Section: Reducing Greenhouse Gas Emissions

Table of Contents

Section Highlights and Priorities 39

Introduction 41

Focus Area 1: Greenhouse Gas Targets and Policy 46
- Introduction 47
- Countywide 48
- County Operations 55

Focus Area 2: Transportation and Land Use 60
- Introduction 62
- Countywide 67
- County Operations 84

Focus Area 3: Building and Facility Energy Use 90
- Introduction 91
- Countywide 95
- County Operations 106

Focus Area 4: Green Building 114
- Introduction 115
- Countywide 116
- County Operations 125

Focus Area 5: Consumption and Materials Management 135
- Introduction 135
- Countywide 140
- County Operations 147

Focus Area 6: Forests and Agriculture 153
- Introduction 154
- Countywide 159
- County Operations 166

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GHG Section Highlights and Priorities

Focus Area		Goal	Highlights and Priorities
Greenhouse Gas Targets and Policy 1	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 2	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 3	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.

GHGs by 2030

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)*	Support/ Advocate	Public Priority K4C
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)*	Implement Convene Support/ Advocate	Public Priority Fast Start Climate Equity
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)*	Implement Convene	Public Priority Fast Start K4C

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*)	Implement Convene Support/ Advocate	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" analys is shown on page 54 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

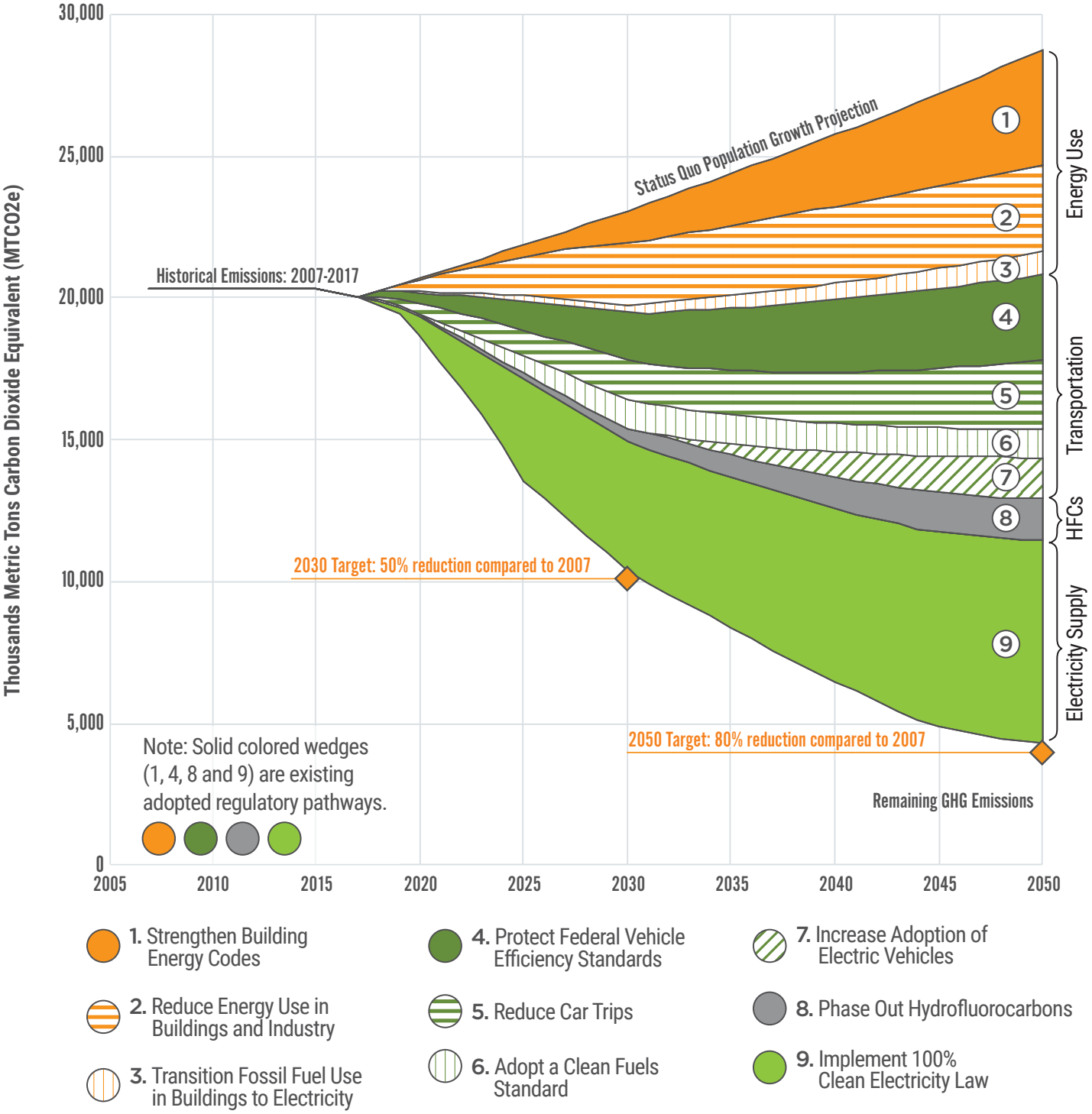
Performance Measure GHG 1 – Countywide GHG Emissions	
Target	Reduce countywide sources of GHG emissions, compared to a 2007 baseline, by 25% by 2020, 50% by 2030, and 80% by 2050. Pursue additional goals and actions to sequester carbon and reduce emissions from consumption of goods and services. K4C
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

