) Pro-equity sourcing; and 9) Innovations. These strategies foster opportunities for capacity building, job creation, SCS/WMBE contracting, entrepreneurship and apprenticeships for frontline communities.


County Operations

Surpassed Zero Energy and Living Building Challenge Project Commitment

The K4C committed to a target of all new construction to be carbon neutral by 2030; the same target was included in the 2015 SCAP Green Building Operations section for County-owned facilities and infrastructure. As a pilot approach to meet this target, the 2015 SCAP Green Building Operations section included a Priority Action of committing 10 ZE/LBC projects by 2020. The County is exceeding its 2020 commitment.



County Operations

As of early 2020, the County currently has 11 projects officially registered for ZE/LBC certification from five different divisions. The Parks Division's North Utility Maintenance Shop was the County's first project to achieve Zero Energy Certification in 2019. ZE and LBC are administered by the International Living Future Institute, located in Seattle, and are the world's most progressive green building rating system. At the time of the 2015 SCAP, ZE and LBC were the only third-party verified green building certifications that had a carbon neutral performance metric. Other jurisdictions are seeing King County as an example in the building industry, particularly for applying carbon neutral performance measures to public works and infrastructure type projects. King County's project portfolio includes several different divisions and lines of business, which can further influence parks, transit, wastewater, solid waste, affordable housing, and airport industries. The Parks North Utility Maintenance Shop is Zero Energy Certified and has an energy consumption load of 34,110 kWh/year and renewable energy production of 45,030 kWh/year. That is a GHG emissions savings of 21.8 MTCO2e/year and 1,088 MTCO2e over 50 years.

Focus Area 5: Consumption and Materials Management

Adopted Comprehensive Solid Waste Management Plan

King County's 2019 Comprehensive Solid Waste Management Plan was adopted in 2019. With this plan, the County and its 37 partner cities embarked on shared goals to increase regional recycling, expand services and modernize facilities, and identify options for waste disposal after the Cedar Hills Regional Landfill reaches capacity. The plan preserves King County's ability to manage its solid waste locally at the lowest cost with the least environmental impact by extending the life of the landfill past the mid-2020s. The newly adopted plan is also sparking larger conversations about the regional actions needed to reach King County's goal of Zero Waste of Resources by 2030, and how to lay the groundwork for a modern, environmentally responsible waste management system that will take the region through the mid-21st century.



Countywide

Adopted Responsible Recycling Task Force Recommendations

The Responsible Recycling Task Force (RRTF) unanimously agreed a set of recommendations to create a regional responsible recycling system for the future. The system takes into consideration the environmental and societal impacts of choices for recycling the materials generated here in King County. King County agencies, partner Cities, and the City of Seattle have worked to implement the recommendations – focusing on plastic and paper recycling, increasing demand for recyclable materials and conducting research extended producer responsibility (EPR)for Washington State, including an EPR Policy Framework and Implementation Model for Washington State.



Countywide

Increased Curbside Recycling Rates by 15 percent

King County's Solid Waste Division is responsible for ensuring curbside recycling services are provided in the unincorporated areas and providing regional education and outreach to support curbside recycling efforts throughout the county (except for the City of Seattle). In 2019, 316,308 tons of recyclable materials were collected by private hauling companies at the curb, and the single and multi-family recycling rate in unincorporated King County increased from 43.9 percent in 2013 to 50.5 percent in 2019, a 15 percent increase. The region had committed to reach a 70 percent recycling rate by 2020, but this has not been met due to the length of time it took to develop the Comprehensive Solid Waste Management Plan.


Countywide

Developed Fix-It Program to Reduce Waste and Save Residents Money

Making efforts to prolong a product's life is key to keeping materials in circulation for longer and thereby reducing the demand for material extraction, as it preserves the current energy and materials in the products for longer. The King County free community repair events program held 65 repair events all over King County, fixing items from lamps to chairs to clothing. When items are repaired and kept in use longer, it reduces demand on the natural environment's finite resources and helps families save money.


Countywide

Implemented 'Food: Too Good to Waste' Program

The average single-family household in King County throws away 150-270 pounds of edible food each year. Due in part to the high GHG emissions impact and waste of natural resources from food production, the County's Food: Too Good to Waste program has developed effective food waste prevention messaging, strategies and award-winning online outreach for residential audiences. In addition, the program has developed outreach materials in four languages besides English. King County has awarded eight commercial food waste grants for projects that aim to reduce edible and/or non-edible food waste generated by the commercial sector (non-residential) within King County (excluding Seattle). Food rescue has been a major focus of several of these grant projects.


Countywide

Led the King County Green Schools Program

The Green Schools Program helps K-12 schools and school districts learn about and improve conservation practices. As of March 2020, 14 districts and 320 schools benefited from program assistance, tools, and recognition. Program areas include waste reduction and recycling, energy and water conservation, healthy schools, and transportation. Food waste reduction, is a priority program focus, with technical assistance in best practices such as education, longer seated lunchtimes, recess before lunch, milk dispensers, food share tables, food rescue and collection of compostable materials. Many participating schools have food share tables and, from 2018 to 2019, 31 schools donated food to nonprofits. The potential to expand food donation is great.


Countywide

Invested in Recycling Infrastructure

The Solid Waste Division provides recycling collection at its transfer stations and collects various types of recyclable materials from self-haul customers with cardboard, metal, yard waste, and wood accounting for roughly 90 percent of recyclable tons collected. Newer stations can collect more types of recyclable materials. The most recent station to be completed, the Factoria Recycling and Transfer Station, opened in late 2017.




Countywide

Banned Construction and Demolition Materials from King County Waste System to Increase Recycling

King County does not accept construction and demolition waste at its transfer stations or Cedar Hills Regional landfill, except for incidental amounts. King County Code (KCC 10.30), requires that construction and demolition waste must be taken to a designated privately-operated construction and demolition debris recycling and/ or transfer facility. These facilities are banned from landfilling certain materials including clean wood, cardboard, metal, gypsum scrap, and asphalt paving, bricks and concrete. As markets develop, King County will consider banning other construction and demolition materials.


Countywide

Implemented 'Sort It Out' Program

To cut waste and reduce the amount of recyclable materials in the landfill, the King County Sort It Out program was implemented in 2018. The program asks self-haul transfer station and drop box customers to place selected materials in designated areas at facilities that accept those materials for recycling. The program doubled the growth in transfer station recycling tons in 2018 over 2017.


Countywide

Provided Recycling and Waste Disposal Discount to Low-Income Residents through 'Cleanup LIFT'

King County's new Cleanup LIFT discount enables 300,000 low-income residents to save money at County-operated recycling and garbage transfer stations. Eligible King County residents who show their Provider One, EBT, or ORCA LIFT card can receive $12 off the cost to dispose of recyclables, yard waste, and garbage.

clean up LIFT


Countywide

Committed to Improving Internal Waste Prevention and Recycling

Many King County agencies are undertaking impressive waste diversion efforts, such as the surplus and reuse programs within Metro, Fleet and Roads, which reuse over 5,000 items each year and recycle specialized materials. While these programs are successful, a 2018 waste audit of one of King County's facilities uncovered inconsistencies in waste prevention and recycling. This study discovered the facility had an overall low waste diversion rate, with very little waste being recycled or composted, only 13 percent. Based on these findings, there is a high likelihood of similar low diversion rates and high levels of contamination at other county facilities.


County Operations

Overall, the waste management collection systems within King County building operations lack consistency across facilities, and not all County–owned facilities are equipped to collect all types of recyclable materials. According to the audit, standardizing waste management systems across facilities—including containers, signage, and procedures for disposal—would improve diversion rates for operations for a low investment which will be a focus of 2020 and beyond.

Purchased 100 Percent Recycled Content Copy Paper

In addition to reduced copy paper consumption goals, the 2015 SCAP strengthened the commitment to the purchase of 100 percent recycled content paper. The County established a contract in 2016 requiring the purchase of 100 percent recycled content, which achieved better prices and better compliance of 97 percent. Currently, a few agencies are buying a tree free paper made from sugarcane waste. This market is just being developed, but the current product boasts climate neutrality by turning a waste product into copy paper and may be another way to meet the County's climate goals.


County Operations

Invested in More Efficient Computer Technology

In the 2015 SCAP, the County committed to converting 70 percent of individual servers to Standard Virtual Environments (SVEs). By 2019, it had converted 90 percent of individual servers to SVEs and 95 percent of backups go to the cloud. In addition, 72 percent of all County computers are now laptops which are more energy efficient than desktops, saving approximately $63,000 in cost in 2019 and filling business needs of employees who telecommute.



County Operations

Updated the County's Sustainable Purchasing Policies and Program

Executing a priority action in the 2015 SCAP, King County updated its Environmentally Preferable Product Procurement Ordinance and Executive Policy in 2018 to the Sustainable Purchasing Ordinance (KCC 18.20) and Sustainable Purchasing Executive Policy (CON-7-22-EP). These policies redefine "sustainable" as more than just environmental, by also incorporating social and fiscal concerns into purchasing decisions made by King County employees. They also clarify agency responsibilities and use ecolabels and environmental certifications as minimum requirements. These align the County's purchasing with other relevant policies, including the Green Building Ordinance and Equity & Social Justice initiative.



County Operations

Focus Area 6: Forests and Agriculture



Tripled Open Space Conservation Funding

With new financial tools in place in 2019, King County tripled the amount of open space conservation funding awarded annually through the Conservation Futures Tax program and King County Parks Levy. From 2016 and 2019, King County protected more than 3,100 acres across all land categories through fees and easements (total does not include lands protected by cities in the County).



Countywide

Registered over 265,000 Acres in Open Space Taxation Programs

Approximately 235,500 acres of privately-owned forest land and 30,000 acres of farmland have been enrolled in one of the County's open space taxation programs. The King County Public Benefit Rating System (PBRS) and Current Use Taxation (CUT) programs provide significant tax savings incentives to landowners who chose to protect farmland, forestland and other important classes of open space.



Countywide

Protected over 200,000 Acres of Private Forest Land

King County has protected more than 200,000 acres of private forest land by acquiring conservation easements and removing development rights, which will ensure that those lands remain forested. Similarly, nearly 15,400 of productive farmland has been preserved through the County's Farmland Preservation Program (FPP). Between 2016 and 2019, an average of 253 acres of farmland have been permanently preserved by acquiring conservation easements through FPP. There are an additional 500 acres proposed for FPP inclusion in 2020, all of which are Land Conservation Initiative priorities.



Countywide

Addressed Disparities in Park and Open Space Distribution and Access


Countywide

The Land Conservation Initiative includes tools to help address disparities in park and open space distribution and access. This work was advanced by the Open Space Equity Cabinet, which revised CFT Code Chapter 26.12 to support more equitable outcomes, mapped King County areas lacking equitable access to parks, open space and farmland, waived CFT match requirements for qualified grant applicants addressing open space disparities, and developed a community engagement action plan to expand, engage, and diversify the cities and non-profits awarded CFT funds.

King County awarded match-free CFT funds for eight applications in 2019 and began implementing the community engagement plan late that year. King County's Open Space Program also completed three acquisitions in White Center and Skyway, two unincorporated areas with open space inequities. The County's agricultural program also received funding to acquire additional farmland in south County, which could serve as a cornerstone for a collaborative farming venture by immigrant/refugee farming communities in that area.

Added 3,100 Acres of Land Dedicated to Local Food Production


Countywide

Launched in 2014, King County's Local Food Initiative (LFI) is taking bold steps to support the local food economy, including to (1) better connect local farms to consumers, (2) increase access to healthy, affordable foods in underserved areas, (3) support farmers and protect farmland, and (4) create a sustainable farm-to-plate pipeline more resilient to the effects of climate change. The Food System Data Center maintains current metrics about individual LFI measures.

The 2015 SCAP included a goal, initially proposed by LFI, to increase King County acreage dedicated to food production by an average of 400 acres per year. Because small-scale annual changes in land use are often difficult to track, the Water and Land Resources Division conducted a comprehensive agricultural land use survey in 2017. A total of 48,200 acres were classified as agricultural land, of which 25,100 acres were actively farmed for food production. The 2017 food production estimate represented an increase of 3,100 acres compared to 2013, and most of that increase was attributable to fallow/idle farmland being returned to production.

Supported Local Farmers


Countywide

The Water and Land Resources Division's Agriculture Program works with King Conservation District (KCD), Washington State University (WSU) Extension, and other partners to provide technical assistance, support for farm plan development, and cost sharing to support sustainable farming practices and to promote local food production. King County manages a comprehensive website ("one stop shop") for business, farmland access, production, marketing and food safety.

During the Covid-19 crisis, the County expanded the website to include information from agency and NGO partners related to available financial resources, health directives, expanded market opportunities, and options for consumers. The County also offers property tax incentives that support privately owned farms.

Increased Land Access for Local Farmers


Countywide

Beginning and resource-challenged farmers face numerous barriers related to accessing suitable farmland. King County and partner organizations continue to build a comprehensive farmer training and land access program that includes NGO-sponsored training farms, WSU Extension and KCD technical training and the multi-partner Working Farmland Partnership, which is focused on matching landowners with farmers looking for land.

DNRP also owns and manages a portfolio of farm properties that are leased to farmers from traditionally underserved communities and farmer training organizations. Those County-owned farms provide an opportunity for new and beginning farmers to establish or expand their farming businesses with the goal of eventually locating on private owned or leased land. County farms will also be used as platforms to demonstrate climate friendly forestry practices, including the use of recycled water and compost.

Launched a Nation-Leading Forest Carbon Program

In 2019, King County launched a Forest Carbon Program, one of the first of its kind in the nation. King County produces carbon credits by permanently protecting threatened forests and tree canopy through efforts like the Land Conservation Initiative and partnerships with private forest landowners.


Countywide

Revenue generated from the program will be invested in new County acquisitions, targeting lands that are among the most critical conservation priorities of the region, and will provide financial incentive to private forest landowners, cities and NGOs who protect and manage forest land. Ultimately, King County supports expansion of the programs beyond King County, which would require transitioning program management responsibility to an NGO or state agency.

Led Forest Stewardship Initiatives with Local Partners

The Water and Land Resources Division's Forestry Program works closely with KCD and WSU Forestry Extension to promote healthy forests and forest stewardship through forest stewardship planning courses and workshops and on-site forest management assistance to non-industrial private forest landowners. The Forestry Program also works with KCD, fire districts and local communities to reduce the risk of wildfire and to ensure communities are prepared to respond should they be threatened by wildfire. The County also offers property tax incentives to encourage private forest landowners to preserve and enhance management of their forestlands and assists landowners to take advantage of the Transfer of Development Rights program.


Countywide

Grew Loop® Biosolids Program to Improve Soil Quality and Offset Carbon

The Wastewater Treatment Division uses its soil amendment Loop® biosolids on private and state-managed forests in King County to increase tree growth, store carbon in forest soils, and replace use of fossil fuel-based fertilizers. The Wastewater Treatment Division is pursuing opportunities to increase use of Loop® biosolids within King County, thereby improving the local ecosystem and reducing GHG emissions associated with transportation of the material beyond county limits.


Countywide

Planted More than One Million Trees

The 2015 SCAP called for planting one million new native trees with partners by 2020 as a "down payment" on the 30-Year Forest Plan. Restoration projects that plant native trees and shrubs on previously cleared, non-agricultural land have multiple benefits, including wildlife habitat, reduced stream temperatures due to increased shade, and increased carbon sequestration. King County significantly expanded tree planting efforts since 2015, and combined with partners to plant more than 1.2 million trees (King County and partners each planted approximately half of that total

Launched the Development of a 30-Year Forest Plan


Countywide

By the end of 2020, King County will complete a 30-Year Forest Plan to maximize forest health and tree cover in both urban and rural King County. This plan will accommodate population and economic growth and meet the goals and needs for local food production and working forests. To date, County staff have initiated work with cities, community-based organizations, and other partners to develop the plan. The plan will include methods to track progress, monitor tree survival, achieve multiple benefits, and coordinate extensive public outreach and engagement on the initiative.

Prioritized Forest Management Projects and Investments for County-Owned Lands



King County recently updated analyses to identify high-priority areas for future forest restoration projects. The analysis identified 1,900 acres of County-owned property most in need of active management to improve ecological health and climate resilience. This analysis, combined with Forest Stewardship Plans that provide recommendations for stewardship activities at a particular property, will help prioritize and maximize King County's climate-related stewardship efforts and investments.

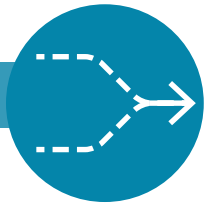
Preparing for Climate Change

The 2015 SCAP included 19 climate preparedness actions aimed at reducing climate change impacts on King County operations and core functions, such as flood risk reduction, stormwater management, public health, and emergency management. The actions focused on three major areas of work: increasing infrastructure, community, and ecosystem resilience; strengthening regional partnerships; and enhancing technical understanding of climate change impacts on the County. Sections 1.1.1 through 1.1.3 summarize the accomplishments made to date in these focus areas; Section 1.1.4 summarizes the remaining preparedness actions to be completed from the 2015 SCAP. Work on all of the 2015 SCAP actions will conclude by December 2020.

The 2015 SCAP also recommended creating a climate change preparedness staff position to support preparedness activities across and within King County departments, and to develop strategic partnerships with other local governments, universities, and nonprofit organizations. A Climate Preparedness Specialist position was created by King County's Climate Leadership Team in 2016 to address this need. The Climate Preparedness Specialist works closely with other members of King County's Climate Action Team, County departments, and external partners to help ensure that we are effectively delivering on SCAP goals and priority actions.

Note: reported activities and accomplishments in this appendix were organized to align as closely as possible with the 2020 focus areas. Because this is not the original framework in which the activities were developed, some focus areas do not have specific activities highlighted (e.g., Focus Area 5).

Focus Area 1: Mainstream Climate Preparedness



Increased Infrastructure, Community, and Ecosystem Resilience

King County invests millions of dollars annually in public infrastructure improvements and delivery of local services, including wastewater conveyance and treatment, public transit, stormwater management, maintenance of roads and bridges, floodplain management, habitat restoration, public health services, management of parks and open spaces, and land use planning. These investments are critical to

supporting a thriving economy, healthy neighborhoods, and a clean environment.
Accounting for current and future climate impacts when making those investments is essential to building resilient infrastructure, communities, and ecosystems given the lasting nature of those decisions. Key areas related to this in the 2015 SCAP included:

- Preparing for sea level rise.
- Strengthening connection between climate preparedness and hazard mitigation.
- Increasing understanding of connections between public health and climate change.
- Addressing climate change impacts on summer water supply and streamflow.
- Planning for salmon recovery in a changing climate.

Prepared for Sea Level Rise

Sea level rise can cause damage to public and private infrastructure, create health and safety hazards, reduce public access to beaches, and negatively impact our shoreline ecosystem in ways that reduce the likelihood of improving salmon recovery. As part of a 2015 SCAP commitment to develop a more comprehensive approach to sea level rise, the County worked across departments to accomplish the following:

- Updated local land use codes for Vashon and Maury islands to reduce the risks of sea level rise to shoreline development. The adopted changes include creation of a Sea Level Rise Risk Area landward of the existing coastal high hazard area and increased setback requirements for development on coastal bluffs.
- Identified King County-owned assets vulnerable to up to five feet of sea level rise. Asset owners are developing adaptation plans for addressing those impacts. A summary of this work will be available by the end of 2020.

Strengthened the Connection Between Preparedness and Hazard Mitigation

Climate change exacerbates existing challenges with flooding, landslides, wildfire, and other natural hazards by changing the frequency, intensity, and duration of these events. Strengthening the connection between climate preparedness and hazard mitigation creates opportunities to leverage existing hazard mitigation investments to address projected risks and today's risks. These efforts were part of the 2015 SCAP:

- The Water and Land Resources Division updated King County's landslide hazard mapping along major river corridors and made those maps available on King County's website, providing property owners, local governments, and agencies with an updated resource for evaluating landslide hazard risks in King County.
- The Office of Emergency Management (OEM) incorporated climate change impacts into the hazard profiles and evaluation criteria for the 2020 update of the County's Regional Hazard Mitigation Plan. The OEM also incorporated information on climate change impacts into community presentation materials and related public outreach materials, and hosted a facilitated discussion with stakeholders to evaluate preparedness and response capabilities for heat-related impacts (including wildfire smoke).

It is also important to note that OEM adopted King County's 14 Determinates of Equity as goals for the 2020 Regional Hazard Mitigation Plan and a basis for targeting investments.

Addressed Climate Change Impacts on Water Supply and Streamflow

Projected decreases in snowpack and summer streamflow will exacerbate challenges across the region related to managing summer water supplies for people and fish. As part of the 2015 SCAP, King County actively participated in regional forums focused on streamflow management to help ensure that water management decisions account for the County's water needs for instream flows and agriculture. This included discussions hosted by the U.S. Army Corps of Engineers (for the Green River), the Cedar River Instream Flow Commission, and the Central Puget Sound Water Supply Forum.

King County also expanded recycled water use to serve two of the three largest irrigators in the Sammamish Valley. As a result of the Recycled Water Program's partnership with the Salmon Safe certification program, Willows Run golf course in Redmond (a recycled water user) was certified as a Salmon Safe golf course in 2016. The Buttonwood Tree Farm was also added as a new recycled water customer in 2017.

Planned for Salmon Recovery in a Changing Climate

Climate change impacts on salmon include changes in freshwater conditions that reduce the likelihood that salmon will reach adulthood and successfully spawn in natal streams. The County's Climate Action Team partnered with watershed-based salmon recovery teams and other technical experts to develop climate change and salmon issue papers for each of the four Water Resource Inventory Areas (WRIAs) in King County. The issue papers provide an overview of how climate change is likely to affect salmon and salmon habitat in each WRIA and identify proposed actions to address climate impacts. Information from the issue papers has been incorporated into salmon recovery and habitat restoration activities in King County, including salmon habitat plans and salmon recovery work plans. The information is also supporting grant applications.