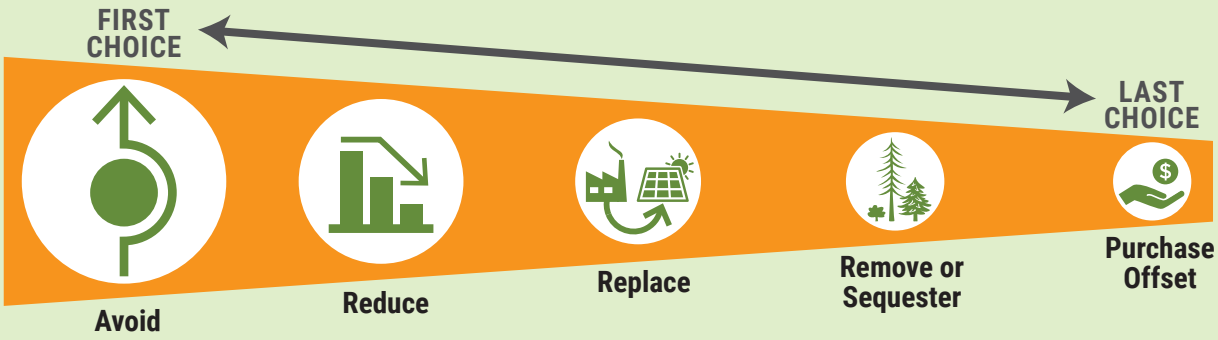
Strategy GHG 1.4. Measure and report GHG emissions			
	Priority Actions	**King County Role**	**Connections and Considerations**
GHG 1.4.1	**King County shall assess and publicly report on its normalized and total energy usage and total GHG emissions associated with county operations,** consistent with 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.

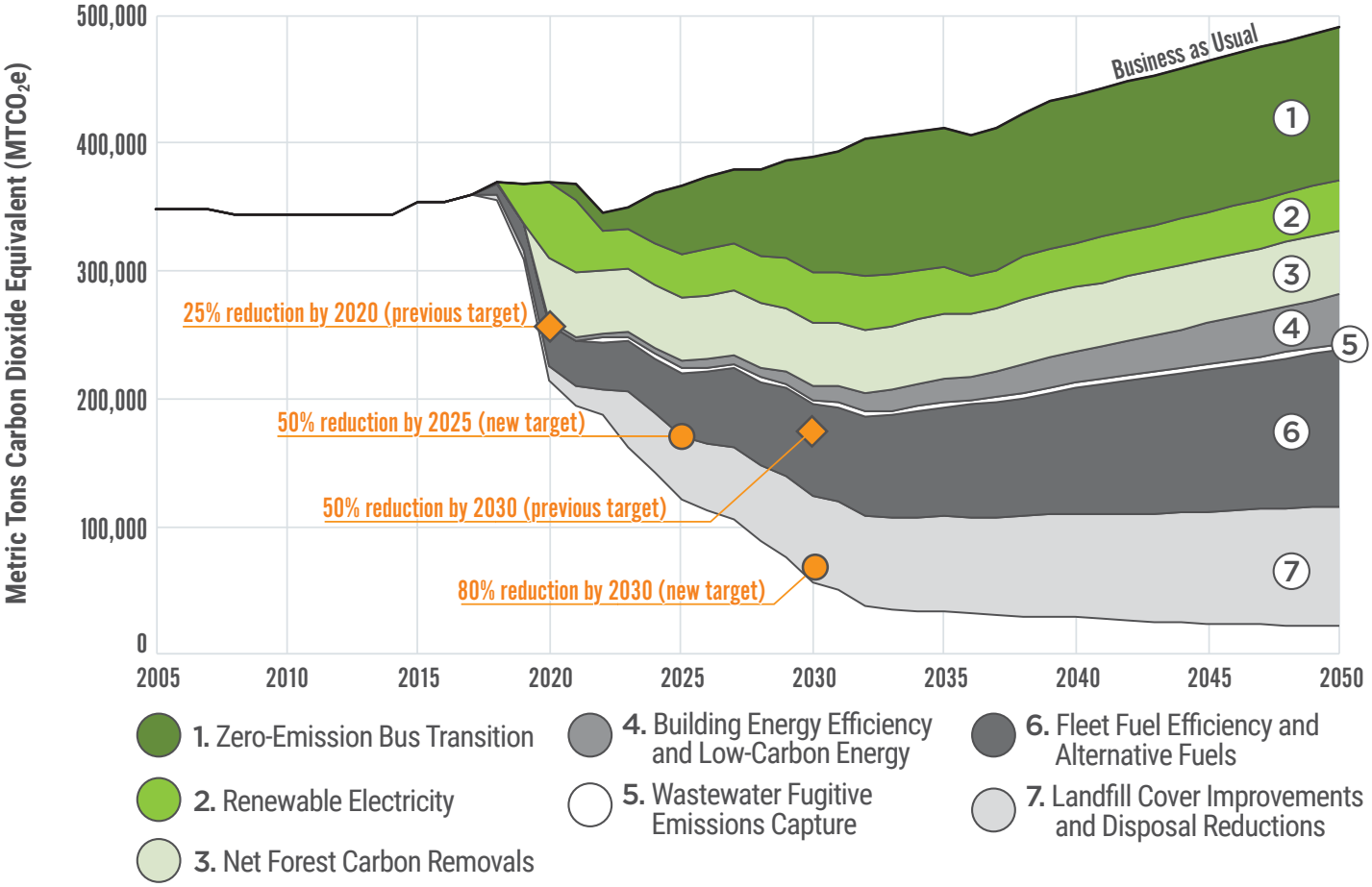
With the 2020 SCAP, the County clarifies its priorities for GHG emissions reduction tactics and is including guidance and policy related to the County's sale and use of renewable energy, carbon offset, and related attributes. Details are included in Strategy A.16 of the Appendix V: Operational Energy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

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

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.

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.

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.

Passengers aboard King County Metro Transit.

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.

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

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.

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.

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.

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

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

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. Improve access to mobility.			
	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

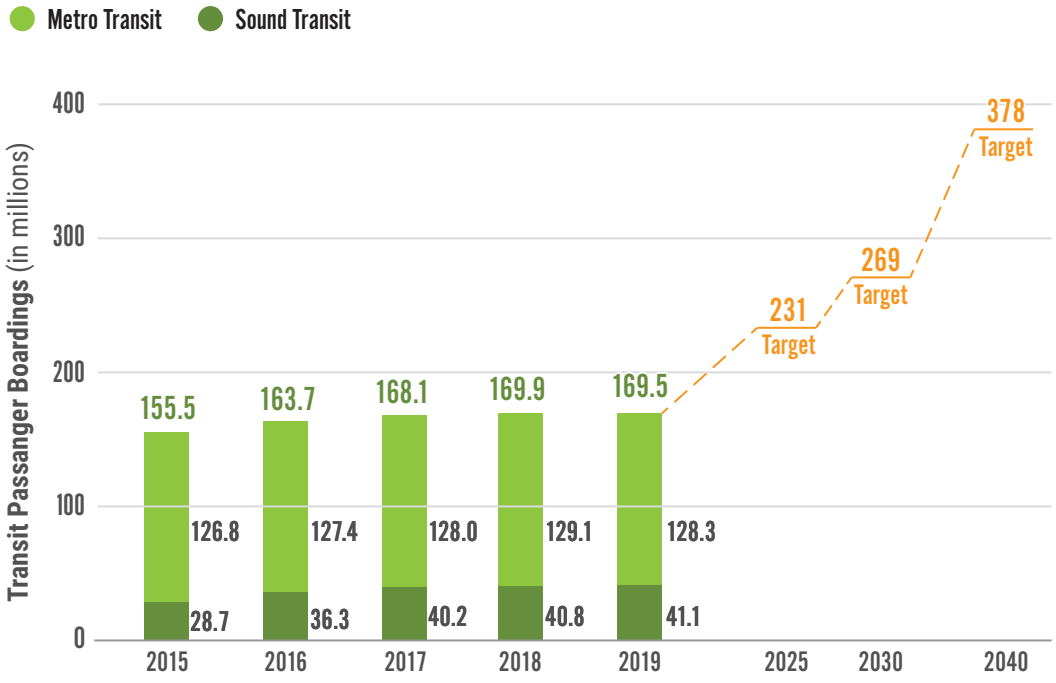
Launch of Via to Transit on-demand shuttle in south Seattle.

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.

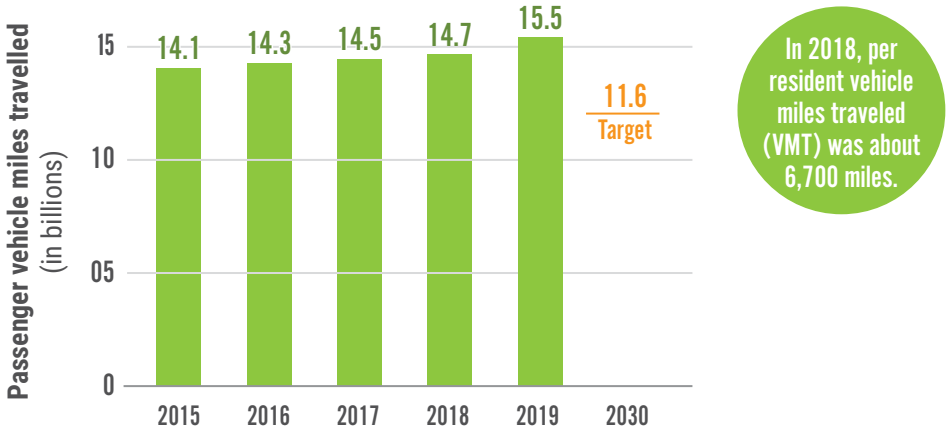
Transit ridership increased by 9% or nearly 14 million passenger boardings between 2015 and 2019.



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 K4C
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.

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.

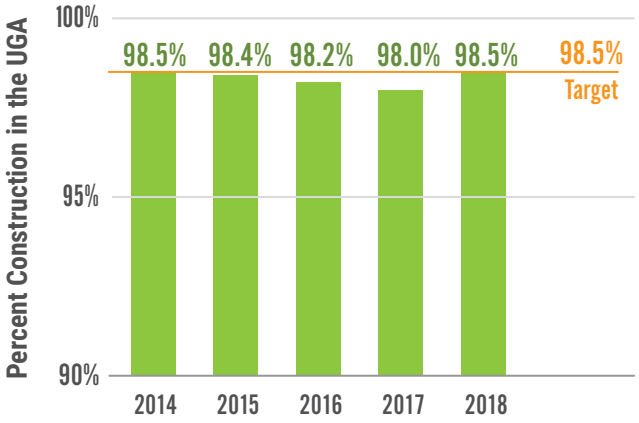
Priority Actions	King County Role	Connections and Considerations
GHG 2.8.2 **Implement the Land Conservation Initiative efforts to address open space inequities.** The Land Conservation Initiative includes urban green space as a key conservation target, prioritizing areas with limited park access. Areas 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.



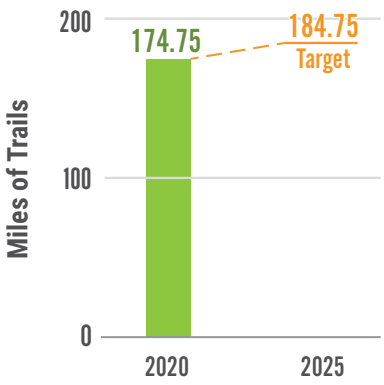
Farm in East Renton, WA

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(s) 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 K4C
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. K4C
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.