Focus Area 2: Technical Capacity

Enhanced Technical Understanding of Climate Change Impacts on King County

Investing in research and technical assessments specific to King County's decision-making needs helps ensure that we are using best available science to guide our preparedness efforts. A major research focus in the 2015 SCAP was developing a better understanding of how heavy rain events may change as a result of rising greenhouse gas emissions and how those changes may affect King County operations. Research related to the potential for climate change-driven migration to the Puget Sound region was also supported. Increasing technical understanding of climate change impacts on King County continues to be a priority for the 2020 SCAP.

Increased Capacity to Address the Risks Associated with Extreme Precipitation

Climate change scenarios for the Puget Sound region project increasing winter rainfall and more intense heavy rain events. These changes have implications for wastewater conveyance, stormwater management, and floodplain management, including decisions about infrastructure sizing and development requirements. The following efforts were part of the 2015 SCAP:

- The Wastewater Treatment Division and the Water and Land Resources Division leveraged grant funding from the Washington State Department of Ecology to develop hourly rainfall projections for King County through the 2080s using two regional climate models. The analysis, conducted in partnership with the University of Washington (UW) Climate Impacts Group, was expanded in 2018 to 12 regional climate model projections to provide a more robust set of scenarios for decision-making. The expanded analysis found potentially large increases in rainfall intensity across a range of locations and intensity metrics.

- Stormwater Services conducted a preliminary assessment of climate change impacts on stormwater infrastructure based on changes in rainfall from two regional climate model scenarios. That research suggests that stormwater infrastructure will need to be larger to account for increasing rainfall, although additional analysis using the expanded set of regional climate model scenarios is needed before making recommendations for changes in design standards.
- The River and Floodplain Management Section partnered with the UW Climate Impacts Group to conduct a preliminary assessment of climate change impacts of flooding on the Snoqualmie and Green rivers. The research provided compelling evidence of increased future flood flows in the South Fork Skykomish River, the Snoqualmie River and its tributaries, the Green River above Howard Hanson Dam, and major tributaries to the Green River. Additional analysis using the expanded set of regional climate model scenarios is currently underway.

Assessed Climate Change Impacts on Population Growth Rates

As climate change impacts become more pronounced regionally, nationally, and globally, the potential for population displacement and climate change-driven migration increases. In response to growing questions about impacts on population growth assumptions in the Puget Sound region, Water and Land Resources Division partnered with Portland State University, the UW Climate Impacts Group, and other institutions to host a 2016 symposium exploring the potential for climate change-driven migration to the Northwest and its implications for long-range planning.

The symposium concluded that the potential for climate change-related population growth in the Northwest cannot be ruled out, although it would be premature to make changes to current population forecasting models. Additional work is needed to identify the additional data, information, methodologies, and modeling needed to systematically assess the question of climate change-driven migration. King County is continuing to track research on this issue and any implications for long-range planning.

Focus Area 3: Health and Equity



Increased Understanding of Connections Between Public Health and Climate Change

More intense summer heat events, wildfire smoke, more harmful algal blooms, and increased flooding are some of the many ways that climate change can directly and indirectly affect personal and community health and well-being. As part of the 2015 SCAP, Public Health— Seattle & King County (Public Health) leveraged grant funding and other financial and technical assistance to:

- survey and engage stakeholders on health and climate change, determining that County staff and community members have a high level of concern over climate change and a strong interest in more information on health impacts;
- develop the agency's first Blueprint for Addressing Climate Change and Health to guide Public Health action on climate change, including 2020 SCAP actions for Public Health; and
- produce two climate change and health public education comics, one focused on extreme heat events and one on the connection of climate change to health impacts.

Additionally, Public Health hosted four cross-departmental workshops with County staff to identify connections between climate change, public health, and County programs.

Focus Area 4: **Community and Organizational Partnerships**



Strengthened Regional Partnerships

Climate change impacts are not bound by jurisdictional lines and affect complex and inter-connected natural, socio-economic, and regulatory systems, underscoring the importance of working with regional partners on climate preparedness. Many of the 2015 SCAP preparedness actions summarized in the Focus Area 1 (Mainstream Climate Preparedness) portion of this section built on existing partnerships with local and tribal governments and the climate research community to support implementation of specific actions. However, looking beyond partnerships based on individual actions to broader regional collaboration on climate preparedness is also important. Regional collaboration can leverage limited resources and staff capacity, reduce duplication of efforts, facilitate institutional learning, catalyze action at broader regional scales, and ensure that neighboring climate preparedness efforts complement each other.

Recognizing the potential opportunities in developing a stronger regional dialogue around climate preparedness, the 2015 SCAP included a priority action calling on King County to work with the Puget Sound Regional Council (PSRC), neighboring counties and cities in central Puget Sound, nonprofit organizations, and businesses to scope and establish a regional climate preparedness partnership.

The Puget Sound Climate Preparedness Collaborative (Collaborative) was launched in October 2017, with King County as a co-chair, to enhance coordination and improve the outcomes of climate change preparedness efforts in the Puget Sound region. Collaborative preparedness activities to date include the following:

- connected with approximately 275 practitioners in convenings related to climate change impacts on stormwater management, shoreline planning, and wildfire west of the Cascades;
- partnered with the Washington Department of Natural Resources in its efforts to develop a statewide climate resilience plan;
- developed a strategic plan articulating the mission, services, and near-term priorities for the Collaborative; and
- played a key role in the development of a white paper and ongoing research related to managing western Washington wildfire risk in a changing climate.

The Collaborative currently includes 21 member organizations and partners representing five counties of the Puget Sound region, three municipalities, the Port of Seattle and Northwest Seaport Alliance, PSRC, Sound Transit, the Puget Sound Partnership, two conservation districts, and a growing number of tribal governments.

The Institute for Sustainable Communities, the Kresge Foundation, and the Bullitt Foundation currently provide support for the Collaborative. Expanding the Collaborative and pursuing additional opportunities to strengthen regional partnerships in King County and the Puget Sound region will continue to be priorities for the 2020 SCAP.

Remaining and Unfinished Preparedness Actions from the 2015

The year 2020 marks the fifth and final year of the 2015 SCAP. Although most of the 2015 climate preparedness actions are complete, three are still underway or planned for completion in 2020:

- **Plan for sea level rise.** King County staff are developing adaptation strategies for County-owned assets potentially affected by sea level rise and synthesizing results into a final report. Additionally, the County's Climate Action Team will partner with the Water and Land Resources Division to convene a discussion with shoreline jurisdictions in the County to identify opportunities for coordinating future work on planning for sea level rise.
- **Assess impacts of heavier rain events on wastewater conveyance and treatment.** The Wastewater Treatment Division is currently modeling the impacts of heavier rain events on wastewater conveyance and treatment using updated precipitation projections produced for King County as part of the 2015 SCAP. Results from the study will be incorporated into future updates of the Regional Wastewater Services Plan and the King County Combined Sewer Overflow Control Plan. The results will also be used to help inform long-term investment decisions that will be made under the Clean Water Plan.

One 2015 SCAP action, "Expand and fund public health preparedness and resources," will not be completed because of lack of funding. Although Public Health leveraged grant funding to develop the Blueprint for Addressing Climate Change and Health, a lack of dedicated funding for climate work in the department has made it difficult to implement Blueprint recommendations and sustain ongoing work related to climate change and health. Addressing funding and building capacity within Public Health related to climate change health is a focus area in the 2020 SCAP.

Appendix V: Operational Energy and GHG Guidance

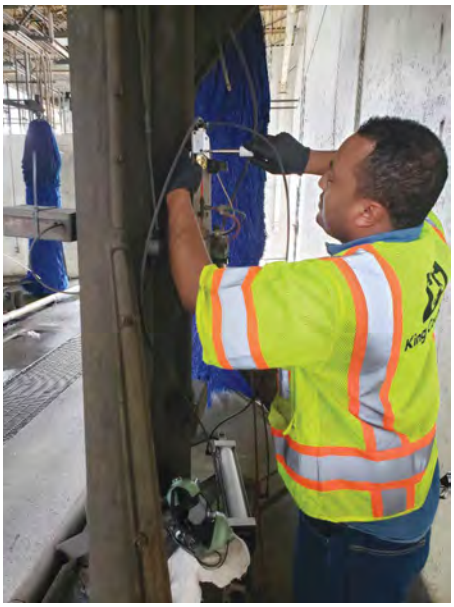
This appendix provides specific guidance in support of the goals included in the Buildings and Facilities Energy Focus Area of the Reducing Greenhouse Gas Emissions Section. The specific strategies and policies provided in this appendix are a roadmap of actions that guide County government agencies to advance their energy reduction and renewable energy generation efforts. This appendix focuses on energy work related to County facility energy use.

Operational Energy Guidance Strategies

Strategy APX 1. *Energy Reduction Action Plans*

All County agencies shall develop Energy Reduction Action Plans (ERAPs) by January 1, 2022, and at least once every five years thereafter. The ERAPs are intended to be energy-reduction identification and action documents, rather than extensive written documentation. The ERAPs shall detail key actions, implementation strategies, barriers, and methods for how each agency will contribute to the County's 2025 and 2030 energy reduction goals. At a minimum, and in addition to other relevant information, the ERAPs shall include:

- any completed facility assessments/audits;
- facility recommissioning plans;
- facility-by-facility documentation of fossil-fuel consuming equipment, including estimated end of operating life year and barriers to installing non-carbon replacement alternatives; and
- overall or facility-by-facility checklists of opportunities and planned investments and actions to reduce energy use through
  - LED lighting;
  - lighting controls;
  - heat pump or condensing hot water heater installations;
  - heat pump heating and air conditioning equipment; and
  - ventilation heat recovery and dedicated outside air systems



Low-cost repairs and maintenance activities contribute to the County's energy reduction goals, such as repairs of air distribution system leaks (pictured) at the Ryerson Transit Base which led to over 130,000 kWh/year in energy savings.

Strategy APX 2. *Resource Audits*

By December 31, 2022, and every five years thereafter, any facility consuming 5,000 MMBTU annually (using 2020 data) shall complete an energy and water efficiency resource audit.

- The resource audits are to be used to guide future energy and water investments, and shall detail cost-effectiveness information for all identified behavioral and equipment retrofit efficiency actions in each impacted facility.
- Per King County Ordinance 16927, conduct a level II energy audit for facilities at which capital projects valued over $250,000 are planned that impact any portion of the mechanical or lighting system, if such an audit has not been completed within the previous seven years.

Strategy APX 3. *Energy Recommissioning*

No less frequently than every five years, King County will carry out an energy recommission of all facilities that use more than 5,000 MMBTU per year. Such recommissioning may include functional analysis of facility lighting, envelope, controls, heating/cooling equipment, operations, and historical consumption data to ensure each impacted facility is operating efficiently. In the case of new facilities or major renovations, recommissioning must occur within two years after the completion of construction.

Facilities that have reduced energy use by 5 percent or greater versus the previous comparison baseline (five years prior) do not need to perform such assessments, but can if the agency believes savings opportunities may be identified. Usage may be normalized for factors such as weather.

Strategy APX 4. *Energy Investment Cost-Effectiveness*

While technology exists today to reduce the County's energy use by 50 percent or greater, it is essential to consider the cost effectiveness of projects to ensure the County expends its limited financial resources wisely.

- All capital and major maintenance projects shall install the most energy efficient equipment that is life cycle cost effective, calculated as compared to the existing equipment to be replaced or the incremental cost above the baseline code-meeting standard replacement equipment.
- County agencies shall evaluate and pursue the installation of solar panels at all facilities where life cycle cost effective over a 20-year product life.

By December 31, 2022, the Office of Performance Strategy and Budget, in coordination with the Energy Task Force and the Capital Project Management Working Group, shall develop criteria regarding if and when County agencies shall make investments to replace equipment for resource efficiency purposes, and when project managers and staff are expected to secure and expend additional dollars for capital projects.

Strategy APX 5. *Capital Project Energy Performance*

In addition to meeting the County's requirements for the internal Sustainable Infrastructure Scorecard, Leadership in Energy and Environmental Design (LEED), or other green building requirements, all capital and major maintenance projects that trigger energy code requirements shall meet the prescriptive or modeled energy code requirements of the jurisdiction with the most energy-efficient energy code within the County, by following the County-developed energy code compliance checklist. As of 2020, the most efficient energy code is in the City of Seattle.

Strategy APX 6. *Continued Investment in Electricity Energy Efficiency*

As of 2020, King County is sourcing carbon neutral electricity to power its buildings and facilities. County agencies shall "stay the course" and continue aggressive electricity reduction actions toward future energy reduction goals. Continued benefits of reducing electricity use include:

- reducing utility operating expenditures;
- lowering the County's energy use "frees up" the energy to be sold by the utilities to other customers, reducing the need to generate power from higher-carbon sources. For example, as of 2020, the majority of Puget Sound Energy's power systemwide is carbon-based and Seattle City Light's ability to sell its carbon neutral power to others reduces the need for others to generate power with natural gas;
- minimizing the need for new electricity generation construction. All new generation has significant environmental impacts, including manufacturing, land use, and habitat impacts. This includes renewable development such as hydro, solar, and wind generation; and
- supporting the innovation, engineering, and development of more efficient technologies from a global perspective.

Strategy APX 7. *Fossil Fuel Elimination Strategy*

King County recognizes that the consumption of fossil fuel resources in its buildings and facilities, particularly those transported through pipelines, results in a direct and long-lasting increase of GHG emissions. The County consumes natural gas, oil, and propane at many of its facilities, some of which are designed such that replacement of such systems with non-fossil fuel equipment is feasible and practical, and some of which pose significant design and financial challenges to replace with electrically operated equipment. This strategy highlights and reinforces actions that support the elimination of fossil fuels that are already outlined in other areas of the SCAP.

- No fossil fuel combustion heating systems shall be used for new construction, except for backup generators, food service equipment, and specialized industrial equipment for which there are no electrically operated alternatives.
- All County agencies shall inventory equipment that operates on fossil fuels by January 1, 2022, including information about potential replacement equipment that can eliminate or significantly decrease fossil fuel use for each piece of equipment.

Strategy APX 8. *On-Site Solar Generation*

Existing buildings over 2,500 square feet shall be assessed for solar generation potential by December 31, 2021. The County will pursue on-site solar generation for several reasons, including:

- to reduce ongoing utility bill operating costs;
- after maximizing efficiency, on-site power generation is generally the lowest-impact generation resource because of the elimination of long-distance power distribution line losses between power plants and end users, which typically range between 8 and 15 percent; and
- resiliency. The installation of solar, particularly with newer "islanding" technologies, will enable facilities with on-site solar to be designed to operate during daylight hours if the electricity grid is down.

For new construction, on-site solar generation shall be installed to meet the equivalent of the City of Seattle code requirements below.

- Construct all new buildings according to sections C411 and C412 of the 2018 City of Seattle code requirement of 0.25 watts of on-site solar photovoltaic power generation per conditioned square foot, or to any higher-level solar code that is established by a jurisdiction in King County.
- All new construction building projects shall evaluate solar system sizes beyond this standard, and install the largest-sized system that is life cycle cost-effective over a 20-year system life

Strategy APX 9. *Design for Daily Shutdown*

New facilities shall be designed such that all non-critical energy using systems are shut off during unoccupied times, with simple override controls as necessary for afterhours access and safety. Outdoor lighting shall include controls such as motion sensors that will minimize and/or shut down lighting when no activity is present. Exceptions shall be rare and shall include a clear public or staff benefit, such as public or staff safety.

Strategy APX 10. *Energy-Using Equipment Design Guidance*

Dictating the use of specific energy equipment technologies has the potential to limit creative design and potentially to create an unanticipated outcome of increased energy use, if newer technological advances do not fit the prescribed standards. However, advancing technological improvements are making some older or inefficient technologies obsolete or unattractive from a life cycle perspective. New construction and renovation projects shall meet the following minimum design requirements:

- All lighting fixtures shall have an efficacy of over 110 lumens per watt, unless replacing existing lighting results in an energy reduction of 50 percent or greater for each lamp replaced.

- No fossil fuel combustion heating systems shall be used for new construction
- Renovation projects shall replace heating equipment with a non-fossil fuel option. If such an option is not feasible, heating equipment shall be replaced with equipment that has a combustion efficiency of 86 percent or greater.
- Heat pumps shall have a Coefficient of Performance of at least 2.5, unless the total space to be heated with such equipment is under 400 square feet.
- Space to be conditioned shall be minimized and based on specific needs. Strong consideration shall be given to stairwells and other low-use spaces being constructed as outdoor and/or unconditioned space.
- All space heating devices shall be controlled with seven-day programmable wall thermostats that are not integrated into the device. This includes restrooms and all other conditioned spaces.
- Radiant heaters shall have timer or motion shutdown controls
- Heat recovery shall be integrated into all ventilated spaces over 5,000 square feet and shall have heat recovery of 70 percent or greater, where allowed by code.
- Agencies shall, as necessary, integrate wording into construction and procurement documents to ensure these strategies are followed.

Strategy APX 11. *Energy Star Appliances*

All appliance purchases by King County government shall be Energy Star qualified appliances, if an Energy Star rating is available for the type of appliance. Agencies shall set in place practices to ensure that credit card (i.e., P-card) purchases of equipment and appliances comply with this requirement.
To ensure both safety and resource efficiency, employees are not allowed to bring, or accept donations of, heaters or other electrical appliances for use in County facilities, unless specifically approved by the county. When an energy-using device is deemed necessary for an employee's comfort or to perform his/her work, appliances will be purchased by County agencies and shall be Energy Star qualified, if an Energy Star category exists. The Procurement and Payables Section of the Department of Executive Services shall work to ensure compliance with this strategy.

Strategy APX 12. *Purchased Energy Use Cap for Capital Projects*

Replacement and/or upgrades of existing facilities and construction of new County facilities can result in an increase of total County energy use, offsetting some of the significant County government energy reductions that have been made in recent years.
Additional energy use compared to the existing facility, on a total BTU basis, can be consumed if the facility project meets one of the following criteria:

- reduces total net County energy use on a BTU basis (e.g., a transfer station trash compactor that measurably demonstrates the reduction of vehicle fuel consumption);
- pays for energy efficiency work equal to the additional energy use, on a BTU-for-BTU basis. Energy efficiency work will be done in other County facilities within the same division or Department;
- for facility replacement projects, as measured against the most recent 12 complete months of energy use on a BTU basis at the former facility, does not purchase additional power from an electricity or natural gas provider and/or generates any additional power beyond the cap through on-site solar, or through funding of other County-owned renewable energy generation;
- results in a significant level of service increase for the public that reduces normalized energy use, such as a new or expanded transit base or a wastewater pump station that has greater wastewater flow but reduced energy use per volume pumped; and/or
- meets regulatory requirements, such as wastewater de-nitrification.

After the first year of operation, remodeled or replaced facilities that exceed the calculated energy use cap shall pay for energy reduction projects that will provide an equal or greater reduction in energy use above the cap within that agency. New facilities are exempt from this requirement.

Strategy APX 13. *Renewable Biogas Optimization*

By December 31, 2021, King County will set renewable energy generation targets and track progress toward such targets at the Cedar Hills Regional Landfill and at the Wastewater Treatment Division's Brightwater, South, and West Point treatment plants. These targets are to help optimize use of available biogas for the most beneficial uses. Two targets should be tracked for each facility: the percentage of total gas sent to beneficial end use versus the percentage sent to flares, and the utilization percentage of the energy content of the biogas toward beneficial uses, as measured by available input BTU versus BTU output.

Strategy APX 14. *Energy Conservation Incentives*

All County agency energy-using equipment replacement projects shall maximize available utility rebate dollars by working with Puget Sound Energy, Seattle City Light, Snohomish PUD, Seattle Public Utilities, and other utility companies as appropriate. This action helps reduce project costs and supports such utility conservation incentive programs that have been a critical component of the region's long-term success as a national leader in resource efficiency efforts.

Strategy APX 15. *Occupied Leased Facilities*

When consistent with the operational needs of the function, King County shall seek to lease facilities, for leases of employee-occupied space of longer than five years, which are certified through the LEED rating system level of silver or higher or are Energy Star Certified. Facilities that do not meet these standards can be leased by the County if plans and funding are in place at the time of signing that will enable a facility to meet this standard within 24 months of lease signing.

Strategy APX 16. *Operational GHG Measurement Principles*

The following principles outline how King County will measure and report on operational GHG emissions towards the 80 percent by 2030 target adopted in this SCAP. King County develops annual GHG emissions inventories to inform action and measure progress toward adopted targets. King County's operational emissions are categorized into three "scopes":

- **Scope 1 emissions** include direct GHG emissions and removals that occur as a part of operations, including fuel combustion from King County-owned vehicles; natural gas used at King County facilities; landfill gas at Cedar Hill Regional landfill; and land use change, including carbon sequestered by forest growth on King County-owned lands.
- **Scope 2 emissions** include indirect emissions associated with the consumption of purchased electricity, steam, heating, and cooling.
- **Scope 3 emissions** include all other indirect sources of GHG emissions, such as King County employee business travel and commuting or the life cycle GHG emissions associated with the production, use, and disposal of purchased materials and services. Purchasing is the County's largest source of Scope 3 emissions.

For 2020 SCAP County operational targets, King County includes all Scope 1 and 2 emissions and removals, consistent with adopted protocols and best practices. This accounting aligns with the King County Carbon Neutral Implementation Plan, which expanded past County operational GHG target tracking that had previously focused only on emissions from energy and fuel use (e.g., 2017 SCAP Biennial Report).

Scope 3 emissions are not included in reporting on this target. However, King County is still working to quantify and reduce these emissions, for example, by addressing employee commute-related emissions through the County's Commute Trip Reduction program, enabling telework and telecommuting where feasible, and by addressing embodied emissions of construction materials like concrete used in County projects through new commitments in the Consumption and Materials Management Focus Area.