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 GHGs by 2030 Carbon Neutral Public Priority

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

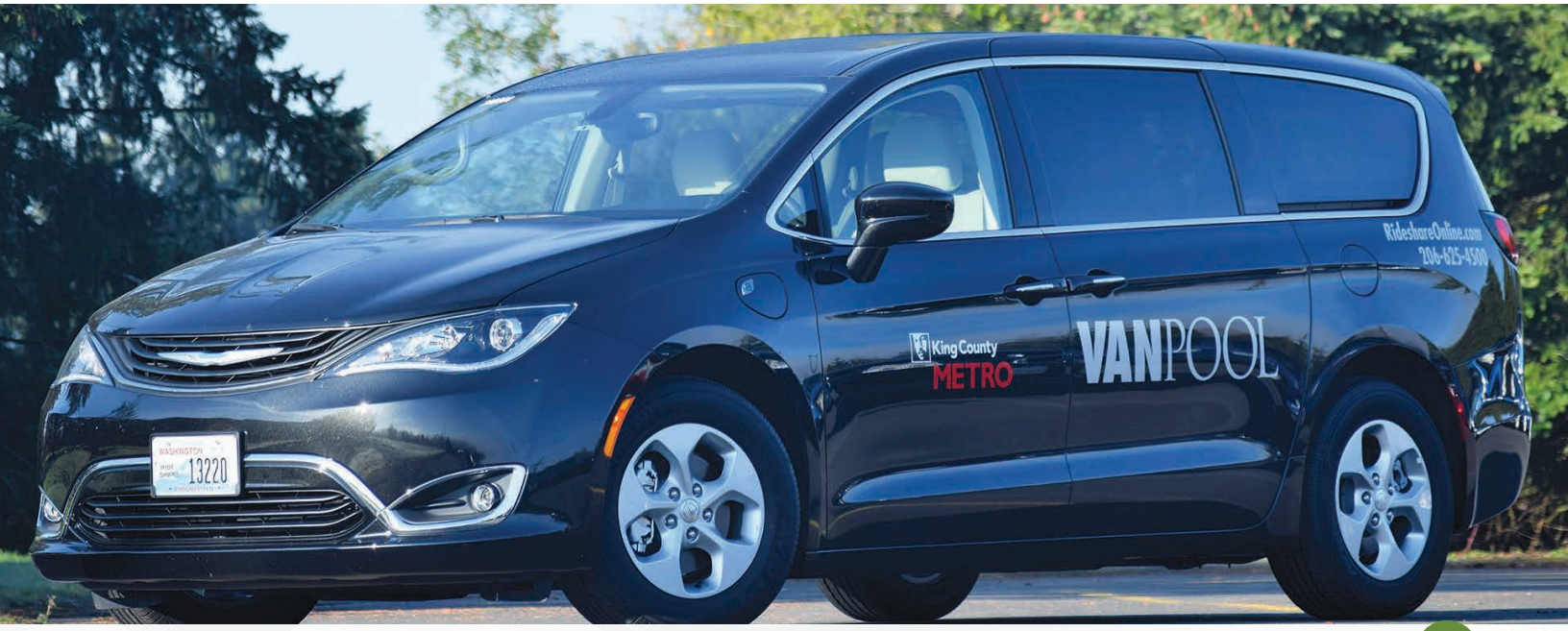
Priority Actions	King County Role	Connections and Considerations
GHG 2.12.2 **Expand the use of alternative fuels when electric vehicles are not feasible.** • Explore options to use renewable diesel and gasoline or other biofuels. *(Metro, DES, SWD)* • Explore options for expanding the use of alternative 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 (GHGs by 2030)
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

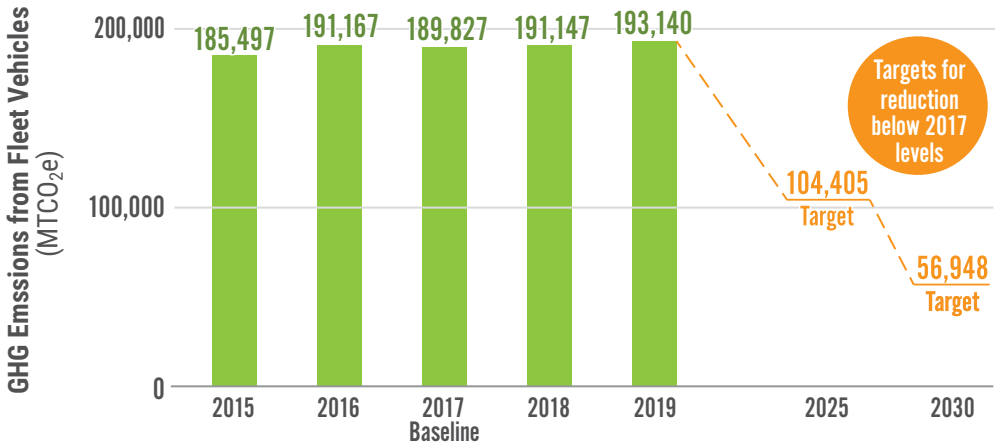
Battery electric buses charging at Eastgate Park-and-Ride.

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*.

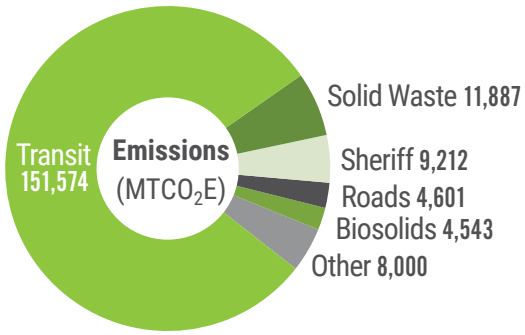
GHGs by 2030
Carbon Neutral

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 are transitioned to electric by 2025 and 100% by 2030; and • 150 electric vehicle chargers installed at County facilities by 2030. GHGs by 2030 Carbon Neutral
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.

Climate Equity

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.