Measuring toward agency net carbon neutral targets. In addition to an overarching target to achieve an 80 percent reduction in Scope I and II operational GHG emissions, certain agencies in King County also have net carbon neutrality commitments. As a leadership approach, these agencies (Department of Natural Resources and Parks, Solid Waste Division, Wastewater Treatment Division) are accounting for Scope 3 emissions and also accounting for broader emissions reductions or removals that occur from their actions, such as those related to Loop® biosolids use, transfer station recycling, and renewable energy production.

Strategy APX 17. *Operational GHG Emissions, Carbon Offset, and Renewable Energy Policy*

King County is a large renewable energy producer and seller, has established a Forest Carbon Program and has established internal carbon fees in the Facilities Management Division and Fleet Services Division. There are also more opportunities to develop and sell climate and energy related environmental attributes on the horizon – such as related to vehicle electrification and additional carbon sequestration strategies. The benefits this guidance includes are to:

- formalize and clarify priorities for GHG emissions reductions;
- outline the rationale for County sale of environmental attributes;
- provide dedicated funding to accelerate deeper, faster GHG emissions reductions and climate preparedness benefits; and
- ensure consistency of approaches across varying lines of business.

APX 17.A. *Guidance for Operational GHG Emissions Reductions*

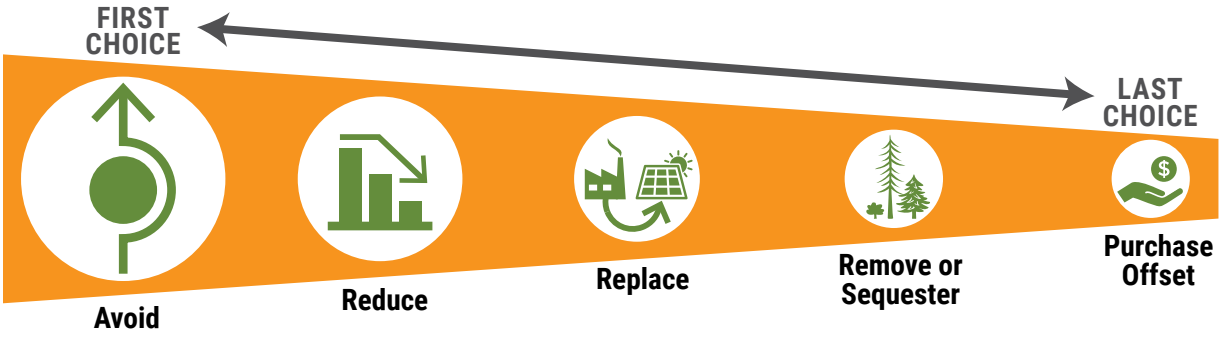
Priorities for operational GHG emissions reductions. To achieve its operational emissions, energy, and fuel goals, King County prioritizes strategies that:

- are the most cost-effective;
- achieve transformative and long term GHG reductions; and
- advance equity, public health, and other environmental benefits such as clean water and improved air quality

Priorities for tactics. In its GHG emissions strategies, the County prioritizes the following:

- 1st: Avoid (e.g. by driving fewer miles in government vehicles).
- 2nd: Reduce (e.g. through energy efficiency projects).
- 3rd: Replace (e.g. through cleaner fuel use in vehicles; by transition building energy use from fossil fuel natural gas to electricity; and/or by transitioning electricity supplies to green sources such the PSE's Green Direct program).
- 4th: Remove or sequester, with a preference for investing in County owned projects (e.g. through forest restoration or soil carbon projects).
- Last: Purchase Offsets. As a final option and only in certain cases, purchase externally sourced offsets or credits.

Greenhouse Gas Emissions Reduction Tactics



APX 17.B. *Sale of Energy, Carbon Offset and Related Attributes*

Carbon and energy projects. King County agencies are encouraged to develop renewable energy, carbon offset, and related projects. The internal use of the energy or environmental attributes of the projects is encouraged to help achieve operational climate and energy goals.

Benefits of sale. King County recognizes that the financial, leadership, public-private partnership, and/or educational values of sale of the energy and carbon and energy attributes may outweigh the benefits of their use towards operational goals.

Local preference for sale. If the price between potential buyers is close to equal, King County prefers to sell these attributes to local buyers to support local partnerships.

No double counting. Any renewable energy, carbon offset, or other environmental attributes that are sold externally may not also be used to meet the County's operational targets or commitments.

APX 17.C. *Scope of Coverage and Principles for Reinvestment*

Reinvest in climate action. For County owned projects or programs that sell energy, carbon offsets, or related attributes, revenues beyond project development costs must be reinvested in GHG emissions reduction and climate preparedness actions.

Covered revenues. Revenues from the following sales must be reinvested:

- Renewable energy produced
- Renewable energy attributes such as Renewable Energy Certificates (RECs) and Renewable Identification Numbers (RINs)
- Carbon offsets
- Internal carbon and energy fees and set asides
- Credits associated with use of electric vehicles and low carbon fuels

Reinvestment: revenues should provide additional funding. Reinvestment of revenues from carbon and energy projects is intended to provide additional funding to accelerate climate action and should not displace existing funding for programs that result in GHG emissions reductions and climate preparedness benefits.

The policy for reinvestment allows for exceptions in cases of financial emergency; is not to affect Rate Stabilization Policies; and is not meant to affect that some revenues are subject to requirements of Federal, State, regional and local laws that require minimum investments in specific programs, demographics, or locations.

Appendix VI: Community Engagement Summary

This appendix summarizes the community engagement actions conducted by the King County Climate Action Team as a part of the 2020 SCAP research and development process. The purpose of these engagement efforts was to understand community stakeholder priorities and concerns, and solicit feedback from community members, partners, and County employees on County climate initiatives.

Introduction

In preparation for writing the 2020 Strategic Climate Action Plan (SCAP), the King County Climate Action Team worked to ensure that ideas and concerns of community members and stakeholders were heard. Community engagement played an integral role in developing the major themes, goals, and activities in the 2020 SCAP. The County understands that residents and stakeholders feel the impacts of climate change and have valuable insights into what can be done to address climate change.

Multiple avenues were used to reach as many stakeholders as possible. The King County Community Engagement Continuum outlines a spectrum of ways that local government can engage communities.[1] The Climate Action Team worked to create engagement opportunities at every level so that community members had the opportunity to have a voice in the SCAP development at any point along the spectrum that corresponded to their level of interest and circumstances.

King County Office of ESJ Community Engagement Continuum

County Informs	County Consults	County Engages in Dialogue	County and Community Work Together	Community Directs Action
King County initiates an effort, coordinates with departments, and uses a variety of channels to inform community to take action.	King County gathers information from the community to inform community-led interventions.	King County engages community members to shape County priorities and plans.	Community and King County share in decision-making to co-create solutions together.	Community initiates and directs strategy and action with participation and technical assistance from King County.
Characteristics of Engagement				
• Primarily one-way channel of communication • One interaction • Term-limited to event • Addresses immediate need of County and community	• Primarily one-way channel of communication • One to multiple interactions • Short to medium-term • Shapes and informs County programs	• Two-way channel of communication • Multiple interactions • Medium to long-term • Advancement of solutions to complex problems	• Two-way channel of communication • Multiple interactions • Medium to long-term • Advancement of solutions to complex problems	• Two-way channel of communication • Multiple interactions • Medium to long-term • Advancement of solutions to complex problems
Strategies				
Media releases, brochures, pamphlets, outreach to vulnerable populations, ethnic media contacts, translated information, staff outreach to residents, social media	Focus groups, interviews, community surveys	Forums, advisory boards, stakeholder involvement, coalitions, policy development and advocacy, including legislative briefings and testimony, workshops, community-wide events	Co-led community meetings, advisory boards, coalitions, partnerships, policy development and advocacy, including legislative briefings and testimony	Community-led planning efforts, community-hosted forums, collaborative partnerships, coalitions, policy development and advocacy including legislative briefings and testimony

The County hosted topic-based convenings and youth workshops, responded to requests for presentations, held public workshops, and convened a Climate & Equity Community Taskforce. Online communication was also available through the County's climate website where information about the SCAP update accompanied an online public input survey and an opportunity to request a presentation/ workshop.

Goals of Community Engagement

- King County residents understand what the Strategic Climate Action Plan (SCAP) is.
- Residents share their ideas for how to best prepare for climate impacts based on their knowledge and lived experience.
- County staff listen and understand the priorities of residents around climate change impacts.

Methods

Climate Equity Community Taskforce

The Climate Equity Community Task Force (CECTF) is a group of leaders who represent frontline communities and organizations across greater King County, bringing multi-ethnic and multi-racial cross-sector experiences to climate-related community-driven actions. The CECTF is made up of approximately 22 community leaders, from sixteen affiliated organizations, who represent frontline communities. These community leaders were brought together to co-create the Sustainable & Resilient Frontline Communities (SRFC) section of the 2020 SCAP. Starting in early 2019, the CECTF members were engaged in meetings with each task force member contributing approximately 70 hours of their time over the year-and-a-half development process of the SRFC framework for action. These meetings included full CECTF meetings, deep dive meetings with CECTF members and King County staff, and presentations by CECTF members of community priorities to King County Climate Leadership Team and Executive Dow Constantine.

Topic-Based Convenings

Topic-based convenings were held for different action areas covered in the 2020 SCAP. These convenings brought together subject matter experts from the County and private and public sector partner organizations for a deep dive on climate-related issue areas. For example, a green buildings topic-based convening was held, which included County staff, climate experts, permitting staff, construction companies, architects, and environmental consultants; attendees discussed green building strategies to prepare for climate change and reduce greenhouse gas emissions. Throughout the three topic-based convenings (covering green building, energy, and forestry), approximately 150 stakeholders participated.

Public Workshops

King County hosted three public workshops in Bellevue, the University District, and Des Moines to gather community feedback on climate priorities. The workshops were held at multiple locations to increase accessibility for County residents to attend and share their ideas. At the workshops, community members heard an overview of the SCAP and participated in conversations with topic area experts from the County about specific climate change issue areas. Over 250 people attended the workshops, sharing major concerns and ideas for how the County can best tackle climate change. Youth caucuses were held at two of the workshops in partnership with and led by youth leaders from the Seattle Youth Climate Action Network.

Many residents voiced concerns around the accessibility and inclusion of climate solutions, especially for low-income households and communities of color. Many residents recognized that some proposed climate solutions may not work for everyone. For example, residents want to transition to renewable

energy, but recognized the up-front cost barrier that excludes many low-income households and property managers to participate in this.

Community members made suggestions to mitigate disparities in climate solutions, included subsidizing the cost of solar panels and providing incentives to improve accessibility. Community members also want to see the County conduct further outreach and education around climate change and climate solutions to raise overall community awareness and understanding of the issues. The overall trends for each topic area are captured in the feedback summary below. Many of the concerns and solutions tie back to accessibility, inclusion, outreach, and education, but are unique to each topic area.

Key workshop themes included:

- King County residents want climate solutions to be accessible and inclusive. They recognize that low-income households and communities of color are more likely to face barriers to climate solutions because of cost and other factors.
- Residents want King County to provide education, outreach, resources, subsidies, and incentives so that low income households can partake in climate solutions. If they aren't provided, then it is likely they will be left behind.
- Transition to renewable energy for a greener economy.

Comprehensive Plan Meetings

The Climate Action Team hosted an information table at five Comprehensive Plan public meetings held in 2019. At these meetings, information was shared on climate change related resources, opportunities to share input and feedback for the 2020 SCAP, and how to continue to stay engaged. These public meetings were held in five areas across King County:

- Bear Creek/Sammamish / Snoqualmie Valley Areas;
- Skyway - West Hill Area;
- Four Creeks / Maple Valley / Southeast King Areas;
- Vashon/Maury Island Area; and
- North Highline Area.

Youth Workshops

Youth workshops were held around the County with a primary audience of high school students. Approximately 100 youth were engaged throughout workshops that were supported by partnerships with youth-serving organizations and County high school internship programs. These workshops focused on increasing foundational knowledge of climate change, climate impacts, and climate equity in King County, providing an overview of the SCAP, and sharing what students can do to help combat climate change. Students had the opportunity to share their priorities and voice their major concerns, which informed SCAP development. As mentioned above, youth caucuses were held at two out of the three SCAP public workshops to create the opportunity for students and youth to discuss their priorities.

Online Public Input Survey

An online survey was available on King County's climate website for those who we were unable to participate in in-person engagement opportunities to share their ideas. The survey collected over 650 comments from over 200 participants between June and December of 2019. Some key themes raised in online survey comments included: forest protection, resilience of buildings and infrastructure, and interest in the expansion of public transportation to reduce single-occupant vehicle trips. For a more detailed list of feedback themes, see the **Summary of Feedback and Themes from Community Engagement**.

Community Presentations & Workshops

Interested groups or organizations requested climate change presentations and workshops by directly reaching out to the Climate Action Team or through the King County website. County staff tailored presentations to the needs, requests, and the audience for each individual group/organization. These events allowed County staff to go where community members were already meeting and created an opportunity for those individuals to further engage and share insights on climate solutions. This included about 45 presentations that reached over 900 people from communities across King County.

Internal King County Advisory Committee and Employee Engagement

The Climate Action Team convened three internal advisory teams of representatives from different departments across the County to help guide each section of the SCAP. These teams included the Greenhouse Gas Goal Area Leads, Climate Preparedness Steering Committee, and the SRFC Internal Advisory Committee. County staff provided insights into the operations of different departments and helped prioritize what SCAP activities had the greatest potential for impact across King County. The SRFC internal advisory teams complemented and provided technical support for the Climate Equity Community Task Force. For a full list of County departments represented on the internal teams, please see the acknowledgements page.

To reach other County employees, the Climate Action Team and internal advisory team representatives hosted two employee open houses to provide feedback on SCAP goals, actions, and targets. County employees were also invited to the public workshops, SCAP Lunch-and-Learns, and to provide input through the online survey tool. The Climate Action Team also held advisory committee workshops and topic specific 'deep dive' meetings to solicit additional employee input on the 2020 SCAP development.

Summary of Feedback and Themes from Community Engagement

Three major themes emerged from the County's engagement with external stakeholders:

1. **Stakeholders are experiencing the impacts of climate change** and desire to see King County act with urgency and leadership to (1) work to get ahead of the risks posed by climate change and (2) support actions and policies that mitigate and reduce climate impacts, including, but not limited to, more aggressive internal requirements, projects and programs that can be modeled, and more aggressive external regulatory policies.

2. **Stakeholders desire more information and involvement** and believe that King County should have a role in supporting the empowerment of communities as active partners in the implementation of external countywide SCAP actions, including, but not limited to, education, toolkits, and other supports.

3. **Stakeholders desire that the County support programs that emphasize equity and co-benefits** to build community resilience and mitigate climate impacts, including forest, green canopy, and open space plans and programs; sustainable and affordable development projects and practices; sustainable local food and agriculture practices and programs; and numerous other programs.

In addition to these three high-level themes, specific feedback from stakeholders on SCAP topic areas is summarized below.

Transportation & Land Use

Key themes for transportation and land among community members are the desire for reduced fares for public transit, more public infrastructure to support electric vehicles (EVs), partnerships with

rideshare and bikeshare companies, and increased transit accessibility in areas that lack reliable and regular transit. Participants noted that mobility is an integral service King County provides and want to see all communities able to access and afford transit services.

Many comments were also shared around EVs and charging stations. Community members believe that more public infrastructure supporting EVs should be made available, including an increased number of charging stations, high powered charging stations, and EV HOV lanes. Additionally, community members noted that EVs are primarily owned by higher-income portions of the population and by only focusing on EV infrastructure and not public transit, low income communities would not be able to utilize these resources. The public seeks a system that balances these concerns.

Buildings & Facilities Energy

Public comments centered around the increased use of solar energy, phasing out carbon-based energy, energy conservation methods like turning off unused lights in buildings, and the need to provide resources and support to the public. Residents are interested in a transition from fossil fuels to renewable energy, with solar energy being called out the most as a substitute. However, community members emphasized the need for incentives or subsidies to be developed for people purchasing solar systems because the upfront costs are high, creating a barrier for low income populations. Participants are also interested in widespread adoption of efficient turn-off practices for lights in buildings as an energy conservation method. Finally, an interest was expressed in increased information, resources, education, and support to the public around energy topics and the benefits of renewable energy, especially for property owners and small businesses.

Green Buildings

Community members shared an interest in the County using more solar and renewable energy, focus on retrofitting existing buildings with sustainable materials to be climate-prepared, and provide information and support to property owners so that they can understand the benefits of "going green." Community members emphasized the need to meet people "where they are at," work closely with property managers and providing resources, incentives, and funding that they will be able to successfully green buildings and lower and phase out carbon emissions.

Consumptions & Materials Management

Three key takeaways from discussions around consumption and materials management were: (1) regulating waste, (2) increasing education, and (3) incentivizing sustainable practices in daily life. Community members want to ensure that recyclable and compostable items do not end up in landfills. There was also a call for educating the public on what items are recyclable, compostable, reusable, and what should go to the landfill. More education was noted as an idea to address the concern of regulating waste; by putting more resources into education, people will be more likely to self-regulate their disposal practices. Lastly, residents are interested in the widespread adoption of sustainable practices in daily life and making these practices affordable. For example, the banning of single use plastic items or allowing people to bring their own reusable containers to shops and businesses or providing assistance to people interested in composting services.

Forest & Agriculture

Community members shared feedback around agriculture in the County and methods for planting and protecting trees. Many ideas around agricultural practices and the use of a regenerative approach to agriculture were shared to prepare for climate impacts around food security. Specifically, ideas around sequestering carbon, increasing soil health, and decreasing runoff. Residents shared views on both urban and rural agriculture, however comments primarily focused on making agriculture accessible

to urban and underserved populations. Another key theme was the desire for increased tree planting in the County, and an interest in data showing how many trees have been removed, protected, and planted.

Community Resilience & Climate Equity

Community members emphasized the importance of taking action to address climate justice by including climate solutions for vulnerable communities that are disproportionately impacted by climate change. The major concerns community members voiced were around climate change impacts having disproportionate impacts on BIPOC communities and the needs around food security, affordable housing, green jobs, emergency resources, renewable energy sources, reliable public transportation, and access to green space that make BIPOC communities more vulnerable to climate change impacts. Community members voiced that the County needs to do more outreach, in-language communication, and partnering with frontline communities, as well as engaging more with youth to provide education and opportunities. Partnering with frontline communities is important to community members, and participant emphasized that King County needs to include BIPOC voices in discussions that inform policies and programs that have a high level of impact on BIPOC communities. Many community members underscored the importance of including youth voices in climate action and proposed that King County partner with K-12 schools and youth-serving organizations to educate students on climate impacts and provide opportunities to youth to be involved in the decision-making process (e.g., internships).

Preparing for Climate Impacts

Community members shared heightened concern around extreme climate events, such as sea level rise and wildfires, due to the increasing frequency of these events. To increase community preparedness, residents are interested to see the County engage and educate property owners, developers, and community members to increase understanding of the potential impacts and better equip the community to prepare. Community members also shared comments around the creation and endorsement of policy-related climate action plans, especially options that push for all King County cities to adopt climate plans and be accountable for upholding them.

Climate Change & Health

Key concerns raised by community members related to air quality, food and nutritional security, and health equity. With the increased frequency of wildfires, smoke has exacerbated air quality in the region during fire events, worsening existing respiratory issues. Food and nutritional security were also raised as pressing concerns. Residents want access to nutritional food, especially in the event of food shortages (e.g., due to chronic effects of climate change, or acute events like a pandemic). Many residents worry about negative health consequences of food shortages at food banks, a crosscutting health equity concern. Those who will be most impacted by the outcomes of climate change are frontline communities. Residents asked, “How can the County address this inequitable distribution of effects so that all residents of King County can live a healthy life?”

Summary of Feedback Themes from County Staff Engagement

In addition to providing technical expertise and input into the topics described above in the community input summary, King County Staff engagement yielded six priority areas for collaboration. Collectively, these ideas and themes provided strategic insight into how the County should work to reduce climate change risks to King County communities, natural systems, and County operations and services.

1. Integrate climate change information across County processes.
2. Invest in research and technical studies to inform climate preparedness decisions.
3. Move forward on early implementation actions that reduce risks.
4. Strengthen internal and external partnerships.
5. Increase outreach, engagement, and technical assistance to residents.
6. Follow through on committed actions to reduce disproportionate impacts of climate change on frontline communities.