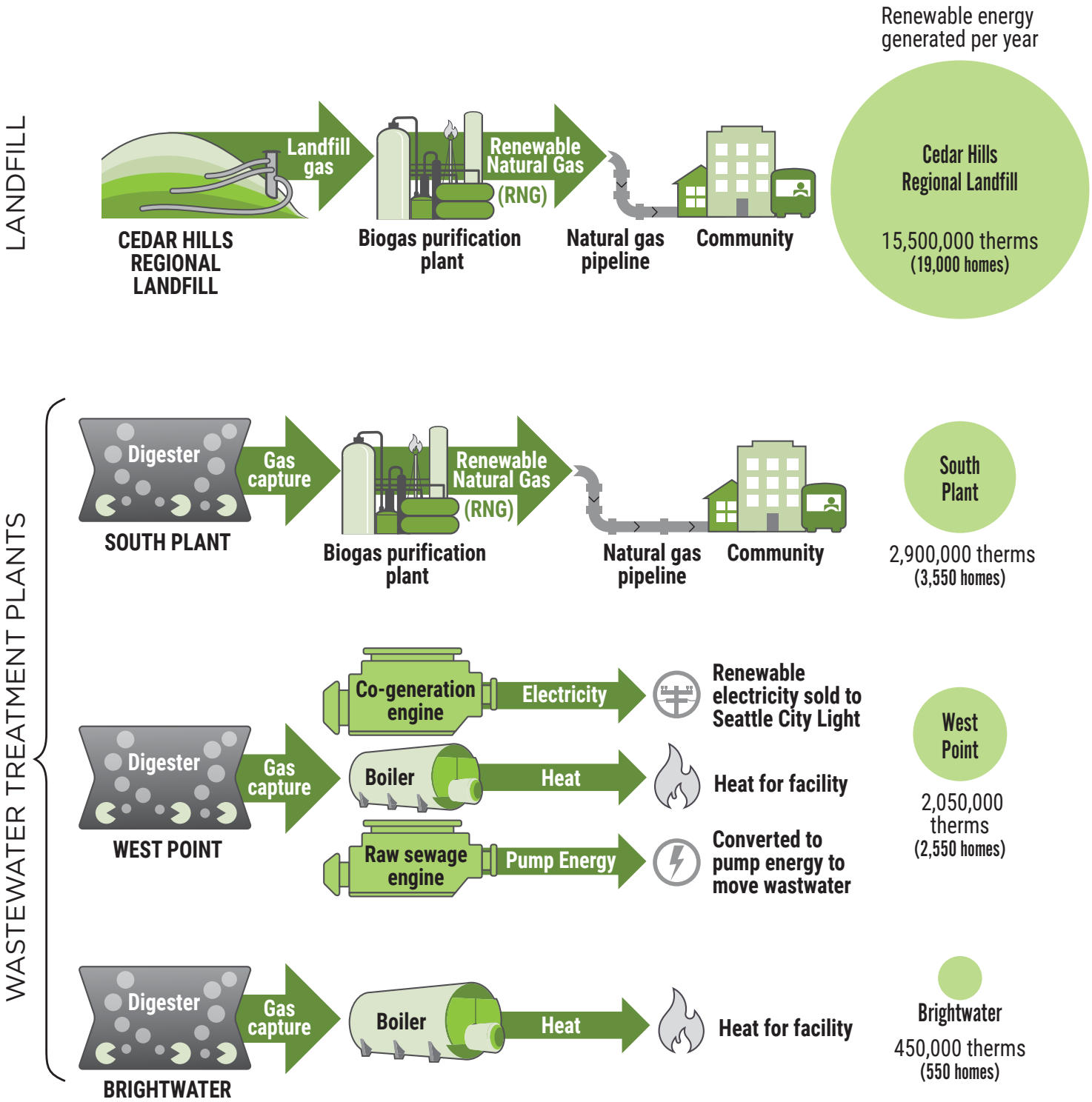
As electricity supplies become cleaner, a greater level of emphasis is being placed on reducing the consumption of carbon-based fuels through efficiency and the conversion away from natural gas, oil, and propane heating systems in homes and other buildings. Electric heat pump and heat recovery technologies 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	

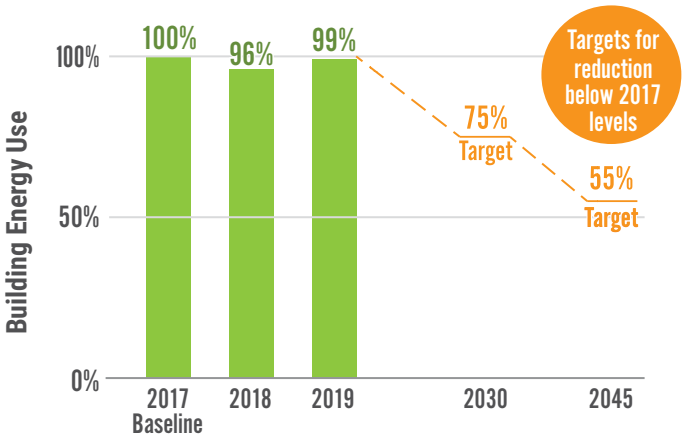
Strategy GHG 3.3. Strengthen building codes for new construction to set the framework for long–term energy savings.

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.

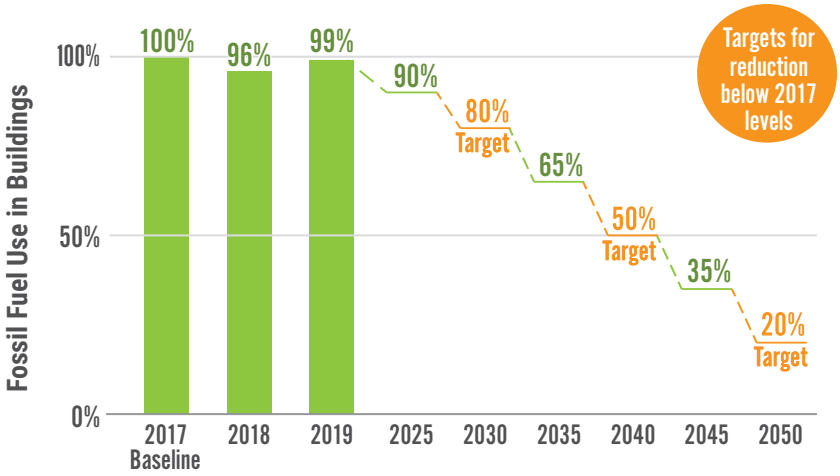
GHG 3.7.1	**Support the adoption of a statewide or regional low carbon fuel standard that gradually lowers pollution from transportation fuels and legislation that supports the production and use of renewable fuels.** *(KCEO)*	Support/ Advocate	K4C
GHG 3.7.2	**Seek to increase production of biogas at 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