Appendix VI Endnote

1 King County. (May 2011). Community Engagement Guide.

APPENDICES



KING COUNTY

2020

Strategic Climate Action Plan

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2020 SCAP Appendices

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Appendix I: Glossary of Key Terms

Adaptation	In human systems, the process of adjustment to actual or expected climate and its effects, in order to moderate harm or exploit beneficial opportunities. In natural systems, the process of adjustment to actual climate and its effects; human intervention may facilitate adjustment to expected climate.[1]
Adaptive capacity	The combination of the strengths, attributes, and resources available to an individual, community, society, or organization that can be used to prepare for and undertake actions to reduce adverse impacts, moderate harm, or exploit beneficial opportunities.[2]
Anthropogenic	Made by people or resulting from human activities. Typically used in the context of emissions that are produced as a result of human activities.[3]
Biogas	Collected from natural decomposition processes of organic waste materials at landfills, wastewater treatment plants, and dairies. With limited or no cleaning, biogas can be used for heating and electricity generation.
Carbon dioxide (CO_2)	A naturally occurring gas in the earth's atmosphere. It is also a byproduct of human activities such as burning fossil fuels. Carbon dioxide is the principal greenhouse gas produced by human activity.[4]
Carbon footprint	The total amount of greenhouse gases that are emitted into the atmosphere each year by a person, family, building, organization, or company. A person's carbon footprint includes greenhouse gas emissions from fuel that an individual utilizes directly, such as by heating a home or riding in a car. It also includes greenhouse gases that come from producing the goods or services that the individual uses, including emissions from power plants that make electricity, factories that make products, and landfills where trash gets sent.[5]
Carbon neutral	A process where there is no net release of CO_2. For example, growing biomass takes CO_2 out of the atmosphere, whereas burning it releases the gas again. The process would be carbon neutral if the amount taken out and the amount released were identical. A company or country can also achieve carbon neutrality by means of carbon offsetting.[6]
Carbon offsetting	A way of compensating for emissions of CO_2 by participating in, or funding, efforts to take CO_2 out of the atmosphere. Offsetting often involves paying another party, somewhere else, to save emissions equivalent to those produced by your activity.[7]
Carbon sequestration	The process of storing carbon dioxide. This can happen naturally, as growing trees and plants turn CO_2 into biomass (wood, leaves, and so on). It can also refer to the capture and storage of CO_2 produced by industry.[8]
Carbon sink	Any process, activity, or mechanism that removes carbon from the atmosphere. The biggest carbon sinks are the world's oceans and forests, which absorb large amounts of carbon dioxide from the earth's atmosphere.[9]
Climate	Climate in a narrow sense is usually defined as the average weather, or more rigorously, as the statistical description in terms of the mean and variability of relevant quantities over a period of time ranging from months to thousands or millions of years. The classical period for averaging these variables is 30 years, as defined by the World Meteorological Organization. The relevant quantities are most often surface variables such as temperature, precipitation, and wind. Climate in a wider sense is the state, including a statistical description, of the climate system. In various chapters in this report different averaging periods, such as a period of 20 years, are also used.[10]
Climate change	A change in the state of the climate that can be identified (e.g., by using statistical tests) by changes in the mean and/or the variability of its properties and that persists for an extended period, typically decades or longer. Climate change may be due to natural internal processes or external forcings, or to persistent anthropogenic changes in the composition of the atmosphere or in land use.[11] human activity. Global warming is one aspect of climate change.[12]

Climate equity	Climate equity ensures that all people have access and opportunity to benefit from climate solutions, while not bearing an unequal burden of the impacts of climate change. This requires a holistic approach to equity in climate work that divides the burden of responding to climate change amongst those who contribute the most to the issue, while sharing the opportunities and benefits that equitable climate action presents with those that are most impacted.[13, 14]
Climate justice	Climate justice is the application of racial, environmental, social, and economic justice to climate response, which recognizes the continued legacy of systems of oppression and environmental exploitation. This shift in approach widens the focus from reducing greenhouse gases and addressing climate impacts to include, at its heart, the leadership of people and communities most vulnerable to climate impacts.[15] Achieving climate justice means creating a just, healthy, sustainable future for everyone that recognizes economic, political, social, and civil rights.
Consumption-based emissions	Greenhouse gas emissions associated with goods and services. These include embodied emissions associated with the production, transportation, use and disposal of goods, food, and services.
Disproportionate climate impacts	Individual residents and communities will experience the impacts of climate change differently. Working to advance environmental justice will be important as the impacts of climate change will fall disproportionately on communities of color, immigrants, refugees, people with pre-existing health conditions, and lower income residents.[16]
Embodied Carbon	Carbon emissions that occur when extracting materials and making building products.[17]
Emissions	Greenhouse gases that are put into the atmosphere from human activities. The release of greenhouse gases and/or their precursors and aerosols into the atmosphere over a specified area and time period.[18]
Energy efficiency	Using less energy to provide the same service.[19]
Environmental justice	The fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies.[20]
Extreme events	A weather event that is rare at a specific place and time of year, including, for example, heat waves, cold waves, heavy rains, periods of drought and flooding, and severe storms.[21]
Extreme precipitation events	An episode of abnormally high rain or snow. The definition of "extreme" is a statistical concept that varies depending on location, season, and length of the historical record.[22]
Fossil fuels	Natural resources, such as coal, oil, and natural gas, containing hydrocarbons. These fuels are formed in the earth over millions of years and produce carbon dioxide when burned.[23]
Fossil-based natural gas	Comprised mostly of methane and other hydrocarbons, this gas is formed underground through the long decay of organic materials. This is the typical type of natural gas delivered to homes and businesses through an extensive nationwide piping network. Much of this gas is currently extracted through a process called hydraulic fracturing, or "fracking."

Frontline communities	Frontline communities are those that are disproportionately impacted by climate change due to existing and historic racial, social, environmental, and economic inequities, and who have limited resources and/or capacity to adapt. These populations often experience the earliest and most acute impacts of climate change, but whose experiences afford unique strengths and insights into climate resilience strategies and practices. Frontline communities include Black, Indigenous, and People of Color (BIPOC) communities, immigrants and refugees, people living with low incomes, communities experiencing disproportionate pollution exposure, women and gender non-conforming people, LGBTQIA people, people who live and/or work outside, those with existing health issues, people with limited English skills, and other climate-vulnerable groups.
Greenhouse gases (GHGs)	Greenhouse gases are those gaseous constituents of the atmosphere, both natural and anthropogenic, which absorb and emit radiation at specific wavelengths within the spectrum of thermal infrared radiation emitted by the Earth's surface, by the atmosphere itself, and by clouds. This property causes the greenhouse effect. Water vapor (H_2O), carbon dioxide (CO_2), nitrous oxide (N_2O), methane (CH_4), and ozone (O_3) are the primary greenhouse gases in the Earth's atmosphere.[24]
Greenhouse effect	Trapping and buildup of heat in the atmosphere (troposphere) near the earth's surface. Some of the heat flowing back toward space from the earth's surface is absorbed by water vapor, carbon dioxide, ozone, and several other gases in the atmosphere and then reradiated back toward the earth's surface. If the atmospheric concentrations of these greenhouse gases rise, the average temperature of the lower atmosphere will gradually increase.[25]
Hazard Mitigation	Hazard mitigation describes actions taken to help reduce or eliminate long-term risks caused by natural, manmade, or technological hazards, such as flooding, earthquakes, dam failure, or cyber incidents.[26]
Just transition	Just transition is a vision-led, unifying, and place-based set of principles, processes, and practices that build economic and political power to shift from an extractive economy to a regenerative economy. This means approaching production and consumption cycles holistically and waste-free. The transition itself must be just and equitable, redressing past harms and creating new relationships of power for the future through reparations. If the process of transition is not just, the outcome will never be. Just transition describes both where we are going and how we get there.[27]
Methane	Methane is the second most important man-made greenhouse gas. Sources include both the natural world (wetlands, termites, wildfires) and human activity (agriculture, waste dumps, leaks from coal mining).[28]
Ocean acidification	The process by which ocean waters have become more acidic due to the absorption of human-produced carbon dioxide, which interacts with ocean water to form carbonic acid and lower the ocean's pH. Acidity reduces the capacity of key plankton species and shelled animals to form and maintain shells.[29]
Ozone	A colorless gas consisting of three atoms of oxygen, readily reacting with many other substances. Ozone in the upper atmosphere protects the earth from harmful levels of ultraviolet radiation from the sun. In the lower atmosphere, ozone is an air pollutant with harmful effects on human health.[30]
Particulate matter (PM)	Very small pieces of solid or liquid matter such as particles of soot, dust, fumes, mists, or aerosols. The physical characteristics of particles, and how they combine with other particles, are part of the feedback mechanisms of the atmosphere.[31]
Pre-industrial levels of carbon dioxide	The levels of carbon dioxide in the atmosphere prior to the start of the Industrial Revolution. These levels are estimated to be about 280 parts per million (ppm) (by volume). The current level is around 380 ppm.[32]
Preparedness	Actions taken to build, apply, and sustain the capabilities necessary to prevent, protect against, and ameliorate negative effects.[33]

Renewable energy	Renewable energy is energy created from sources that can be replenished in a short period of time. The five renewable sources used most often are biomass (such as wood and biogas), the movement of water, geothermal (heat from within the earth), wind, and solar.[34, 35]
Renewable hydrogen blended natural gas	The blending of up to 15 percent hydrogen into existing natural gas supplies. The hydrogen is created by renewable energy sources, for the purpose of reducing greenhouse gas emissions related to natural gas consumption.
Renewable natural gas	The term for biogas from landfills, wastewater treatment plants, dairies, and other anerobic digestion processes that has undergone extensive purification to meet quality standards such that it can be injected into natural gas pipelines as a direct substitute for fossil-based natural gas.
Resilience	Resilience is a broad concept that can apply to individuals, communities, and social, economic, and environmental systems. Resilience is the capacity to cope with a hazardous event or long-term trend in ways that maintain essential identities, functions, and structures while also maintaining the capacity to learn, adapt, and/or transform. *(Adapted from IPCC 2014)*[36]
Risk	Risks are threats to life, health and safety, the environment, economic well-being, and other things of value. Risks are often evaluated in terms of how likely they are to occur (probability) and the damages that would result if they did happen (consequences).[37]
Sea level rise	An increase in the mean level of the ocean. Eustatic sea level rise is a change in global average sea level brought about by an alteration to the volume of the world ocean. Relative sea level rise occurs where there is a net increase in the level of the ocean relative to local land movements. Climate modelers largely concentrate on estimating eustatic sea level change. Climate impact researchers focus on relative sea level change.[38]
Social vulnerability	Every community must prepare for and respond to hazardous events, whether a natural disaster like a tornado or disease outbreak, or a human-made event such as a harmful chemical spill. A number of factors, including poverty, lack of access to transportation, and crowded housing may weaken a community's ability to prevent human suffering and financial loss in a disaster. These factors are known as "social vulnerability."[39]
Storm surge	The temporary increase, at a particular locality, in the height of the sea due to extreme meteorological conditions (low atmospheric pressure and/or strong winds). The storm surge is defined as being the excess above the level expected from the tidal variation alone at that time and place.[40]
Stressor	Something that affects people and on natural, managed, and socioeconomic systems. Multiple stressors can have compounded effects, such as when economic or market stress combines with drought to negatively impact farmers.[41]
Urban heat island effect	The relative warmth of a city compared with surrounding rural areas, associated with changes in runoff, the concrete jungle effects on heat retention, changes in surface albedo, changes in pollution and aerosols, and so on.[42]
Vector-borne diseases	An organism, such as an insect, that transmits disease-causing microorganisms such as viruses or bacteria. Vector-borne diseases include, for example, malaria, dengue fever, and Lyme disease.[43]
Vulnerability	The degree to which physical, biological, and socioeconomic systems are susceptible to, and unable to cope with, adverse impacts of climate change.[44]
Weather	The state of the atmosphere regarding temperature, cloudiness, rainfall, wind, and other meteorological conditions. Weather is not the same as climate, which is the average weather over a much longer period.[45]

Appendix I Endnotes

1 Intergovernmental Panel on Climate Change. (2012). Glossary of Terms.

2 Intergovernmental Panel on Climate Change. (2012). Glossary of Terms.

3 National Aeronautics and Space Administration. (n.d.). Glossary. Earth Observatory.

4 U.S. Forest Service. (2014).Climate Change Glossary.

5 Environmental Protection Agency. (May 2013). Environmental Justice-Related Terms As Defined Across the PSC Agencies.

6 BBC News. (April 2014). Climate Change Glossary.

7 BBC News. (April 2014). Climate Change Glossary.

8 BBC News. (April 2014). Climate Change Glossary.

9 BBC News. (April 2014). Climate Change Glossary.

10 Intergovernmental Panel on Climate Change. (2012). Glossary of Terms.

11 Intergovernmental Panel on Climate Change. (2012). Glossary of Terms.

12 BBC News. (April 2014). Climate Change Glossary.

13 ICLEI USA. (2020). Climate Equity.

14 World Resources Institute. (2020). Climate Equity.

15 United Nations. (May 2019). Climate Justice. Sustainable Development Goals.

16 Environmental Protection Agency. (May 2013). Environmental Justice-Related Terms As Defined Across the PSC Agencies.

17 The Carbon Leadership Forum. (Feb 2017). Embodied Carbon Benchmark Study.

18 U.S. Forest Service. (2014).Climate Change Glossary.

19 Katofsky, R. (Oct 2017). Energy efficiency as a resource: The power of getting more from less. Utility Dive.

20 Environmental Protection Agency. (May 2013). Environmental Justice-Related Terms As Defined Across the PSC Agencies.

21 U.S. Global Change Research Program. (n.d.). Glossary.

22 U.S. Global Change Research Program. (n.d.). Glossary.

23 BBC News. (April 2014). Climate Change Glossary.

24 Intergovernmental Panel on Climate Change. (2012). Glossary of Terms.

25 Heffner, H. (Oct 2016). Climate, Energy, and Society: Glossary. Auburn University.

26 City of Los Angeles Emergency Management Department. (2020). What is Hazard Mitigation?

27 Climate Justice Alliance. (June 2018). Just Transition Principles.

28 BBC News. (April 2014). Climate Change Glossary.

29 U.S. Global Change Research Program. (n.d.). Glossary.

30 U.S. Global Change Research Program. (n.d.). Glossary.

31 National Aeronautics and Space Administration. (n.d.). Glossary. Earth Observatory.

32 BBC News. (April 2014). Climate Change Glossary.

33 U.S. Global Change Research Program. (n.d.). Glossary.

34 U.S. Global Change Research Program. (n.d.). Glossary.

35 BBC News. (April 2014). Climate Change Glossary.

36 Intergovernmental Panel on Climate Change. (2014). Climate Change 2014: Synthesis Report.

37 U.S. Global Change Research Program. (n.d.). Glossary.

38 U.S. Forest Service. (2014).Climate Change Glossary.

39 Centers for Disease Control and Prevention. (2018). CDC's Social Vulnerability Index (SVI).

40 Intergovernmental Panel on Climate Change. (2012). Glossary of Terms.

41 U.S. Global Change Research Program. (n.d.). Glossary.

42 Intergovernmental Panel on Climate Change. (2012). Glossary of Terms.

43 U.S. Global Change Research Program. (n.d.). Glossary.

44 U.S. Global Change Research Program. (n.d.). Glossary.

45 U.S. Global Change Research Program. (n.d.). Glossary.

Appendix II: 2020 SCAP Improvements

King County advanced the following 2015 SCAP strengths and worked toward several 2020 SCAP improvements as summarized below.

Strengths of the 2015 SCAP continued in the 2020 SCAP

Transparency. Establishment of clear measures for target outcomes and an accountability framework for reporting performance on internal and external target outcomes.

Concept of "ambitious and achievable" drives actions. Targets and actions are informed by what is technically possible and what is needed to achieve long-term outcomes, allowing for the setting of some "stretch" targets.

Comprehensive view of climate change action. The County takes a wide view of climate change action rather than a narrow view (e.g., providing a coordinated and flexible structure for multiple and varied climate actions across departments and sectors rather than focusing on a singular issue or a narrow set of issues).

Work at two scales. The County recognizes the need to amplify progress by working at both the internal County operations scale and the countywide and regional scales.

Weave climate considerations and commitments throughout all King County operations. Climate actions are institutionalized into internal County operations through an inter-department team structure.

2020 SCAP Improvements

Enhanced public stakeholder and community engagement in development of the 2020 SCAP. Improved outreach and inclusion efforts, including multiple forums to bring community and partner voices into up-front planning and development of the 2020 SCAP.

Integrated and prioritized equity-driven climate strategies. Aligned climate change actions with the County's 2016 Equity and Social Justice Strategic Plan and the 2018 Blueprint for Addressing Climate Change and Health published by Public Health—Seattle & King County.

Updated strategies, priority actions, target outcomes, and vision statements. Analyzed what is working, what is not working, what needs to be improved upon, and what needs to be added.

Partnered with frontline communities. Co-developed a new framework for activating community-driven and grassroots-scale understanding of climate impact problems, priority actions, and target outcomes.

Updated countywide GHG reduction target outcomes. Worked with partners to update community-scale emissions targets and countywide-scale emissions targets, embracing scientific and technological innovations.

Improved accountability. Made the plan more ambitious, outcomes-focused, achievable, and accountable to a broader range of stakeholders.

Embraced new tools for integration of climate change knowledge in County operations. Supported the creation of tools and recommendations that will help County departments to integrate climate change awareness and strategies in their plans and processes.

Expanded innovative funding approaches. Bold and sustainable revenue to implement climate priorities is critical to advance the SCAP. The 2020 SCAP includes recommendations both at the countywide scale, such as restoration of the Conservation Futures Tax to fund the Land Conservation Initiative, and operational strategies, such as adding new flexibility to the Fund to Reduce Energy Demand, an internal program that finances efficiency projects that result in cost savings.

Integrated climate change information and solutions within and across County departments. The 2020 SCAP recognizes that success in achieving climate action goals requires mindful integration of climate change information and solutions across all County departments and programs, including the incorporation of information on community-level climate impacts and climate change preparedness work with communities in day-to-day County operations.

Improved internal County agency responsibility for SCAP implementation. Built momentum for an integrated model for sharing climate information and actions across County departments and agencies, increasing the responsibility assumed by such departments and agencies for successful climate outcomes.

Appendix III: King County's Approach to Climate Action

King County has embraced a distributed approach to acting on climate change, in an effort to breakdown silos and ensure that climate action is embedded throughout the work of the government.

Integrated Approach to Climate Action
King County established an interdepartmental Climate Leadership Team (CLT) in 2014 to frame policy choices, make recommendations to the Executive, allocate resources to implement priority actions, and oversee development of the SCAP. The CLT is made up of leadership from the Office of the Executive and County departments and has grown over the years to include more County department representatives. The CLT is a working committee that meets at least monthly and has decision-making power, including oversight of a cost-shared budget for climate action contributed to by multiple departments.

Inter-Agency Staff Team
The CLT is staffed and supported by an interdepartmental staff team called the "Climate Action Team." Climate Action Team positions are embedded in County agencies with primary responsibility for climate action leadership and they carry out activities to support the achievement and integration of SCAP priority actions across County departments. Three Climate Action Team leads have responsibility for the three sections of the 2020 SCAP. This innovative model for tackling climate change challenges in a large county government places climate work closer to daily operations, work plans, programs, and decision-making processes, and has been extremely effective integrating or "mainstreaming" climate change work across County departments.

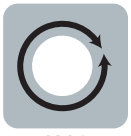
Embrace Collaboration
External partnerships are foundational to the County's climate work. Although not representative of all County's climate partnerships, the following three collaborative efforts are particularly important for developing and advancing SCAP priorities:

Embrace Collaboration COUNTY CLIMATE PARTNERSHIPS

King County-Cities Climate Collaboration (K4C)

The K4C is a partnership between the County, sixteen cities, and the Port of Seattle to coordinate and enhance local government climate and sustainability efforts. Through focused, coordinated action, K4C is committed to maximizing the impact of individual and shared efforts. In 2019, K4C partners updated shared actions to reduce GHG emissions and accelerate progress toward a clean and sustainable future. This update to the K4C's Joint County-City Climate Commitments ("Commitments") reflected changes in the regulatory landscape, technical developments, and updated emissions information.

The principles and actions of the K4C are focused on practical, near-term, collaborative opportunities between partners and King County. This shared vision builds on the significant work that many K4C partners and the County are already undertaking. K4C partners that have signed on to the Commitments will actively pursue those strategies, policies, and actions to make the most impact given the size, location, and development patterns of their jurisdictions. The updated GHG emissions reduction pathways established by K4C in the Commitments frame each GHG reduction focus or goal area of the 2020 SCAP. Many SCAP strategies and priority actions also mirror the K4C commitments and are flagged with a "K4C Alignment" icon.


K4C

Puget Sound Climate Preparedness Collaborative

Established in October 2017, this partnership seeks to enhance coordination and improve climate change preparedness outcomes in the Puget Sound region. The Puget Sound Climate Preparedness Collaborative currently includes 21 member organizations and partners representing five counties of the Puget Sound region, three municipalities, a growing number of tribal governments, and regional organizations such as Port of Seattle, Northwest Seaport Alliance, and Sound Transit. A major strategic focus is building local awareness and regional capacity for climate preparedness and serving as a catalyst for advancing preparedness policies and actions across jurisdictions. King County serves as co-chair for the collaborative.

Climate Equity Community Task Force (CECTF)

This is a new task force partnership formed in Spring 2019 specifically to guide development of the new section of the 2020 SCAP entitled "Sustainable & Resilient Frontline Communities." Approximately 22 multi-ethnic and multi-racial community leaders brought experiences, unique strengths, and insights into climate resilience strategies and practices. These leaders formed the Climate Equity Community Task Force (CECTF), representing frontline communities—those that are disproportionately impacted by climate change due to existing and historic racial, social, environmental, and economic inequities, and who have limited resources and/or capacity to adapt.

The CECTF collaborated with the King County Climate Action Team over the last year and a half to co-develop the SRFC focus areas, priority actions, and activities. The CECTF will pivot toward supporting implementation of and accountability for the SRFC section and the 2020 SCAP. King County believes that authentic partnerships with frontline communities will ensure their representation in climate change work, the mitigation of environmental injustices, and equitable distribution of environmental benefits.

Commitment to Transparency and Accountability. King County is committed to the following internal and external accountability and transparency practices in the implementation of the SCAP:

- Every two years, a public report is transmitted to the King County Council for review at legislative sessions that are open to the public. Members of the public are always welcome to ask questions or comment at such sessions. The 2020 SCAP meets biennial reporting requirements of King County Code 18.50, providing an update on performance for 2015 SCAP priority actions, target measures, and outcomes.
- CLT continuously tracks progress on the SCAP. As an internal decision-making body, the CLT works with the inter-agency Climate Action Team staff to consider adjustments to actions and budget recommendations based on plan progress and new opportunities or obstacles.
- Starting with the 2020 SCAP, frontline community leaders and residents will have the opportunity to track the progress of priority actions in the new SRFC section. CECTF will continue to work with County staff as active partners in implementing and assessing plan progress.

Appendix IV: 2015 Strategic Climate Action Plan Accomplishments

This appendix highlights accomplishments, current actions, and programs related to commitments made in King County's 2015 Strategic Climate Action Plan (2015 SCAP). The 2020 Strategic Climate Action Plan (2020 SCAP) both builds on these programs and accounts for lessons learned over the past five years as these actions have been adopted. Data and information about 2015 SCAP performance measures are also included within the main body of the 2020 SCAP.

Highlights are organized in the same structure as the 2020 SCAP, starting with greenhouse gas-related accomplishments. ***Note that the Sustainable & Resilient Frontline Communities section is a new section in the 2020 SCAP; therefore, details about work related to this section are not included in this appendix.***

Reducing Greenhouse Gas Emissions



Focus Area 1: Greenhouse Gas Targets and Policy

Began to Use King County "Shadow Price of Carbon" in Decision-Making

In January 2018, Executive Constantine approved a proposal to implement a consistent, countywide shadow price of carbon and establish internal carbon reduction fees on vehicle and building emissions. This was a priority action in the 2015 SCAP. A shadow price of carbon sets a price per unit of carbon for use in decision-making and alternative analysis without charging an actual fee.



County Operations

King County uses the State of Washington's social cost of carbon, which is adjusted annually. Fleet Services has incorporated the shadow cost of carbon into life cycle costs analyses when adding new technologies to the fleet. In the 2019/2020 biennium, Fleet Services also established an internal carbon fee based on the incremental vehicle emissions that exceeded the 2015 SCAP goal. The funds collected were used to plant trees in support of the County's 1 Million Trees initiative.

Stronger Fossil Fuel Policies and Guidelines

Through the 2020 King County Comprehensive Plan update, King County adopted new polices, regulations, and permitting guidelines to ensure protection of public health and safety, air and water quality, and habitats from the impacts of fossil fuel extraction, processing, production, transport, storage, and use. The stronger elements adopted in the County's land use and development regulations make it more difficult to expand or develop major fossil fuel infrastructure, such as oil and gas terminals or storage facilities, in the county. The updated regulations also effectively prohibit developing new or expanding existing coal mines in King County.



County Operations



Metro Transit Named Best Large Transit Agency in North America

Metro Transit operates a transportation system that provides half a million rides every weekday and is nationally recognized for its performance, lowering the region's transportation emissions substantially. In 2018, the American Public Transportation Association named Metro the best large transit system in North America for its achievements in ridership, safety, innovation, sustainability, and equity.


Countywide

Grew Transit Ridership Year-Over-Year

Ridership in King County has increased year-over-year from 2010 through 2018; however, starting in 2015, the growth in ridership has not kept pace with population growth. Transit ridership is on the decline nationwide and its growth is also slowing in King County. External factors such as lower fuel costs, increased teleworking, higher car ownership, and the rise of alternatives such as Uber and Lyft are contributors to this trend. For Metro, factors such as service levels, safety, and real time information pose challenges to growing ridership and providing mobility to all residents of King County.


Countywide

Improved conditions to walk, roll, and bike to transit through Safe Routes to Transit (SR2T) Program

Since 2017, Metro has been partnering with jurisdictions to design and build safe and convenient bike and walk connections to transit services. Projects have been completed in Federal Way, Redmond, Seattle and Skyway, and are underway in Tukwila, Bellevue and White Center. These projects added or improved sidewalks, pedestrian crossings and bike facilities to help people reach services safely. More Safe Routes to Transit projects are planned to target areas with priority populations, including Renton, Kent and Auburn to support a major service restructure; Skyway; and Des Moines (in conjunction with Sound Transit). Through 2019, Metro has passed-through about $2.8M in grants and local funds for such projects, with up to $2.9M planned in 2020-21. Metro also incorporates access improvements in RapidRide projects, thus far including plans for RapidRide H, I and R lines.


Countywide

Shifted Single-Occupancy Rides to Transit

King County Metro promotes the capacity of individuals to consistently choose mobility options that reduce their reliance on single-occupancy vehicles through partnerships with cities, community groups, and organizations for campaigns: Just One Trip; In Motion; and ORCA Youth and Schools strategy. In 2018, King County Metro brought its long-standing In Motion program to Kent Valley and South Bellevue. This program reaches out to residents, students, and employees to invite them to try out alternatives to driving alone and shifted over 5,000 drive-alone trips to another option, as recorded by participants online, saving 54,000 vehicle miles, 2,500 gallons of gasoline, and 49,000 pounds of carbon dioxide emissions.


Countywide

Launched "Feeder to Fixed" Service Pilots

From 2018 to 2019, Metro piloted its Ride2 Program to research and test on-demand, feeder-to-fixed route shuttles in Eastgate and West Seattle. The pilot aimed to reduce traffic congestion, facilitate transit use, and manage parking resources. With Ride2,


Countywide

customers could request a ride to or from a transit hub within a defined service area using a smartphone app or call center. Rides were designed to be shared, with multiple customers riding together. Metro received funding for the program from the Seattle Transportation Benefit District. The Ride2 Pilot Program lasted for a year and provided Metro with valuable data to inform future programming to meet customers' needs.

Launched Via to Transit Pilot to Support Car-Free Lifestyle


Countywide

In April 2019, Metro launched Via to Transit, a pilot project aimed at making it more convenient for customers to connect with the region's growing high-capacity fixed-route transit system. Customers in the service areas can use the Via app or call customer support to request a ride to or from several Link light-rail stations where they can board buses or a Link train. Via to Transit makes it easier for customers to access transit and live car-light or car-free lifestyles. Seventeen percent of riders used Via to Transit to replace single-occupancy vehicle or Uber/Lyft trips and 22 percent were new users to the stations. Metro chose to pilot this service in priority neighborhoods, as defined by high percentage of low-income people, people of color, and people with limited English proficiency and with limited mobility options.

Increased Mobility through ORCA LIFT Fare Subsidy


Countywide

In 2020, Metro is planning to launch the ORCA LIFT subsidy program, aiming to increase mobility for tens of thousands of people in extreme poverty, enabling connections to services, employment, and education. Eligible customers receive a fully subsidized transit pass, good for one year of unlimited rides on Metro and Sound Transit services. Those earning 80 percent of federal poverty or less are eligible for the program and can enroll at Department of Social and Health Services (DSHS), Public Health - Seattle & King County, and Catholic Community Services offices around the region.

With support from Robert Wood Johnson Foundation's Evidence for Action initiative, Metro will apply a rigorous and participatory evaluation strategy to determine if the program is meeting the goals of increasing mobility, health, and quality of life for participants. The program was developed in response to a County Council proviso and engagement with community partners and customers. A Stakeholder Advisory Group, which included 31 diverse organizations, provided input to program design and priorities. Customers provided feedback and input through conversations led by community partners and through a survey. County Council unanimously approved the program proposal in 2020.

Focused on Zoning for Density in the Urban Core


Countywide

King County, working with its cities, focused growth in cities and unincorporated urban areas. Cities have zoned for increased capacity, and the County has supported this by retaining lower densities, larger lot sizes, and strategic approaches to investments in rural areas that minimize growth pressure. The County has also implemented very strong land use measures to protect natural resource lands, along with programs to support farms and farming. Combined, these approaches have successfully focused growth into the urban growth area, consistent the Countywide Planning Policies and the Growth Management Act.

Focused on Transit-Oriented Development


Countywide

King County has prioritized Transit-Oriented Development since the 2015 SCAP, to increase ridership opportunities close to new growth. Metro established a staff advisory group to develop a Metro Equitable Transit-Oriented Development Policy. This group produced a draft policy; an external engagement plan to refine the policy is underway. In addition, at

the Northgate transit center, King County Metro Transit released a developer solicitation for transit-oriented development, in partnership with funders at the Department of Community and Health Services and the City of Seattle, to include at least 200 units of affordable housing to householders making at or below 60 percent of the area median income at no cost to the developer.

Launched the Trailhead Direct Program to Increase Access to Trailheads


Countywide

Trailhead Direct started with a single-route feasibility test in 2017 in response to dangerous overcrowding and illegal parking at popular trailheads. In 2018, King County Metro and Parks launched a two-year pilot project, in partnership with REI Co-op and Clif Bar & Company. The program has been a booming success in both increasing access to outdoor recreation opportunities, and in reducing single-occupancy vehicle trips. In the second season of the program, passengers boarded Trailhead Direct for more than 17,500 hikes, a 75 percent increase over its first year.

Planned for Fleet Electrification


County Operations

In 2020, the King County Council adopted Ordinance 19052 to accelerate the adoption of electric vehicles. The ordinance established the following goals for King County fleet electrification: a 100 percent zero-emission revenue bus fleet by 2035; a 67 percent zero-emission ADA paratransit fleet by 2030; a 100 percent zero-emission rideshare fleet by 2030; installation of 125 chargers at King County-owned park-and-rides by 2030; 50 percent of light-duty County fleet vehicles to electric by 2025 and 100 percent by 2030; 50 percent of medium-duty vehicles are transitioned to electric by 2028 and 100 percent by 2033; 50 percent of heavy-duty vehicles are transitioned to electric by 2038 and 100 percent by 2043; and installation of 150 chargers by 2030 in County facilities.

In support of this initiative, King County Metro will purchase additional battery electric buses for service in 2021, with a focus on operations in south King County to improve air quality in the neighborhoods most in need of decreased pollution. To help inform its battery bus purchase and operations, Metro conducted a test of 10 leased battery electric buses from three manufacturers.

Other fleet electrification initiatives at the County include:

- Metro is conducting a study of the feasibility and strategic approach for transitioning its non-fixed route bus fleets to zero emissions.
- Metro is upgrading vehicle chargers at sites throughout King County, including at Metro park-and-rides, and other County facilities.
- The Facilities Management Division is conducting an electric vehicle infrastructure analysis and implementation study for County facilities that supports the fleet electrification goals, which will outline the infrastructure development, financial investment, financing options, policy changes, and technical resources needed to support fleet electrification in County buildings.
- Metro's Mobility Services is piloting ten plug-in hybrid Chrysler Pacificas in their Rideshare fleet.

Improved Travel Planning and Efficiency with Automatic Vehicle Location System


County Operations

The Fleet Services Division partnered with Transit Non-Revenue Vehicles, the King County International Airport, and the Solid Waste Division to implement an Automatic Vehicle Location (AVL) System for non-revenue vehicles. This initiative equipped King County's non-revenue vehicles with hardware devices and deployed a web-based platform to view real-time and historical vehicle data. The AVL System has automated data collection to drive decisions on issues such as right-sizing the fleet, minimizing fuel consumption and greenhouse gas emissions, and leaner management of field operations. Using this innovative technology will help County agencies optimize routing and dispatch, improve response times, facilitate data-driven capital and operating decisions, and expedite sharing of accurate real time service information (such as snow plowing) with the public.

Focus Area 3: **Building and Facility Energy Use**

Supported Energy Efficiency through K4C and Local Codes



Energy use in buildings at the countywide scale rose through 2019 due to continued population growth and construction in King County. While building codes continue to get stronger for new construction, much work needs to be done to retrofit the existing commercial and residential building stock. King County and other members of the K4C have been active in supporting stronger national and state energy codes that set the foundation for efficient local codes.

Worked to Eliminate Financing Barriers to Efficiency Retrofits



Several challenging barriers exist that slow the current pace of home and commercial building efficiency retrofits, despite the clear benefits of clean indoor air, comfort, and financial savings from reduced energy consumption. King County is working to overcome the information and financing barriers that prevent more residents and business owners from investing in their homes and facilities.

Tracked Legislation and Supported Utility Programs to Reduce Fossil Fuel use in Buildings



In 2015, carbon emissions from fossil-fuel natural gas were 29 percent of all residential and commercial emissions in King County and rose in 2017 to 35 percent. As electricity supplies become cleaner through the passage of the Clean Energy Transformation Act, there is an additional benefit of replacing fossil fuel uses with an increasingly clean electrical energy. Other state legislation passed in 2019 calls for increased utility efficiency targets for fossil fuel natural gas. King County seeks to work in partnership with the utilities and communities to develop awareness and programs that will save residents and businesses energy and money

Advocated for Clean Electricity Programs and Policies



Although installed residential and commercial solar capacity has grown every year since 2015, increasing to 57 MW and meeting the goals of the 2015 SCAP Countywide Buildings and Facility Energy Measure 2, it remains a very small percentage of the overall electricity mix. However, interest in solar energy is strong among King County residents. King County is seeking to work with utilities on public-private partnerships to develop medium- to utility-scale systems on County land or facilities. Under this program, the utility's customers would purchase the renewable energy from the utility, enjoying the benefit of solar energy with no upfront cost or work involved with installing a rooftop system.
King County continues to advocate at the state level for policies that will create a stable regulatory environment, spurring commercial and residential solar in the County, providing for equitable access to solar, and creating or retaining family wage jobs that are supported by the industry.

In 2019, King County received Silver Sol Smart community designation from the Department of Energy, reflecting simplification of codes and processes to speed up permitting and reduce the time and paperwork need to develop a solar system installation.

In 2019, the Washington State legislature passed the Clean Energy Transformation Act (E2SSB 5116) that mandates that utilities provide a 100 percent energy supply from non-carbon emitting sources by 2045. The act sets interim targets that eliminate coal from the electricity supply by 2025 and that

utilities provide 80 percent carbon-free electricity by 2030. With successful implementation of this bill, and other measures already in process, the County's electricity supply nearly achieves the goal of 90 percent renewable electricity countywide as set by the 2015 SCAP Target 2 & K4C Joint Commitments Measure: Increase countywide renewable electricity use 20 percent beyond 2012 levels by 2030; phase out coal-fired electricity source by 2025; limit construction of new natural gas-based electricity power plants; support development of increasing amounts of renewable energy resources.

Executive Constantine and other elected officials strongly supported this bill and other bills that protect clean air and advance a clean energy economy. The Executive and elected officials from the K4C testified in person at nine hearings, made phone calls to individual state legislators, and signed a joint letter of support for the Clean Energy Transformation Act. The strong representation of local elected leaders had a significant impact on the passage of the CETA and other bills.

Increased the County's Operating Energy Reduction Goals and Financed Improvement Projects



King County's agencies are focused on reducing energy use and taking actions to consume cleaner and less carbon-producing energy sources. A key benchmark for performance under the 2015 SCAP was the reduction of energy use in existing county facilities, which is targeting a 7.5 percent reduction by the end of 2020. This 2020 SCAP increases the 2025 goal that was set in the 2015 SCAP from a reduction of 10 percent to 12.5 percent, compared to the 2014 baseline.

Each County agency has a variety of ways by which they make progress to reduce energy use, reflecting the diversity of operations and agency-specific issues. Savings opportunities vary based the intensity of past efficiency work, facility designs, asset age, and types of energy-consuming equipment. For example, there are big differences between: industrial pumping and wastewater treatment equipment in the Wastewater Treatment Division; roadway lighting and traffic control equipment in the Road Services Division; typical commercial office operations of downtown Seattle county office buildings; and 24/7 operations of correctional facilities. Yet, common needs like lighting, ventilation, and water and space heating exist across all types of facilities. County staff continually work to identify and capture savings opportunities appropriate to their agency's operations.

To make investments in energy reduction actions, agencies can apply for financial resources. These resources include agency operating and capital budgets, along with the County's Fund to Reduce Energy Demand (FRED), an internal loan program through which the county issues bonds to fund projects. FRED loans fund projects that have paybacks of 10 years or less, with annual loan payments covered by utility bill savings. As of 2020, the FRED program has been expanded by the County to allow loans of up to 20 years. Longer-term loans support further progress toward County energy goals by investing in cost effective projects with longer service lives and longer paybacks, such as solar panel installations and mechanical system upgrades. Between 2015 and 2020, over $9.6 million was invested in projects through the County's internal FRED program.

Reduced Fossil Fuel use in County-Owned Buildings and Facilities



In recent years, King County has pursued fossil fuel reduction actions in its buildings and facilities. Examples including installations of high efficiency and/or condensing boilers and hot water tanks, and the conversing of natural gas mechanical systems to high efficiency heat pump and heat recovery technologies. The handful of County buildings that have completed natural gas heating-to-heat pump retrofits have been able to significantly reduce energy use in the facilities. A proactive approach and new investments will be necessary to make further progress to reduce natural gas and propane use.

Expanded Production of Renewable Energy, Became one of Country's Largest RNG Producers



King County's Cedar Hills Landfill and wastewater treatment plants have the potential to create and utilize significant volumes of renewable energy from the waste products handled in their operations.

At Cedar Hills, after being buried solid waste begins a long-term decomposition process that results in the generation of methane. At the South Wastewater Treatment Plant, solids captured during the treatment process are placed in anaerobic digesters. The biogas generated by anaerobic digestion at both facilities reaches a Renewable Natural Gas (RNG) quality that meets or exceeds the quality of standard natural gas that is delivered to homes and businesses through pipelines. Collectively, the biogas originating from the County's Cedar Hills Landfill and South Wastewater Treatment Plant result in King County being one of the largest producers of RNG in the country.

In addition to generating RNG, the County's wastewater treatment facilities use biogas for the generation of electricity (West Point and South Plant) and facility heating (Brightwater, South Plant, and West Point). King County is also a large generator of solar energy at its facilities, with plans in place for additional solar panels at existing facilities, and new construction projects striving for net zero energy status.

Pursued Carbon Neutral Energy Sources



Compared to the nation as a whole, the electric power generation mix in the Pacific Northwest has a lower direct greenhouse gas impact, due to the prevalence of hydroelectric power. King County government sources its power from Seattle City Light (SCL), Puget Sound Energy (PSE), and Snohomish Public Utility District (SnoPUD). SCL's power is over 90 percent hydro. In addition, SCL purchases carbon offsets ensure carbon neutral power is delivered to all customers.

In 2019, King County began sourcing PSE's Green Direct power, which is a 100 percent wind/solar resource. This significantly reduced the County's operational GHG footprint. The County also purchases some electricity from SnoPUD, primarily for the Brightwater wastewater treatment facility. As of 2020, King County began purchasing renewable power for a small percentage of SnoPUD power from carbon sources.

Moving forward, the County will closely examine the quality of the electricity resources it purchases. Carbon-free electricity is not an end point and does not equate to the lowest environmental impact. Onsite generation of solar power at a facility reduces power distribution and transmission losses, making it the highest priority for power needs, subsequent to reducing use through energy efficiency. For utility power purchases, greater consideration needs to be given to the embodied energy of renewable and carbon-free generation infrastructure, as well as other non-carbon habitat and environmental impacts. In addition, some studies have indicated that reservoirs behind hydroelectric dams may generate significant GHG emissions. The County's current status of carbon-free power will continue to be evaluated to better understand ongoing and life cycle GHG emissions and environmental impacts associated with hydroelectric, nuclear, solar and wind generation.

Focus Area 4: **Green Building**

Provided Green Building Education for Unincorporated Area Customers

The King County Permitting Division provides a Green Building Handbook and a Solar Smart handout. Both resources encourage unincorporated area customers to make green building decisions which will help to save energy and reduce costs.


Countywide

The Solar Smart handout also provides comprehensive information on how and where to apply for federal, state, and Puget Sound Energy incentives when installing a solar energy system in unincorporated King County. This resource also highlights common codes to be aware of and how to apply for a permit with the Permitting Division, when necessary. This document helped King County achieve the Solsmart Silver Designation in 2019 in recognition of a jurisdiction that has removed barriers to the installation of solar.

Grew the Construction and Demolition Debris Diversion Program

King County provides the tools and assistance needed to help obtain the highest diversion rates possible on construction, demolition, and deconstruction projects. Tools available include jobsite waste guidelines, waste management plan and report templates, sample waste recycling specifications, directory of local construction waste recyclers, and more. Available assistance includes presentations to jobsite workers on building material reuse, salvage, and recycling; site visits to assess diversion options; and research on recycling options for hard to recycle commodities.


Countywide

Participated in Regional Code Collaboration and Partnerships with King County Jurisdictions

The Solid Waste Division's GreenTools Program provides support and resources to jurisdictions within King County through the Regional Code Collaboration (RCC), resulting in the ability for all jurisdictions to engage in conversations and actions associated with green building when they may not otherwise have the capacity to do so. The RCC facilitates peer-to-peer discussions, code development, trainings, tool development, and technical support. These efforts continue to strengthen regional relationships, allowing jurisdictions to work on solutions to common green building challenges. The RCC has been successful at developing codes promoting green building that are available for any jurisdiction to adopt, including strong 2015 Energy Code amendments, multifamily recycling, increased use of salvaged lumber, and a Living Building Challenge Demonstration Ordinance.


Countywide

Supported Third Party Development and Green Building Programs

King County supports diverse third-party green building certification programs in order to increase the number of green buildings, help build regional capacity to implement green building programs, and to support verification of the health and environmental benefits of these programs. Promotion and support is delivered in the form of technical assistance to and in partnership with community forums, conference participation, code development, training development, pilot projects, and research and sponsorships of programming. These programs and certifications include LEED, Built Green, the Living Building Challenge, Evergreen Sustainable Development Standard (ESDS), Salmon Safe, Sustainable Sites Initiative, and Envision; in partnership with the Master Builders Association, Cascadia Green Building Council, International Living Future Institute, WA State Department of Commerce, and the Northwest EcoBuilding Guild.


Countywide

Updated C&D Recycling Requirements

The King County Solid Waste Division provided education on a 2016 C&D Ordinance which required the designation of C&D processing facilities and transfer stations and banned readily recyclable C&D materials from the landfill.


Countywide

Proposed Strong Green Building Codes

King County was successful in researching and developing codes such as solar readiness, energy efficiency, a demonstration ordinance for Living Building Challenge certification called for through the 2015 SCAP but was unable to complete this process due to lack of resources. In 2020, King County will hire one FTE to help complete the tasks of both the 2015 and 2020 SCAP.


Countywide

Supported Green Building in Affordable Housing

King County provides financial assistance for affordable housing and community infrastructure through grants provided by both the Department of Community and Human Services (DCHS) and the King County Community Development Program. DCHS awards can be tied to green building requirements for dwelling units meeting King County's Green Building Ordinance, resulting in equitable access to healthier homes serving seniors, people with disabilities, homeless young adults, veterans, and chronically homeless people.