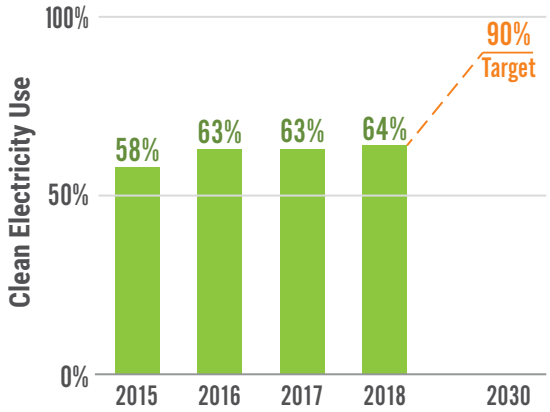
In 2018, King County's electricity supply was 64.4% renewable, a slight increase from 63% in 2017. Distributed generation, primarily solar, reached 57MW in 2019, up from 36MW in 2017. With solar incentives declining, the County needs to promote the benefits of local distributed ownership. Energy storage 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.

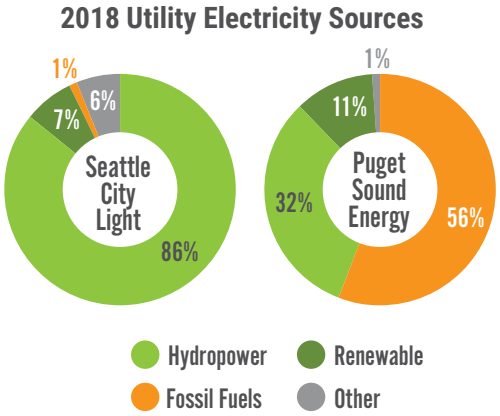
Quantifying GHG Reductions

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

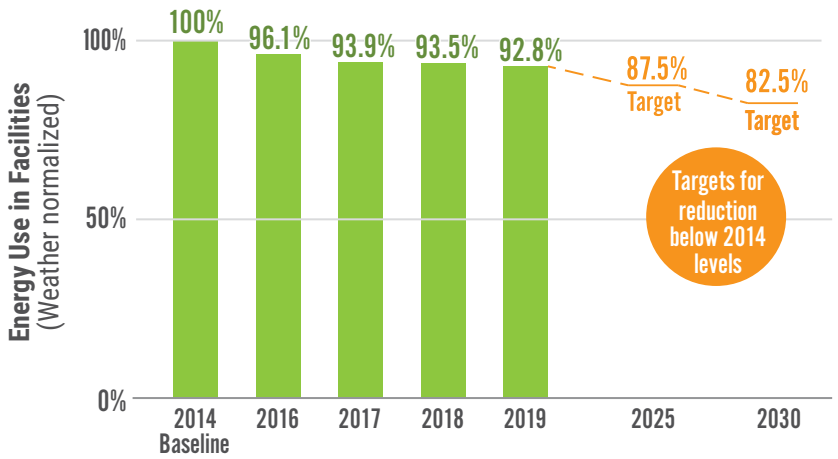
A 2019 upgrade of the "membrane bioreactor" (MBR) at the Brightwater wastewater treatment plant is saving the facility over 2,000,000 kilowatt-hours of electricity each year. The MBR process is a crucial step in creating the high-quality effluent (treated wastewater) produced at Brightwater.

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; GHGs by 2030 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; GHGs by 2030 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 GHGs by 2030 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 GHGs by 2030 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	GHGs by 2030 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	GHGs by 2030 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	GHGs by 2030 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	GHGs by 2030 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.

Performance Measure GHG 17: Greenhouse Gas Neutral Electricity	
Target	Produce renewable energy equal to 100% of total County government net energy requirements by 2017 and each year thereafter, excluding the public Transit fleet. GHGs by 2030 Carbon Neutral
Current Status	As of mid-2020, 100% of the County's operational electricity use is GHG neutral.
Quantifying GHG Reductions	The GHG benefits associated with this target are quantified in *County Operations Wedge #2 – Renewable Electricity.*

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

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.

Climate Equity

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 Regional Code Collaboration *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.*	K4C Public Priority
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

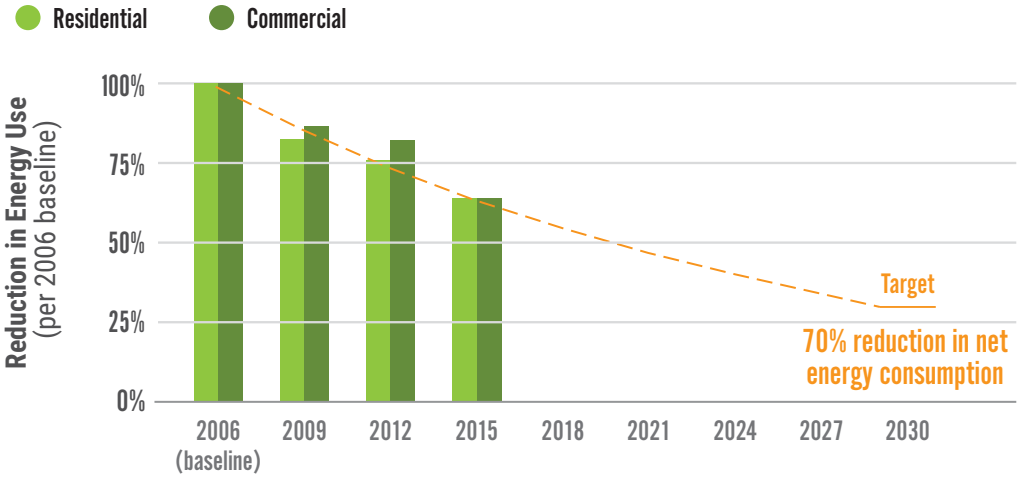
Strategy GHG 4.5. Exercise Metro's commitment to advance equity and strengthen transit-oriented communities, prioritize the development of affordable housing as a key component of transit-oriented development projects on County-owned land, and implement sustainable building practices.