Countywide

DCHS awarded $500,000 to Willowcrest Townhomes from the Transit Oriented Development fund, which promotes housing development in proximity to high-capacity public transit services. Executive Constantine described Willowcrest Townhomes as a "leading example" of how it is possible to achieve equity, mobility, and sustainability goals while creating new housing. The King County Community Development Program supports sustainable development in the projects it funds, such as replacing inadequate sidewalks in neighborhoods, rehabilitating deteriorated buildings, and replacing crumbling water lines. Results included increasing walkability and encouraging climate-friendly forms of transportation, extending the building life, preserving embodied energy, and saving water. These investments serve underrepresented populations and reduce countywide emissions.

Continued Implementation of Green Building Ordinance

King County capital projects continue to improve on implementing green building and sustainable development practices. Project highlights – Georgetown Wet Weather Treatment Station - Envision Platinum; Foothills Trail - Salmon Safe; LOOP Facility – LEED Platinum; and Passenger Only Ferry Terminal – Sustainable Infrastructure Scorecard Platinum. In 2019, 82 percent of completed projects achieved Platinum level using the King County Sustainable Infrastructure Scorecard or LEED rating system.


County Operations

Added Equity and Social Justice Requirements for Capital Projects

King County required incorporation of equity and social justice (ESJ) considerations in all County-owned capital projects through the Sustainable Infrastructure Scorecard, which all capital projects are required to complete. The County has developed nine ESJ credits that are applied through the Scorecard. These include: 1) Develop project specific equity and social justice plan; 2) Partner and collaborate with Stakeholders partnering and collaboration; 3) Assemble diverse project team; 4) Conduct Equity Impact Review; 5) Site design and construct to counter know disparities; 6) Realize pro-equity elements of ESJ Plan; 7) Advance economic justice; 8) Pro-equity sourcing; and 9) Innovations. These strategies foster opportunities for capacity building, job creation, SCS/WMBE contracting, entrepreneurship and apprenticeships for frontline communities.


County Operations

Surpassed Zero Energy and Living Building Challenge Project Commitment

The K4C committed to a target of all new construction to be carbon neutral by 2030; the same target was included in the 2015 SCAP Green Building Operations section for County-owned facilities and infrastructure. As a pilot approach to meet this target, the 2015 SCAP Green Building Operations section included a Priority Action of committing 10 ZE/LBC projects by 2020. The County is exceeding its 2020 commitment.



County Operations

As of early 2020, the County currently has 11 projects officially registered for ZE/LBC certification from five different divisions. The Parks Division's North Utility Maintenance Shop was the County's first project to achieve Zero Energy Certification in 2019. ZE and LBC are administered by the International Living Future Institute, located in Seattle, and are the world's most progressive green building rating system. At the time of the 2015 SCAP, ZE and LBC were the only third-party verified green building certifications that had a carbon neutral performance metric. Other jurisdictions are seeing King County as an example in the building industry, particularly for applying carbon neutral performance measures to public works and infrastructure type projects. King County's project portfolio includes several different divisions and lines of business, which can further influence parks, transit, wastewater, solid waste, affordable housing, and airport industries. The Parks North Utility Maintenance Shop is Zero Energy Certified and has an energy consumption load of 34,110 kWh/year and renewable energy production of 45,030 kWh/year. That is a GHG emissions savings of 21.8 MTCO2e/year and 1,088 MTCO2e over 50 years.

Focus Area 5: Consumption and Materials Management

Adopted Comprehensive Solid Waste Management Plan

King County's 2019 Comprehensive Solid Waste Management Plan was adopted in 2019. With this plan, the County and its 37 partner cities embarked on shared goals to increase regional recycling, expand services and modernize facilities, and identify options for waste disposal after the Cedar Hills Regional Landfill reaches capacity. The plan preserves King County's ability to manage its solid waste locally at the lowest cost with the least environmental impact by extending the life of the landfill past the mid-2020s. The newly adopted plan is also sparking larger conversations about the regional actions needed to reach King County's goal of Zero Waste of Resources by 2030, and how to lay the groundwork for a modern, environmentally responsible waste management system that will take the region through the mid-21st century.



Countywide

Adopted Responsible Recycling Task Force Recommendations

The Responsible Recycling Task Force (RRTF) unanimously agreed a set of recommendations to create a regional responsible recycling system for the future. The system takes into consideration the environmental and societal impacts of choices for recycling the materials generated here in King County. King County agencies, partner Cities, and the City of Seattle have worked to implement the recommendations – focusing on plastic and paper recycling, increasing demand for recyclable materials and conducting research extended producer responsibility (EPR)for Washington State, including an EPR Policy Framework and Implementation Model for Washington State.



Countywide

Increased Curbside Recycling Rates by 15 percent

King County's Solid Waste Division is responsible for ensuring curbside recycling services are provided in the unincorporated areas and providing regional education and outreach to support curbside recycling efforts throughout the county (except for the City of Seattle). In 2019, 316,308 tons of recyclable materials were collected by private hauling companies at the curb, and the single and multi-family recycling rate in unincorporated King County increased from 43.9 percent in 2013 to 50.5 percent in 2019, a 15 percent increase. The region had committed to reach a 70 percent recycling rate by 2020, but this has not been met due to the length of time it took to develop the Comprehensive Solid Waste Management Plan.


Countywide

Developed Fix-It Program to Reduce Waste and Save Residents Money

Making efforts to prolong a product's life is key to keeping materials in circulation for longer and thereby reducing the demand for material extraction, as it preserves the current energy and materials in the products for longer. The King County free community repair events program held 65 repair events all over King County, fixing items from lamps to chairs to clothing. When items are repaired and kept in use longer, it reduces demand on the natural environment's finite resources and helps families save money.


Countywide

Implemented 'Food: Too Good to Waste' Program

The average single-family household in King County throws away 150-270 pounds of edible food each year. Due in part to the high GHG emissions impact and waste of natural resources from food production, the County's Food: Too Good to Waste program has developed effective food waste prevention messaging, strategies and award-winning online outreach for residential audiences. In addition, the program has developed outreach materials in four languages besides English. King County has awarded eight commercial food waste grants for projects that aim to reduce edible and/or non-edible food waste generated by the commercial sector (non-residential) within King County (excluding Seattle). Food rescue has been a major focus of several of these grant projects.


Countywide

Led the King County Green Schools Program

The Green Schools Program helps K-12 schools and school districts learn about and improve conservation practices. As of March 2020, 14 districts and 320 schools benefited from program assistance, tools, and recognition. Program areas include waste reduction and recycling, energy and water conservation, healthy schools, and transportation. Food waste reduction, is a priority program focus, with technical assistance in best practices such as education, longer seated lunchtimes, recess before lunch, milk dispensers, food share tables, food rescue and collection of compostable materials. Many participating schools have food share tables and, from 2018 to 2019, 31 schools donated food to nonprofits. The potential to expand food donation is great.


Countywide

Invested in Recycling Infrastructure

The Solid Waste Division provides recycling collection at its transfer stations and collects various types of recyclable materials from self-haul customers with cardboard, metal, yard waste, and wood accounting for roughly 90 percent of recyclable tons collected. Newer stations can collect more types of recyclable materials. The most recent station to be completed, the Factoria Recycling and Transfer Station, opened in late 2017.




Countywide

Banned Construction and Demolition Materials from King County Waste System to Increase Recycling

King County does not accept construction and demolition waste at its transfer stations or Cedar Hills Regional landfill, except for incidental amounts. King County Code (KCC 10.30), requires that construction and demolition waste must be taken to a designated privately-operated construction and demolition debris recycling and/ or transfer facility. These facilities are banned from landfilling certain materials including clean wood, cardboard, metal, gypsum scrap, and asphalt paving, bricks and concrete. As markets develop, King County will consider banning other construction and demolition materials.


Countywide

Implemented 'Sort It Out' Program

To cut waste and reduce the amount of recyclable materials in the landfill, the King County Sort It Out program was implemented in 2018. The program asks self-haul transfer station and drop box customers to place selected materials in designated areas at facilities that accept those materials for recycling. The program doubled the growth in transfer station recycling tons in 2018 over 2017.


Countywide

Provided Recycling and Waste Disposal Discount to Low-Income Residents through 'Cleanup LIFT'

King County's new Cleanup LIFT discount enables 300,000 low-income residents to save money at County-operated recycling and garbage transfer stations. Eligible King County residents who show their Provider One, EBT, or ORCA LIFT card can receive $12 off the cost to dispose of recyclables, yard waste, and garbage.

clean up LIFT


Countywide

Committed to Improving Internal Waste Prevention and Recycling

Many King County agencies are undertaking impressive waste diversion efforts, such as the surplus and reuse programs within Metro, Fleet and Roads, which reuse over 5,000 items each year and recycle specialized materials. While these programs are successful, a 2018 waste audit of one of King County's facilities uncovered inconsistencies in waste prevention and recycling. This study discovered the facility had an overall low waste diversion rate, with very little waste being recycled or composted, only 13 percent. Based on these findings, there is a high likelihood of similar low diversion rates and high levels of contamination at other county facilities.


County Operations

Overall, the waste management collection systems within King County building operations lack consistency across facilities, and not all County–owned facilities are equipped to collect all types of recyclable materials. According to the audit, standardizing waste management systems across facilities—including containers, signage, and procedures for disposal—would improve diversion rates for operations for a low investment which will be a focus of 2020 and beyond.

Purchased 100 Percent Recycled Content Copy Paper

In addition to reduced copy paper consumption goals, the 2015 SCAP strengthened the commitment to the purchase of 100 percent recycled content paper. The County established a contract in 2016 requiring the purchase of 100 percent recycled content, which achieved better prices and better compliance of 97 percent. Currently, a few agencies are buying a tree free paper made from sugarcane waste. This market is just being developed, but the current product boasts climate neutrality by turning a waste product into copy paper and may be another way to meet the County's climate goals.


County Operations

Invested in More Efficient Computer Technology

In the 2015 SCAP, the County committed to converting 70 percent of individual servers to Standard Virtual Environments (SVEs). By 2019, it had converted 90 percent of individual servers to SVEs and 95 percent of backups go to the cloud. In addition, 72 percent of all County computers are now laptops which are more energy efficient than desktops, saving approximately $63,000 in cost in 2019 and filling business needs of employees who telecommute.



County Operations

Updated the County's Sustainable Purchasing Policies and Program

Executing a priority action in the 2015 SCAP, King County updated its Environmentally Preferable Product Procurement Ordinance and Executive Policy in 2018 to the Sustainable Purchasing Ordinance (KCC 18.20) and Sustainable Purchasing Executive Policy (CON-7-22-EP). These policies redefine "sustainable" as more than just environmental, by also incorporating social and fiscal concerns into purchasing decisions made by King County employees. They also clarify agency responsibilities and use ecolabels and environmental certifications as minimum requirements. These align the County's purchasing with other relevant policies, including the Green Building Ordinance and Equity & Social Justice initiative.



County Operations

Focus Area 6: Forests and Agriculture



Tripled Open Space Conservation Funding

With new financial tools in place in 2019, King County tripled the amount of open space conservation funding awarded annually through the Conservation Futures Tax program and King County Parks Levy. From 2016 and 2019, King County protected more than 3,100 acres across all land categories through fees and easements (total does not include lands protected by cities in the County).



Countywide

Registered over 265,000 Acres in Open Space Taxation Programs

Approximately 235,500 acres of privately-owned forest land and 30,000 acres of farmland have been enrolled in one of the County's open space taxation programs. The King County Public Benefit Rating System (PBRS) and Current Use Taxation (CUT) programs provide significant tax savings incentives to landowners who chose to protect farmland, forestland and other important classes of open space.



Countywide

Protected over 200,000 Acres of Private Forest Land

King County has protected more than 200,000 acres of private forest land by acquiring conservation easements and removing development rights, which will ensure that those lands remain forested. Similarly, nearly 15,400 of productive farmland has been preserved through the County's Farmland Preservation Program (FPP). Between 2016 and 2019, an average of 253 acres of farmland have been permanently preserved by acquiring conservation easements through FPP. There are an additional 500 acres proposed for FPP inclusion in 2020, all of which are Land Conservation Initiative priorities.



Countywide

Addressed Disparities in Park and Open Space Distribution and Access

The Land Conservation Initiative includes tools to help address disparities in park and open space distribution and access. This work was advanced by the Open Space Equity Cabinet, which revised CFT Code Chapter 26.12 to support more equitable outcomes, mapped King County areas lacking equitable access to parks, open space and farmland, waived CFT match requirements for qualified grant applicants addressing open space disparities, and developed a community engagement action plan to expand, engage, and diversify the cities and non-profits awarded CFT funds.


Countywide

King County awarded match-free CFT funds for eight applications in 2019 and began implementing the community engagement plan late that year. King County's Open Space Program also completed three acquisitions in White Center and Skyway, two unincorporated areas with open space inequities. The County's agricultural program also received funding to acquire additional farmland in south County, which could serve as a cornerstone for a collaborative farming venture by immigrant/refugee farming communities in that area.

Added 3,100 Acres of Land Dedicated to Local Food Production

Launched in 2014, King County's Local Food Initiative (LFI) is taking bold steps to support the local food economy, including to (1) better connect local farms to consumers, (2) increase access to healthy, affordable foods in underserved areas, (3) support farmers and protect farmland, and (4) create a sustainable farm-to-plate pipeline more resilient to the effects of climate change. The Food System Data Center maintains current metrics about individual LFI measures.


Countywide

The 2015 SCAP included a goal, initially proposed by LFI, to increase King County acreage dedicated to food production by an average of 400 acres per year. Because small-scale annual changes in land use are often difficult to track, the Water and Land Resources Division conducted a comprehensive agricultural land use survey in 2017. A total of 48,200 acres were classified as agricultural land, of which 25,100 acres were actively farmed for food production. The 2017 food production estimate represented an increase of 3,100 acres compared to 2013, and most of that increase was attributable to fallow/idle farmland being returned to production.

Supported Local Farmers

The Water and Land Resources Division's Agriculture Program works with King Conservation District (KCD), Washington State University (WSU) Extension, and other partners to provide technical assistance, support for farm plan development, and cost sharing to support sustainable farming practices and to promote local food production. King County manages a comprehensive website ("one stop shop") for business, farmland access, production, marketing and food safety.


Countywide

During the Covid-19 crisis, the County expanded the website to include information from agency and NGO partners related to available financial resources, health directives, expanded market opportunities, and options for consumers. The County also offers property tax incentives that support privately owned farms.

Increased Land Access for Local Farmers

Beginning and resource-challenged farmers face numerous barriers related to accessing suitable farmland. King County and partner organizations continue to build a comprehensive farmer training and land access program that includes NGO-sponsored training farms, WSU Extension and KCD technical training and the multi-partner Working Farmland Partnership, which is focused on matching landowners with farmers looking for land.


Countywide

DNRP also owns and manages a portfolio of farm properties that are leased to farmers from traditionally underserved communities and farmer training organizations. Those County-owned farms provide an opportunity for new and beginning farmers to establish or expand their farming businesses with the goal of eventually locating on private owned or leased land. County farms will also be used as platforms to demonstrate climate friendly forestry practices, including the use of recycled water and compost.

Launched a Nation-Leading Forest Carbon Program

In 2019, King County launched a Forest Carbon Program, one of the first of its kind in the nation. King County produces carbon credits by permanently protecting threatened forests and tree canopy through efforts like the Land Conservation Initiative and partnerships with private forest landowners.


Countywide

Revenue generated from the program will be invested in new County acquisitions, targeting lands that are among the most critical conservation priorities of the region, and will provide financial incentive to private forest landowners, cities and NGOs who protect and manage forest land. Ultimately, King County supports expansion of the programs beyond King County, which would require transitioning program management responsibility to an NGO or state agency.

Led Forest Stewardship Initiatives with Local Partners

The Water and Land Resources Division's Forestry Program works closely with KCD and WSU Forestry Extension to promote healthy forests and forest stewardship through forest stewardship planning courses and workshops and on-site forest management assistance to non-industrial private forest landowners. The Forestry Program also works with KCD, fire districts and local communities to reduce the risk of wildfire and to ensure communities are prepared to respond should they be threatened by wildfire. The County also offers property tax incentives to encourage private forest landowners to preserve and enhance management of their forestlands and assists landowners to take advantage of the Transfer of Development Rights program.


Countywide

Grew Loop® Biosolids Program to Improve Soil Quality and Offset Carbon

The Wastewater Treatment Division uses its soil amendment Loop® biosolids on private and state-managed forests in King County to increase tree growth, store carbon in forest soils, and replace use of fossil fuel-based fertilizers. The Wastewater Treatment Division is pursuing opportunities to increase use of Loop® biosolids within King County, thereby improving the local ecosystem and reducing GHG emissions associated with transportation of the material beyond county limits.


Countywide

Planted More than One Million Trees

The 2015 SCAP called for planting one million new native trees with partners by 2020 as a "down payment" on the 30-Year Forest Plan. Restoration projects that plant native trees and shrubs on previously cleared, non-agricultural land have multiple benefits, including wildlife habitat, reduced stream temperatures due to increased shade, and increased carbon sequestration. King County significantly expanded tree planting efforts since 2015, and combined with partners to plant more than 1.2 million trees (King County and partners each planted approximately half of that total

Launched the Development of a 30-Year Forest Plan


Countywide

By the end of 2020, King County will complete a 30-Year Forest Plan to maximize forest health and tree cover in both urban and rural King County. This plan will accommodate population and economic growth and meet the goals and needs for local food production and working forests. To date, County staff have initiated work with cities, community-based organizations, and other partners to develop the plan. The plan will include methods to track progress, monitor tree survival, achieve multiple benefits, and coordinate extensive public outreach and engagement on the initiative.

Prioritized Forest Management Projects and Investments for County-Owned Lands

King County recently updated analyses to identify high-priority areas for future forest restoration projects. The analysis identified 1,900 acres of County-owned property most in need of active management to improve ecological health and climate resilience. This analysis, combined with Forest Stewardship Plans that provide recommendations for stewardship activities at a particular property, will help prioritize and maximize King County's climate-related stewardship efforts and investments.



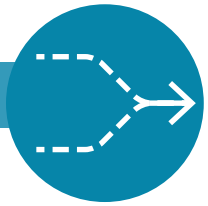
Preparing for Climate Change

The 2015 SCAP included 19 climate preparedness actions aimed at reducing climate change impacts on King County operations and core functions, such as flood risk reduction, stormwater management, public health, and emergency management. The actions focused on three major areas of work: increasing infrastructure, community, and ecosystem resilience; strengthening regional partnerships; and enhancing technical understanding of climate change impacts on the County. Sections 1.1.1 through 1.1.3 summarize the accomplishments made to date in these focus areas; Section 1.1.4 summarizes the remaining preparedness actions to be completed from the 2015 SCAP. Work on all of the 2015 SCAP actions will conclude by December 2020.

The 2015 SCAP also recommended creating a climate change preparedness staff position to support preparedness activities across and within King County departments, and to develop strategic partnerships with other local governments, universities, and nonprofit organizations. A Climate Preparedness Specialist position was created by King County's Climate Leadership Team in 2016 to address this need. The Climate Preparedness Specialist works closely with other members of King County's Climate Action Team, County departments, and external partners to help ensure that we are effectively delivering on SCAP goals and priority actions.

Note: reported activities and accomplishments in this appendix were organized to align as closely as possible with the 2020 focus areas. Because this is not the original framework in which the activities were developed, some focus areas do not have specific activities highlighted (e.g., Focus Area 5).

Focus Area 1: Mainstream Climate Preparedness



Increased Infrastructure, Community, and Ecosystem Resilience

King County invests millions of dollars annually in public infrastructure improvements and delivery of local services, including wastewater conveyance and treatment, public transit, stormwater management, maintenance of roads and bridges, floodplain management, habitat restoration, public health services, management of parks and open spaces, and land use planning. These investments are critical to

supporting a thriving economy, healthy neighborhoods, and a clean environment. Accounting for current and future climate impacts when making those investments is essential to building resilient infrastructure, communities, and ecosystems given the lasting nature of those decisions. Key areas related to this in the 2015 SCAP included:

- Preparing for sea level rise.
- Strengthening connection between climate preparedness and hazard mitigation.
- Increasing understanding of connections between public health and climate change.
- Addressing climate change impacts on summer water supply and streamflow.
- Planning for salmon recovery in a changing climate.

Prepared for Sea Level Rise

Sea level rise can cause damage to public and private infrastructure, create health and safety hazards, reduce public access to beaches, and negatively impact our shoreline ecosystem in ways that reduce the likelihood of improving salmon recovery. As part of a 2015 SCAP commitment to develop a more comprehensive approach to sea level rise, the County worked across departments to accomplish the following:

- Updated local land use codes for Vashon and Maury islands to reduce the risks of sea level rise to shoreline development. The adopted changes include creation of a Sea Level Rise Risk Area landward of the existing coastal high hazard area and increased setback requirements for development on coastal bluffs.
- Identified King County-owned assets vulnerable to up to five feet of sea level rise. Asset owners are developing adaptation plans for addressing those impacts. A summary of this work will be available by the end of 2020.

Strengthened the Connection Between Preparedness and Hazard Mitigation

Climate change exacerbates existing challenges with flooding, landslides, wildfire, and other natural hazards by changing the frequency, intensity, and duration of these events. Strengthening the connection between climate preparedness and hazard mitigation creates opportunities to leverage existing hazard mitigation investments to address projected risks and today's risks. These efforts were part of the 2015 SCAP:

- The Water and Land Resources Division updated King County's landslide hazard mapping along major river corridors and made those maps available on King County's website, providing property owners, local governments, and agencies with an updated resource for evaluating landslide hazard risks in King County.
- The Office of Emergency Management (OEM) incorporated climate change impacts into the hazard profiles and evaluation criteria for the 2020 update of the County's Regional Hazard Mitigation Plan. The OEM also incorporated information on climate change impacts into community presentation materials and related public outreach materials, and hosted a facilitated discussion with stakeholders to evaluate preparedness and response capabilities for heat-related impacts (including wildfire smoke).