	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.*

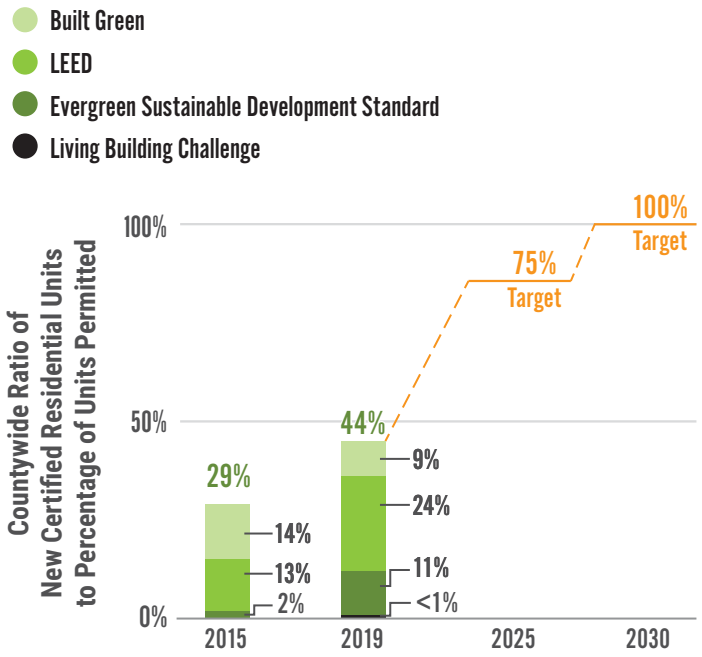
WASHINGTON'S ENERGY CODE IMPROVEMENT GOALS



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%.

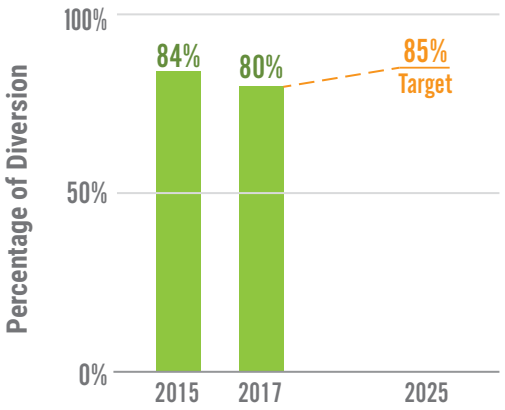
GREEN BUILDING RESIDENTIAL CERTIFICATION



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.

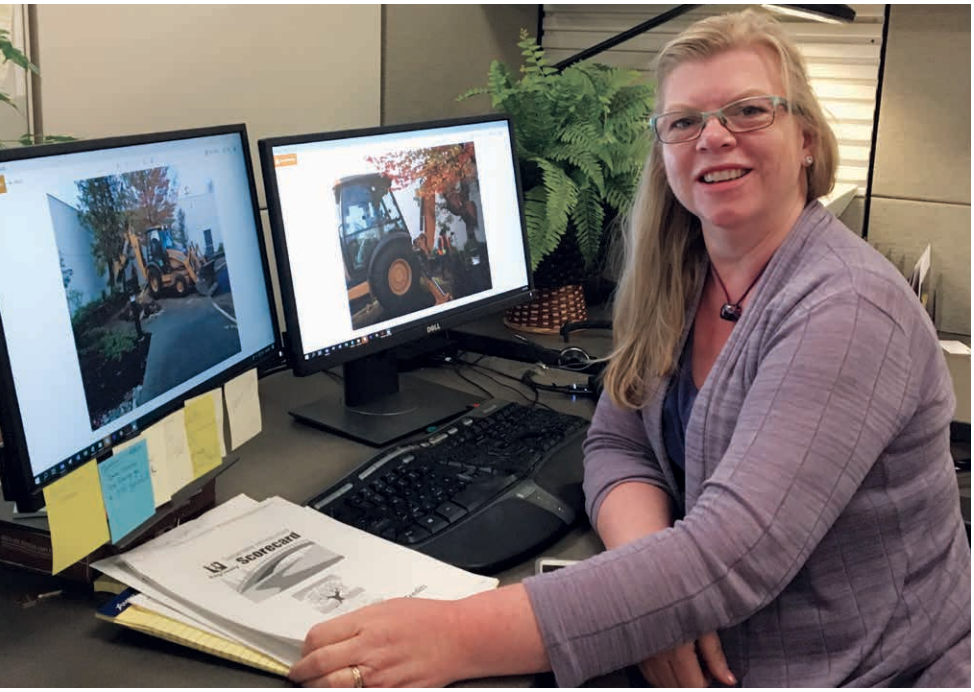
	Priority Actions	King County Role	Connections and Considerations	
GHG 4.7.1	**Implement the King County Green Building Ordinance.** Require all County capital projects to meet a Platinum level using the LEED rating system or King County's Sustainable Infrastructure Scorecard, or an approved alternative 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.



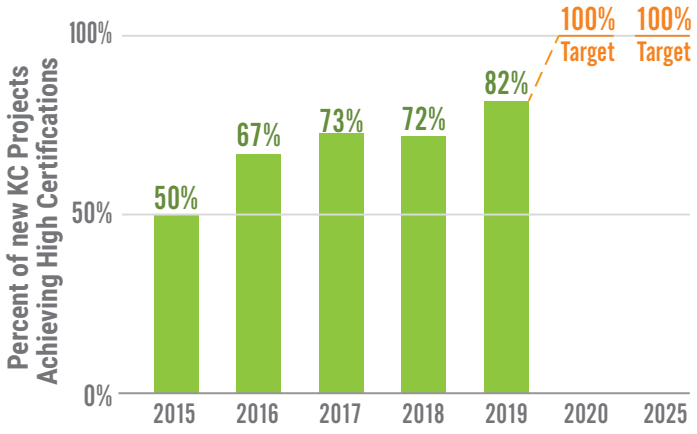
Metro Transit project teams are implementing efforts to achieve the highest green building standards.

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.