It is also important to note that OEM adopted King County's 14 Determinates of Equity as goals for the 2020 Regional Hazard Mitigation Plan and a basis for targeting investments.

Addressed Climate Change Impacts on Water Supply and Streamflow

Projected decreases in snowpack and summer streamflow will exacerbate challenges across the region related to managing summer water supplies for people and fish. As part of the 2015 SCAP, King County actively participated in regional forums focused on streamflow management to help ensure that water management decisions account for the County's water needs for instream flows and agriculture. This included discussions hosted by the U.S. Army Corps of Engineers (for the Green River), the Cedar River Instream Flow Commission, and the Central Puget Sound Water Supply Forum.

King County also expanded recycled water use to serve two of the three largest irrigators in the Sammamish Valley. As a result of the Recycled Water Program's partnership with the Salmon Safe certification program, Willows Run golf course in Redmond (a recycled water user) was certified as a Salmon Safe golf course in 2016. The Buttonwood Tree Farm was also added as a new recycled water customer in 2017.

Planned for Salmon Recovery in a Changing Climate

Climate change impacts on salmon include changes in freshwater conditions that reduce the likelihood that salmon will reach adulthood and successfully spawn in natal streams. The County's Climate Action Team partnered with watershed-based salmon recovery teams and other technical experts to develop climate change and salmon issue papers for each of the four Water Resource Inventory Areas (WRIAs) in King County. The issue papers provide an overview of how climate change is likely to affect salmon and salmon habitat in each WRIA and identify proposed actions to address climate impacts. Information from the issue papers has been incorporated into salmon recovery and habitat restoration activities in King County, including salmon habitat plans and salmon recovery work plans. The information is also supporting grant applications.

Focus Area 2: **Technical Capacity**



Enhanced Technical Understanding of Climate Change Impacts on King County

Investing in research and technical assessments specific to King County's decision-making needs helps ensure that we are using best available science to guide our preparedness efforts. A major research focus in the 2015 SCAP was developing a better understanding of how heavy rain events may change as a result of rising greenhouse gas emissions and how those changes may affect King County operations. Research related to the potential for climate change-driven migration to the Puget Sound region was also supported. Increasing technical understanding of climate change impacts on King County continues to be a priority for the 2020 SCAP.

Increased Capacity to Address the Risks Associated with Extreme Precipitation

Climate change scenarios for the Puget Sound region project increasing winter rainfall and more intense heavy rain events. These changes have implications for wastewater conveyance, stormwater management, and floodplain management, including decisions about infrastructure sizing and development requirements. The following efforts were part of the 2015 SCAP:

- The Wastewater Treatment Division and the Water and Land Resources Division leveraged grant funding from the Washington State Department of Ecology to develop hourly rainfall projections for King County through the 2080s using two regional climate models. The analysis, conducted in partnership with the University of Washington (UW) Climate Impacts Group, was expanded in 2018 to 12 regional climate model projections to provide a more robust set of scenarios for decision-making. The expanded analysis found potentially large increases in rainfall intensity across a range of locations and intensity metrics.

- Stormwater Services conducted a preliminary assessment of climate change impacts on stormwater infrastructure based on changes in rainfall from two regional climate model scenarios. That research suggests that stormwater infrastructure will need to be larger to account for increasing rainfall, although additional analysis using the expanded set of regional climate model scenarios is needed before making recommendations for changes in design standards.
- The River and Floodplain Management Section partnered with the UW Climate Impacts Group to conduct a preliminary assessment of climate change impacts of flooding on the Snoqualmie and Green rivers. The research provided compelling evidence of increased future flood flows in the South Fork Skykomish River, the Snoqualmie River and its tributaries, the Green River above Howard Hanson Dam, and major tributaries to the Green River. Additional analysis using the expanded set of regional climate model scenarios is currently underway.

Assessed Climate Change Impacts on Population Growth Rates

As climate change impacts become more pronounced regionally, nationally, and globally, the potential for population displacement and climate change-driven migration increases. In response to growing questions about impacts on population growth assumptions in the Puget Sound region, Water and Land Resources Division partnered with Portland State University, the UW Climate Impacts Group, and other institutions to host a 2016 symposium exploring the potential for climate change-driven migration to the Northwest and its implications for long-range planning.

The symposium concluded that the potential for climate change-related population growth in the Northwest cannot be ruled out, although it would be premature to make changes to current population forecasting models. Additional work is needed to identify the additional data, information, methodologies, and modeling needed to systematically assess the question of climate change-driven migration. King County is continuing to track research on this issue and any implications for long-range planning.

Focus Area 3: Health and Equity



Increased Understanding of Connections Between Public Health and Climate Change

More intense summer heat events, wildfire smoke, more harmful algal blooms, and increased flooding are some of the many ways that climate change can directly and indirectly affect personal and community health and well-being. As part of the 2015 SCAP, Public Health— Seattle & King County (Public Health) leveraged grant funding and other financial and technical assistance to:

- survey and engage stakeholders on health and climate change, determining that County staff and community members have a high level of concern over climate change and a strong interest in more information on health impacts;
- develop the agency's first Blueprint for Addressing Climate Change and Health to guide Public Health action on climate change, including 2020 SCAP actions for Public Health; and
- produce two climate change and health public education comics, one focused on extreme heat events and one on the connection of climate change to health impacts.

Additionally, Public Health hosted four cross-departmental workshops with County staff to identify connections between climate change, public health, and County programs.

Focus Area 4: **Community and Organizational Partnerships**



Strengthened Regional Partnerships

Climate change impacts are not bound by jurisdictional lines and affect complex and inter-connected natural, socio-economic, and regulatory systems, underscoring the importance of working with regional partners on climate preparedness. Many of the 2015 SCAP preparedness actions summarized in the Focus Area 1 (Mainstream Climate Preparedness) portion of this section built on existing partnerships with local and tribal governments and the climate research community to support implementation of specific actions. However, looking beyond partnerships based on individual actions to broader regional collaboration on climate preparedness is also important. Regional collaboration can leverage limited resources and staff capacity, reduce duplication of efforts, facilitate institutional learning, catalyze action at broader regional scales, and ensure that neighboring climate preparedness efforts complement each other.

Recognizing the potential opportunities in developing a stronger regional dialogue around climate preparedness, the 2015 SCAP included a priority action calling on King County to work with the Puget Sound Regional Council (PSRC), neighboring counties and cities in central Puget Sound, nonprofit organizations, and businesses to scope and establish a regional climate preparedness partnership.

The Puget Sound Climate Preparedness Collaborative (Collaborative) was launched in October 2017, with King County as a co-chair, to enhance coordination and improve the outcomes of climate change preparedness efforts in the Puget Sound region. Collaborative preparedness activities to date include the following:

- connected with approximately 275 practitioners in convenings related to climate change impacts on stormwater management, shoreline planning, and wildfire west of the Cascades;
- partnered with the Washington Department of Natural Resources in its efforts to develop a statewide climate resilience plan;
- developed a strategic plan articulating the mission, services, and near-term priorities for the Collaborative; and
- played a key role in the development of a white paper and ongoing research related to managing western Washington wildfire risk in a changing climate.

The Collaborative currently includes 21 member organizations and partners representing five counties of the Puget Sound region, three municipalities, the Port of Seattle and Northwest Seaport Alliance, PSRC, Sound Transit, the Puget Sound Partnership, two conservation districts, and a growing number of tribal governments.

The Institute for Sustainable Communities, the Kresge Foundation, and the Bullitt Foundation currently provide support for the Collaborative. Expanding the Collaborative and pursuing additional opportunities to strengthen regional partnerships in King County and the Puget Sound region will continue to be priorities for the 2020 SCAP.

Remaining and Unfinished Preparedness Actions from the 2015

The year 2020 marks the fifth and final year of the 2015 SCAP. Although most of the 2015 climate preparedness actions are complete, three are still underway or planned for completion in 2020:

- **Plan for sea level rise.** King County staff are developing adaptation strategies for County-owned assets potentially affected by sea level rise and synthesizing results into a final report. Additionally, the County's Climate Action Team will partner with the Water and Land Resources Division to convene a discussion with shoreline jurisdictions in the County to identify opportunities for coordinating future work on planning for sea level rise.
- **Assess impacts of heavier rain events on wastewater conveyance and treatment.** The Wastewater Treatment Division is currently modeling the impacts of heavier rain events on wastewater conveyance and treatment using updated precipitation projections produced for King County as part of the 2015 SCAP. Results from the study will be incorporated into future updates of the Regional Wastewater Services Plan and the King County Combined Sewer Overflow Control Plan. The results will also be used to help inform long-term investment decisions that will be made under the Clean Water Plan.

One 2015 SCAP action, "Expand and fund public health preparedness and resources," will not be completed because of lack of funding. Although Public Health leveraged grant funding to develop the Blueprint for Addressing Climate Change and Health, a lack of dedicated funding for climate work in the department has made it difficult to implement Blueprint recommendations and sustain ongoing work related to climate change and health. Addressing funding and building capacity within Public Health related to climate change health is a focus area in the 2020 SCAP.

Appendix V: Operational Energy and GHG Guidance

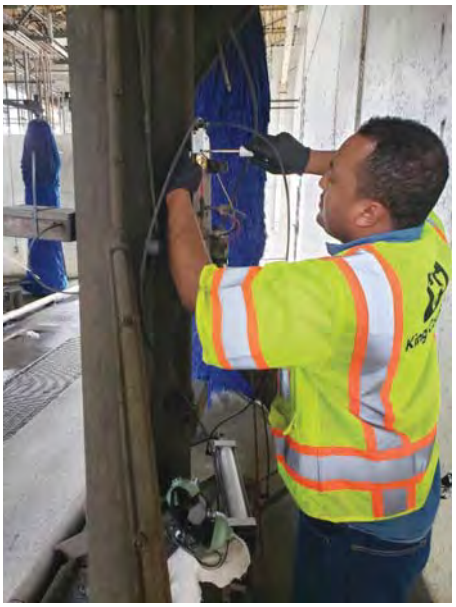
This appendix provides specific guidance in support of the goals included in the Buildings and Facilities Energy Focus Area of the Reducing Greenhouse Gas Emissions Section. The specific strategies and policies provided in this appendix are a roadmap of actions that guide County government agencies to advance their energy reduction and renewable energy generation efforts. This appendix focuses on energy work related to County facility energy use.

Operational Energy Guidance Strategies

Strategy APX 1. *Energy Reduction Action Plans*

All County agencies shall develop Energy Reduction Action Plans (ERAPs) by January 1, 2022, and at least once every five years thereafter. The ERAPs are intended to be energy-reduction identification and action documents, rather than extensive written documentation. The ERAPs shall detail key actions, implementation strategies, barriers, and methods for how each agency will contribute to the County's 2025 and 2030 energy reduction goals. At a minimum, and in addition to other relevant information, the ERAPs shall include:

- any completed facility assessments/audits;
- facility recommissioning plans;
- facility-by-facility documentation of fossil-fuel consuming equipment, including estimated end of operating life year and barriers to installing non-carbon replacement alternatives; and
- overall or facility-by-facility checklists of opportunities and planned investments and actions to reduce energy use through
  - LED lighting;
  - lighting controls;
  - heat pump or condensing hot water heater installations;
  - heat pump heating and air conditioning equipment; and
  - ventilation heat recovery and dedicated outside air systems



Low-cost repairs and maintenance activities contribute to the County's energy reduction goals, such as repairs of air distribution system leaks (pictured) at the Ryerson Transit Base which led to over 130,000 kWh/year in energy savings.

Strategy APX 2. *Resource Audits*

By December 31, 2022, and every five years thereafter, any facility consuming 5,000 MMBTU annually (using 2020 data) shall complete an energy and water efficiency resource audit.

- The resource audits are to be used to guide future energy and water investments, and shall detail cost-effectiveness information for all identified behavioral and equipment retrofit efficiency actions in each impacted facility.
- Per King County Ordinance 16927, conduct a level II energy audit for facilities at which capital projects valued over $250,000 are planned that impact any portion of the mechanical or lighting system, if such an audit has not been completed within the previous seven years.

Strategy APX 3. *Energy Recommissioning*

No less frequently than every five years, King County will carry out an energy recommission of all facilities that use more than 5,000 MMBTU per year. Such recommissioning may include functional analysis of facility lighting, envelope, controls, heating/cooling equipment, operations, and historical consumption data to ensure each impacted facility is operating efficiently. In the case of new facilities or major renovations, recommissioning must occur within two years after the completion of construction.

Facilities that have reduced energy use by 5 percent or greater versus the previous comparison baseline (five years prior) do not need to perform such assessments, but can if the agency believes savings opportunities may be identified. Usage may be normalized for factors such as weather.

Strategy APX 4. *Energy Investment Cost-Effectiveness*

While technology exists today to reduce the County's energy use by 50 percent or greater, it is essential to consider the cost effectiveness of projects to ensure the County expends its limited financial resources wisely.

- All capital and major maintenance projects shall install the most energy efficient equipment that is life cycle cost effective, calculated as compared to the existing equipment to be replaced or the incremental cost above the baseline code-meeting standard replacement equipment.
- County agencies shall evaluate and pursue the installation of solar panels at all facilities where life cycle cost effective over a 20-year product life.

By December 31, 2022, the Office of Performance Strategy and Budget, in coordination with the Energy Task Force and the Capital Project Management Working Group, shall develop criteria regarding if and when County agencies shall make investments to replace equipment for resource efficiency purposes, and when project managers and staff are expected to secure and expend additional dollars for capital projects.

Strategy APX 5. *Capital Project Energy Performance*

In addition to meeting the County's requirements for the internal Sustainable Infrastructure Scorecard, Leadership in Energy and Environmental Design (LEED), or other green building requirements, all capital and major maintenance projects that trigger energy code requirements shall meet the prescriptive or modeled energy code requirements of the jurisdiction with the most energy-efficient energy code within the County, by following the County-developed energy code compliance checklist. As of 2020, the most efficient energy code is in the City of Seattle.

Strategy APX 6. *Continued Investment in Electricity Energy Efficiency*

As of 2020, King County is sourcing carbon neutral electricity to power its buildings and facilities. County agencies shall "stay the course" and continue aggressive electricity reduction actions toward future energy reduction goals. Continued benefits of reducing electricity use include:

- reducing utility operating expenditures;
- lowering the County's energy use "frees up" the energy to be sold by the utilities to other customers, reducing the need to generate power from higher-carbon sources. For example, as of 2020, the majority of Puget Sound Energy's power systemwide is carbon-based and Seattle City Light's ability to sell its carbon neutral power to others reduces the need for others to generate power with natural gas;
- minimizing the need for new electricity generation construction. All new generation has significant environmental impacts, including manufacturing, land use, and habitat impacts. This includes renewable development such as hydro, solar, and wind generation; and
- supporting the innovation, engineering, and development of more efficient technologies from a global perspective.

Strategy APX 7. *Fossil Fuel Elimination Strategy*

King County recognizes that the consumption of fossil fuel resources in its buildings and facilities, particularly those transported through pipelines, results in a direct and long-lasting increase of GHG emissions. The County consumes natural gas, oil, and propane at many of its facilities, some of which are designed such that replacement of such systems with non-fossil fuel equipment is feasible and practical, and some of which pose significant design and financial challenges to replace with electrically operated equipment. This strategy highlights and reinforces actions that support the elimination of fossil fuels that are already outlined in other areas of the SCAP.

- No fossil fuel combustion heating systems shall be used for new construction, except for backup generators, food service equipment, and specialized industrial equipment for which there are no electrically operated alternatives.
- All County agencies shall inventory equipment that operates on fossil fuels by January 1, 2022, including information about potential replacement equipment that can eliminate or significantly decrease fossil fuel use for each piece of equipment.

Strategy APX 8. *On-Site Solar Generation*

Existing buildings over 2,500 square feet shall be assessed for solar generation potential by December 31, 2021. The County will pursue on-site solar generation for several reasons, including:

- to reduce ongoing utility bill operating costs;
- after maximizing efficiency, on-site power generation is generally the lowest-impact generation resource because of the elimination of long-distance power distribution line losses between power plants and end users, which typically range between 8 and 15 percent; and
- resiliency. The installation of solar, particularly with newer "islanding" technologies, will enable facilities with on-site solar to be designed to operate during daylight hours if the electricity grid is down.

For new construction, on-site solar generation shall be installed to meet the equivalent of the City of Seattle code requirements below.

- Construct all new buildings according to sections C411 and C412 of the 2018 City of Seattle code requirement of 0.25 watts of on-site solar photovoltaic power generation per conditioned square foot, or to any higher-level solar code that is established by a jurisdiction in King County.
- All new construction building projects shall evaluate solar system sizes beyond this standard, and install the largest-sized system that is life cycle cost-effective over a 20-year system life

Strategy APX 9. *Design for Daily Shutdown*

New facilities shall be designed such that all non-critical energy using systems are shut off during unoccupied times, with simple override controls as necessary for afterhours access and safety. Outdoor lighting shall include controls such as motion sensors that will minimize and/or shut down lighting when no activity is present. Exceptions shall be rare and shall include a clear public or staff benefit, such as public or staff safety.

Strategy APX 10. *Energy-Using Equipment Design Guidance*

Dictating the use of specific energy equipment technologies has the potential to limit creative design and potentially to create an unanticipated outcome of increased energy use, if newer technological advances do not fit the prescribed standards. However, advancing technological improvements are making some older or inefficient technologies obsolete or unattractive from a life cycle perspective. New construction and renovation projects shall meet the following minimum design requirements:

- All lighting fixtures shall have an efficacy of over 110 lumens per watt, unless replacing existing lighting results in an energy reduction of 50 percent or greater for each lamp replaced.

- No fossil fuel combustion heating systems shall be used for new construction
- Renovation projects shall replace heating equipment with a non-fossil fuel option. If such an option is not feasible, heating equipment shall be replaced with equipment that has a combustion efficiency of 86 percent or greater.
- Heat pumps shall have a Coefficient of Performance of at least 2.5, unless the total space to be heated with such equipment is under 400 square feet.
- Space to be conditioned shall be minimized and based on specific needs. Strong consideration shall be given to stairwells and other low-use spaces being constructed as outdoor and/or unconditioned space.
- All space heating devices shall be controlled with seven-day programmable wall thermostats that are not integrated into the device. This includes restrooms and all other conditioned spaces.
- Radiant heaters shall have timer or motion shutdown controls
- Heat recovery shall be integrated into all ventilated spaces over 5,000 square feet and shall have heat recovery of 70 percent or greater, where allowed by code.
- Agencies shall, as necessary, integrate wording into construction and procurement documents to ensure these strategies are followed.

Strategy APX 11. *Energy Star Appliances*

All appliance purchases by King County government shall be Energy Star qualified appliances, if an Energy Star rating is available for the type of appliance. Agencies shall set in place practices to ensure that credit card (i.e., P-card) purchases of equipment and appliances comply with this requirement.
To ensure both safety and resource efficiency, employees are not allowed to bring, or accept donations of, heaters or other electrical appliances for use in County facilities, unless specifically approved by the county. When an energy-using device is deemed necessary for an employee's comfort or to perform his/her work, appliances will be purchased by County agencies and shall be Energy Star qualified, if an Energy Star category exists. The Procurement and Payables Section of the Department of Executive Services shall work to ensure compliance with this strategy.

Strategy APX 12. *Purchased Energy Use Cap for Capital Projects*

Replacement and/or upgrades of existing facilities and construction of new County facilities can result in an increase of total County energy use, offsetting some of the significant County government energy reductions that have been made in recent years.
Additional energy use compared to the existing facility, on a total BTU basis, can be consumed if the facility project meets one of the following criteria:

- reduces total net County energy use on a BTU basis (e.g., a transfer station trash compactor that measurably demonstrates the reduction of vehicle fuel consumption);
- pays for energy efficiency work equal to the additional energy use, on a BTU-for-BTU basis. Energy efficiency work will be done in other County facilities within the same division or Department;
- for facility replacement projects, as measured against the most recent 12 complete months of energy use on a BTU basis at the former facility, does not purchase additional power from an electricity or natural gas provider and/or generates any additional power beyond the cap through on-site solar, or through funding of other County-owned renewable energy generation;
- results in a significant level of service increase for the public that reduces normalized energy use, such as a new or expanded transit base or a wastewater pump station that has greater wastewater flow but reduced energy use per volume pumped; and/or
- meets regulatory requirements, such as wastewater de-nitrification.

After the first year of operation, remodeled or replaced facilities that exceed the calculated energy use cap shall pay for energy reduction projects that will provide an equal or greater reduction in energy use above the cap within that agency. New facilities are exempt from this requirement.

Strategy APX 13. *Renewable Biogas Optimization*

By December 31, 2021, King County will set renewable energy generation targets and track progress toward such targets at the Cedar Hills Regional Landfill and at the Wastewater Treatment Division's Brightwater, South, and West Point treatment plants. These targets are to help optimize use of available biogas for the most beneficial uses. Two targets should be tracked for each facility: the percentage of total gas sent to beneficial end use versus the percentage sent to flares, and the utilization percentage of the energy content of the biogas toward beneficial uses, as measured by available input BTU versus BTU output.

Strategy APX 14. *Energy Conservation Incentives*

All County agency energy-using equipment replacement projects shall maximize available utility rebate dollars by working with Puget Sound Energy, Seattle City Light, Snohomish PUD, Seattle Public Utilities, and other utility companies as appropriate. This action helps reduce project costs and supports such utility conservation incentive programs that have been a critical component of the region's long-term success as a national leader in resource efficiency efforts.

Strategy APX 15. *Occupied Leased Facilities*

When consistent with the operational needs of the function, King County shall seek to lease facilities, for leases of employee-occupied space of longer than five years, which are certified through the LEED rating system level of silver or higher or are Energy Star Certified. Facilities that do not meet these standards can be leased by the County if plans and funding are in place at the time of signing that will enable a facility to meet this standard within 24 months of lease signing.

Strategy APX 16. *Operational GHG Measurement Principles*

The following principles outline how King County will measure and report on operational GHG emissions towards the 80 percent by 2030 target adopted in this SCAP. King County develops annual GHG emissions inventories to inform action and measure progress toward adopted targets. King County's operational emissions are categorized into three "scopes":

- **Scope 1 emissions** include direct GHG emissions and removals that occur as a part of operations, including fuel combustion from King County-owned vehicles; natural gas used at King County facilities; landfill gas at Cedar Hill Regional landfill; and land use change, including carbon sequestered by forest growth on King County-owned lands.
- **Scope 2 emissions** include indirect emissions associated with the consumption of purchased electricity, steam, heating, and cooling.
- **Scope 3 emissions** include all other indirect sources of GHG emissions, such as King County employee business travel and commuting or the life cycle GHG emissions associated with the production, use, and disposal of purchased materials and services. Purchasing is the County's largest source of Scope 3 emissions.

For 2020 SCAP County operational targets, King County includes all Scope 1 and 2 emissions and removals, consistent with adopted protocols and best practices. This accounting aligns with the King County Carbon Neutral Implementation Plan, which expanded past County operational GHG target tracking that had previously focused only on emissions from energy and fuel use (e.g., 2017 SCAP Biennial Report).

Scope 3 emissions are not included in reporting on this target. However, King County is still working to quantify and reduce these emissions, for example, by addressing employee commute-related emissions through the County's Commute Trip Reduction program, enabling telework and telecommuting where feasible, and by addressing embodied emissions of construction materials like concrete used in County projects through new commitments in the Consumption and Materials Management Focus Area.

Measuring toward agency net carbon neutral targets. In addition to an overarching target to achieve an 80 percent reduction in Scope I and II operational GHG emissions, certain agencies in King County also have net carbon neutrality commitments. As a leadership approach, these agencies (Department of Natural Resources and Parks, Solid Waste Division, Wastewater Treatment Division) are accounting for Scope 3 emissions and also accounting for broader emissions reductions or removals that occur from their actions, such as those related to Loop® biosolids use, transfer station recycling, and renewable energy production.

Strategy APX 17. *Operational GHG Emissions, Carbon Offset, and Renewable Energy Policy*

King County is a large renewable energy producer and seller, has established a Forest Carbon Program and has established internal carbon fees in the Facilities Management Division and Fleet Services Division. There are also more opportunities to develop and sell climate and energy related environmental attributes on the horizon – such as related to vehicle electrification and additional carbon sequestration strategies. The benefits this guidance includes are to:

- formalize and clarify priorities for GHG emissions reductions;
- outline the rationale for County sale of environmental attributes;
- provide dedicated funding to accelerate deeper, faster GHG emissions reductions and climate preparedness benefits; and
- ensure consistency of approaches across varying lines of business.

APX 17.A. *Guidance for Operational GHG Emissions Reductions*

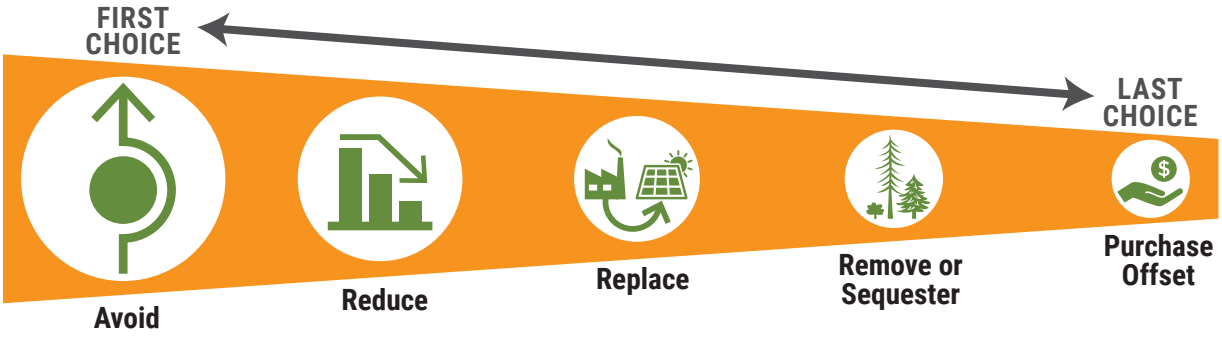
Priorities for operational GHG emissions reductions. To achieve its operational emissions, energy, and fuel goals, King County prioritizes strategies that:

- are the most cost-effective;
- achieve transformative and long term GHG reductions; and
- advance equity, public health, and other environmental benefits such as clean water and improved air quality

Priorities for tactics. In its GHG emissions strategies, the County prioritizes the following:

- 1st: Avoid (e.g. by driving fewer miles in government vehicles).
- 2nd: Reduce (e.g. through energy efficiency projects).
- 3rd: Replace (e.g. through cleaner fuel use in vehicles; by transition building energy use from fossil fuel natural gas to electricity; and/or by transitioning electricity supplies to green sources such the PSE's Green Direct program).
- 4th: Remove or sequester, with a preference for investing in County owned projects (e.g. through forest restoration or soil carbon projects).
- Last: Purchase Offsets. As a final option and only in certain cases, purchase externally sourced offsets or credits.

Greenhouse Gas Emissions Reduction Tactics



APX 17.B. *Sale of Energy, Carbon Offset and Related Attributes*

Carbon and energy projects. King County agencies are encouraged to develop renewable energy, carbon offset, and related projects. The internal use of the energy or environmental attributes of the projects is encouraged to help achieve operational climate and energy goals.

Benefits of sale. King County recognizes that the financial, leadership, public-private partnership, and/or educational values of sale of the energy and carbon and energy attributes may outweigh the benefits of their use towards operational goals.

Local preference for sale. If the price between potential buyers is close to equal, King County prefers to sell these attributes to local buyers to support local partnerships.

No double counting. Any renewable energy, carbon offset, or other environmental attributes that are sold externally may not also be used to meet the County's operational targets or commitments.

APX 17.C. *Scope of Coverage and Principles for Reinvestment*

Reinvest in climate action. For County owned projects or programs that sell energy, carbon offsets, or related attributes, revenues beyond project development costs must be reinvested in GHG emissions reduction and climate preparedness actions.

Covered revenues. Revenues from the following sales must be reinvested:

- Renewable energy produced
- Renewable energy attributes such as Renewable Energy Certificates (RECs) and Renewable Identification Numbers (RINs)
- Carbon offsets
- Internal carbon and energy fees and set asides
- Credits associated with use of electric vehicles and low carbon fuels

Reinvestment: revenues should provide additional funding. Reinvestment of revenues from carbon and energy projects is intended to provide additional funding to accelerate climate action and should not displace existing funding for programs that result in GHG emissions reductions and climate preparedness benefits.

The policy for reinvestment allows for exceptions in cases of financial emergency; is not to affect Rate Stabilization Policies; and is not meant to affect that some revenues are subject to requirements of Federal, State, regional and local laws that require minimum investments in specific programs, demographics, or locations.

Appendix VI: Community Engagement Summary

This appendix summarizes the community engagement actions conducted by the King County Climate Action Team as a part of the 2020 SCAP research and development process. The purpose of these engagement efforts was to understand community stakeholder priorities and concerns, and solicit feedback from community members, partners, and County employees on County climate initiatives.

Introduction

In preparation for writing the 2020 Strategic Climate Action Plan (SCAP), the King County Climate Action Team worked to ensure that ideas and concerns of community members and stakeholders were heard. Community engagement played an integral role in developing the major themes, goals, and activities in the 2020 SCAP. The County understands that residents and stakeholders feel the impacts of climate change and have valuable insights into what can be done to address climate change.

Multiple avenues were used to reach as many stakeholders as possible. The King County Community Engagement Continuum outlines a spectrum of ways that local government can engage communities.[1] The Climate Action Team worked to create engagement opportunities at every level so that community members had the opportunity to have a voice in the SCAP development at any point along the spectrum that corresponded to their level of interest and circumstances.

King County Office of ESJ Community Engagement Continuum

County Informs	County Consults	County Engages in Dialogue	County and Community Work Together	Community Directs Action
King County initiates an effort, coordinates with departments, and uses a variety of channels to inform community to take action.	King County gathers information from the community to inform community-led interventions.	King County engages community members to shape County priorities and plans.	Community and King County share in decision-making to co-create solutions together.	Community initiates and directs strategy and action with participation and technical assistance from King County.
Characteristics of Engagement				
• Primarily one-way channel of communication • One interaction • Term-limited to event • Addresses immediate need of County and community	• Primarily one-way channel of communication • One to multiple interactions • Short to medium-term • Shapes and informs County programs	• Two-way channel of communication • Multiple interactions • Medium to long-term • Advancement of solutions to complex problems	• Two-way channel of communication • Multiple interactions • Medium to long-term • Advancement of solutions to complex problems	• Two-way channel of communication • Multiple interactions • Medium to long-term • Advancement of solutions to complex problems
Strategies				
Media releases, brochures, pamphlets, outreach to vulnerable populations, ethnic media contacts, translated information, staff outreach to residents, social media	Focus groups, interviews, community surveys	Forums, advisory boards, stakeholder involvement, coalitions, policy development and advocacy, including legislative briefings and testimony, workshops, community-wide events	Co-led community meetings, advisory boards, coalitions, partnerships, policy development and advocacy, including legislative briefings and testimony	Community-led planning efforts, community-hosted forums, collaborative partnerships, coalitions, policy development and advocacy including legislative briefings and testimony

The County hosted topic-based convenings and youth workshops, responded to requests for presentations, held public workshops, and convened a Climate & Equity Community Taskforce. Online communication was also available through the County's climate website where information about the SCAP update accompanied an online public input survey and an opportunity to request a presentation/ workshop.

Goals of Community Engagement

- King County residents understand what the Strategic Climate Action Plan (SCAP) is.
- Residents share their ideas for how to best prepare for climate impacts based on their knowledge and lived experience.
- County staff listen and understand the priorities of residents around climate change impacts.

Methods

Climate Equity Community Taskforce

The Climate Equity Community Task Force (CECTF) is a group of leaders who represent frontline communities and organizations across greater King County, bringing multi-ethnic and multi-racial cross-sector experiences to climate-related community-driven actions. The CECTF is made up of approximately 22 community leaders, from sixteen affiliated organizations, who represent frontline communities. These community leaders were brought together to co-create the Sustainable & Resilient Frontline Communities (SRFC) section of the 2020 SCAP. Starting in early 2019, the CECTF members were engaged in meetings with each task force member contributing approximately 70 hours of their time over the year-and-a-half development process of the SRFC framework for action. These meetings included full CECTF meetings, deep dive meetings with CECTF members and King County staff, and presentations by CECTF members of community priorities to King County Climate Leadership Team and Executive Dow Constantine.

Topic-Based Convenings

Topic-based convenings were held for different action areas covered in the 2020 SCAP. These convenings brought together subject matter experts from the County and private and public sector partner organizations for a deep dive on climate-related issue areas. For example, a green buildings topic-based convening was held, which included County staff, climate experts, permitting staff, construction companies, architects, and environmental consultants; attendees discussed green building strategies to prepare for climate change and reduce greenhouse gas emissions. Throughout the three topic-based convenings (covering green building, energy, and forestry), approximately 150 stakeholders participated.

Public Workshops

King County hosted three public workshops in Bellevue, the University District, and Des Moines to gather community feedback on climate priorities. The workshops were held at multiple locations to increase accessibility for County residents to attend and share their ideas. At the workshops, community members heard an overview of the SCAP and participated in conversations with topic area experts from the County about specific climate change issue areas. Over 250 people attended the workshops, sharing major concerns and ideas for how the County can best tackle climate change. Youth caucuses were held at two of the workshops in partnership with and led by youth leaders from the Seattle Youth Climate Action Network.

Many residents voiced concerns around the accessibility and inclusion of climate solutions, especially for low-income households and communities of color. Many residents recognized that some proposed climate solutions may not work for everyone. For example, residents want to transition to renewable

energy, but recognized the up-front cost barrier that excludes many low-income households and property managers to participate in this.

Community members made suggestions to mitigate disparities in climate solutions, included subsidizing the cost of solar panels and providing incentives to improve accessibility. Community members also want to see the County conduct further outreach and education around climate change and climate solutions to raise overall community awareness and understanding of the issues. The overall trends for each topic area are captured in the feedback summary below. Many of the concerns and solutions tie back to accessibility, inclusion, outreach, and education, but are unique to each topic area.

Key workshop themes included:

- King County residents want climate solutions to be accessible and inclusive. They recognize that low-income households and communities of color are more likely to face barriers to climate solutions because of cost and other factors.
- Residents want King County to provide education, outreach, resources, subsidies, and incentives so that low income households can partake in climate solutions. If they aren't provided, then it is likely they will be left behind.
- Transition to renewable energy for a greener economy.

Comprehensive Plan Meetings

The Climate Action Team hosted an information table at five Comprehensive Plan public meetings held in 2019. At these meetings, information was shared on climate change related resources, opportunities to share input and feedback for the 2020 SCAP, and how to continue to stay engaged. These public meetings were held in five areas across King County:

- Bear Creek/Sammamish / Snoqualmie Valley Areas;
- Skyway - West Hill Area;
- Four Creeks / Maple Valley / Southeast King Areas;
- Vashon/Maury Island Area; and
- North Highline Area.

Youth Workshops

Youth workshops were held around the County with a primary audience of high school students. Approximately 100 youth were engaged throughout workshops that were supported by partnerships with youth-serving organizations and County high school internship programs. These workshops focused on increasing foundational knowledge of climate change, climate impacts, and climate equity in King County, providing an overview of the SCAP, and sharing what students can do to help combat climate change. Students had the opportunity to share their priorities and voice their major concerns, which informed SCAP development. As mentioned above, youth caucuses were held at two out of the three SCAP public workshops to create the opportunity for students and youth to discuss their priorities.

Online Public Input Survey

An online survey was available on King County's climate website for those who we were unable to participate in in-person engagement opportunities to share their ideas. The survey collected over 650 comments from over 200 participants between June and December of 2019. Some key themes raised in online survey comments included: forest protection, resilience of buildings and infrastructure, and interest in the expansion of public transportation to reduce single-occupant vehicle trips. For a more detailed list of feedback themes, see the **Summary of Feedback and Themes from Community Engagement**.

Community Presentations & Workshops

Interested groups or organizations requested climate change presentations and workshops by directly reaching out to the Climate Action Team or through the King County website. County staff tailored presentations to the needs, requests, and the audience for each individual group/organization. These events allowed County staff to go where community members were already meeting and created an opportunity for those individuals to further engage and share insights on climate solutions. This included about 45 presentations that reached over 900 people from communities across King County.

Internal King County Advisory Committee and Employee Engagement

The Climate Action Team convened three internal advisory teams of representatives from different departments across the County to help guide each section of the SCAP. These teams included the Greenhouse Gas Goal Area Leads, Climate Preparedness Steering Committee, and the SRFC Internal Advisory Committee. County staff provided insights into the operations of different departments and helped prioritize what SCAP activities had the greatest potential for impact across King County. The SRFC internal advisory teams complemented and provided technical support for the Climate Equity Community Task Force. For a full list of County departments represented on the internal teams, please see the acknowledgements page.

To reach other County employees, the Climate Action Team and internal advisory team representatives hosted two employee open houses to provide feedback on SCAP goals, actions, and targets. County employees were also invited to the public workshops, SCAP Lunch-and-Learns, and to provide input through the online survey tool. The Climate Action Team also held advisory committee workshops and topic specific 'deep dive' meetings to solicit additional employee input on the 2020 SCAP development.

Summary of Feedback and Themes from Community Engagement

Three major themes emerged from the County's engagement with external stakeholders:

1. **Stakeholders are experiencing the impacts of climate change** and desire to see King County act with urgency and leadership to (1) work to get ahead of the risks posed by climate change and (2) support actions and policies that mitigate and reduce climate impacts, including, but not limited to, more aggressive internal requirements, projects and programs that can be modeled, and more aggressive external regulatory policies.

2. **Stakeholders desire more information and involvement** and believe that King County should have a role in supporting the empowerment of communities as active partners in the implementation of external countywide SCAP actions, including, but not limited to, education, toolkits, and other supports.

3. **Stakeholders desire that the County support programs that emphasize equity and co-benefits** to build community resilience and mitigate climate impacts, including forest, green canopy, and open space plans and programs; sustainable and affordable development projects and practices; sustainable local food and agriculture practices and programs; and numerous other programs.

In addition to these three high-level themes, specific feedback from stakeholders on SCAP topic areas is summarized below.

Transportation & Land Use

Key themes for transportation and land among community members are the desire for reduced fares for public transit, more public infrastructure to support electric vehicles (EVs), partnerships with

rideshare and bikeshare companies, and increased transit accessibility in areas that lack reliable and regular transit. Participants noted that mobility is an integral service King County provides and want to see all communities able to access and afford transit services.

Many comments were also shared around EVs and charging stations. Community members believe that more public infrastructure supporting EVs should be made available, including an increased number of charging stations, high powered charging stations, and EV HOV lanes. Additionally, community members noted that EVs are primarily owned by higher-income portions of the population and by only focusing on EV infrastructure and not public transit, low income communities would not be able to utilize these resources. The public seeks a system that balances these concerns.

Buildings & Facilities Energy

Public comments centered around the increased use of solar energy, phasing out carbon-based energy, energy conservation methods like turning off unused lights in buildings, and the need to provide resources and support to the public. Residents are interested in a transition from fossil fuels to renewable energy, with solar energy being called out the most as a substitute. However, community members emphasized the need for incentives or subsidies to be developed for people purchasing solar systems because the upfront costs are high, creating a barrier for low income populations. Participants are also interested in widespread adoption of efficient turn-off practices for lights in buildings as an energy conservation method. Finally, an interest was expressed in increased information, resources, education, and support to the public around energy topics and the benefits of renewable energy, especially for property owners and small businesses.

Green Buildings

Community members shared an interest in the County using more solar and renewable energy, focus on retrofitting existing buildings with sustainable materials to be climate-prepared, and provide information and support to property owners so that they can understand the benefits of "going green." Community members emphasized the need to meet people "where they are at," work closely with property managers and providing resources, incentives, and funding that they will be able to successfully green buildings and lower and phase out carbon emissions.

Consumptions & Materials Management

Three key takeaways from discussions around consumption and materials management were: (1) regulating waste, (2) increasing education, and (3) incentivizing sustainable practices in daily life. Community members want to ensure that recyclable and compostable items do not end up in landfills. There was also a call for educating the public on what items are recyclable, compostable, reusable, and what should go to the landfill. More education was noted as an idea to address the concern of regulating waste; by putting more resources into education, people will be more likely to self-regulate their disposal practices. Lastly, residents are interested in the widespread adoption of sustainable practices in daily life and making these practices affordable. For example, the banning of single use plastic items or allowing people to bring their own reusable containers to shops and businesses or providing assistance to people interested in composting services.

Forest & Agriculture

Community members shared feedback around agriculture in the County and methods for planting and protecting trees. Many ideas around agricultural practices and the use of a regenerative approach to agriculture were shared to prepare for climate impacts around food security. Specifically, ideas around sequestering carbon, increasing soil health, and decreasing runoff. Residents shared views on both urban and rural agriculture, however comments primarily focused on making agriculture accessible

to urban and underserved populations. Another key theme was the desire for increased tree planting in the County, and an interest in data showing how many trees have been removed, protected, and planted.

Community Resilience & Climate Equity

Community members emphasized the importance of taking action to address climate justice by including climate solutions for vulnerable communities that are disproportionately impacted by climate change. The major concerns community members voiced were around climate change impacts having disproportionate impacts on BIPOC communities and the needs around food security, affordable housing, green jobs, emergency resources, renewable energy sources, reliable public transportation, and access to green space that make BIPOC communities more vulnerable to climate change impacts. Community members voiced that the County needs to do more outreach, in-language communication, and partnering with frontline communities, as well as engaging more with youth to provide education and opportunities. Partnering with frontline communities is important to community members, and participant emphasized that King County needs to include BIPOC voices in discussions that inform policies and programs that have a high level of impact on BIPOC communities. Many community members underscored the importance of including youth voices in climate action and proposed that King County partner with K-12 schools and youth-serving organizations to educate students on climate impacts and provide opportunities to youth to be involved in the decision-making process (e.g., internships).

Preparing for Climate Impacts

Community members shared heightened concern around extreme climate events, such as sea level rise and wildfires, due to the increasing frequency of these events. To increase community preparedness, residents are interested to see the County engage and educate property owners, developers, and community members to increase understanding of the potential impacts and better equip the community to prepare. Community members also shared comments around the creation and endorsement of policy-related climate action plans, especially options that push for all King County cities to adopt climate plans and be accountable for upholding them.

Climate Change & Health

Key concerns raised by community members related to air quality, food and nutritional security, and health equity. With the increased frequency of wildfires, smoke has exacerbated air quality in the region during fire events, worsening existing respiratory issues. Food and nutritional security were also raised as pressing concerns. Residents want access to nutritional food, especially in the event of food shortages (e.g., due to chronic effects of climate change, or acute events like a pandemic). Many residents worry about negative health consequences of food shortages at food banks, a crosscutting health equity concern. Those who will be most impacted by the outcomes of climate change are frontline communities. Residents asked, “How can the County address this inequitable distribution of effects so that all residents of King County can live a healthy life?”

Summary of Feedback Themes from County Staff Engagement

In addition to providing technical expertise and input into the topics described above in the community input summary, King County Staff engagement yielded six priority areas for collaboration. Collectively, these ideas and themes provided strategic insight into how the County should work to reduce climate change risks to King County communities, natural systems, and County operations and services.

1. Integrate climate change information across County processes.
2. Invest in research and technical studies to inform climate preparedness decisions.
3. Move forward on early implementation actions that reduce risks.
4. Strengthen internal and external partnerships.
5. Increase outreach, engagement, and technical assistance to residents.
6. Follow through on committed actions to reduce disproportionate impacts of climate change on frontline communities.

Appendix VI Endnote

1 King County. (May 2011). Community Engagement Guide.