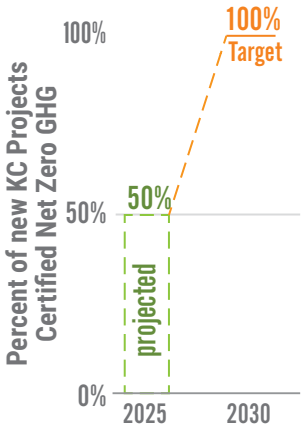
Performance Measure GHG 21: Green Building Performance and Certifications	
Target	By 2020 and each year thereafter, 100% of County capital projects achieve Platinum certification using LEED or Sustainable Infrastructure Scorecard or better. By 2030, 100% of King County new construction and whole building 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

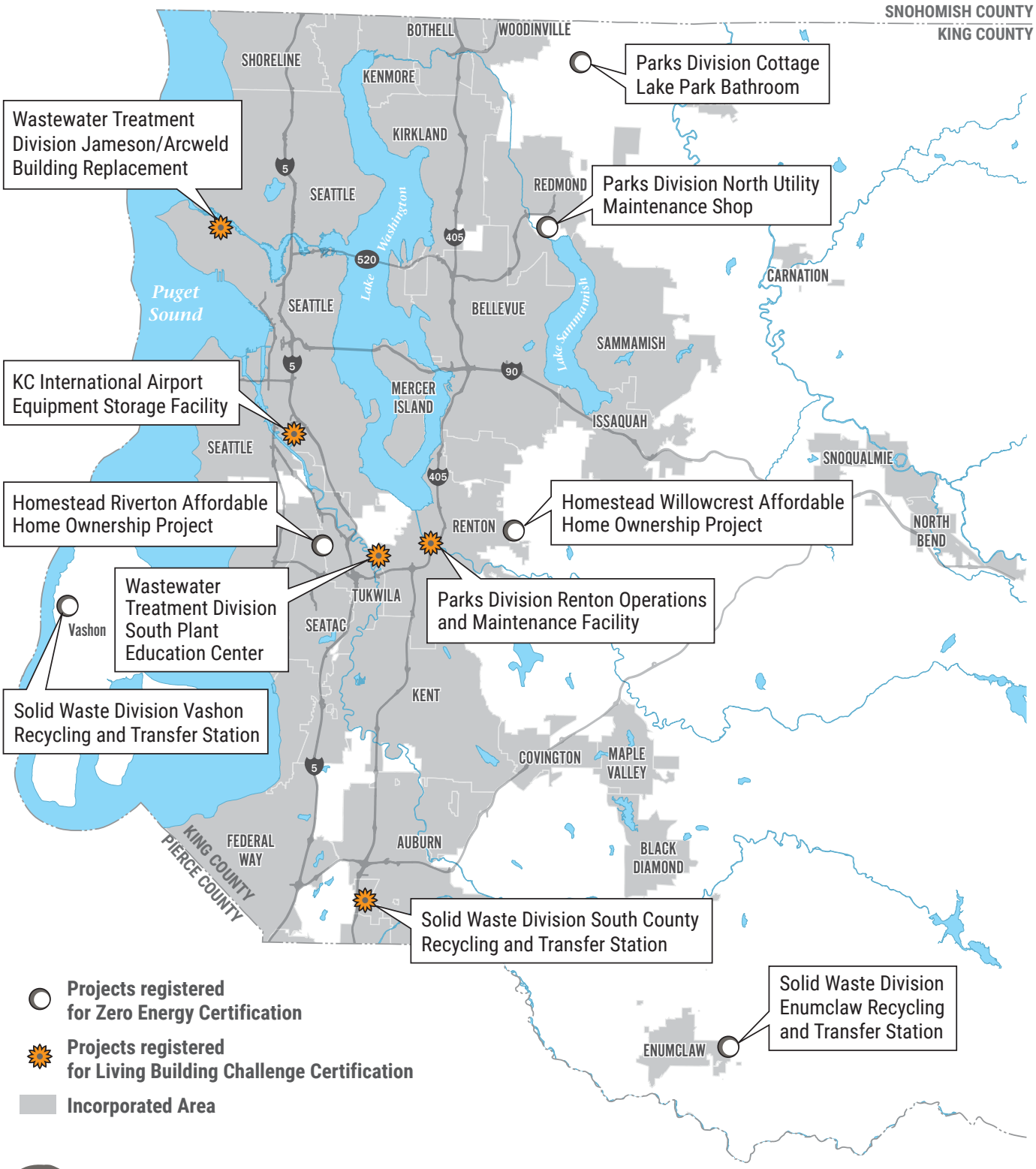


Target: 100% of new projects certified net zero GHG emissions by 2030



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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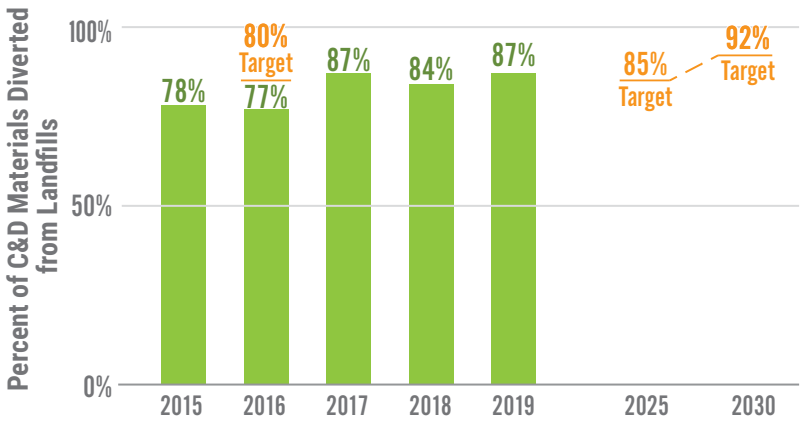
Performance Measure GHG 22: Construction and Demolition Materials Recycling	
Target	Minimum 80% C&D materials diverted from landfills from County capital projects; 85% diversion by 2025; and zero waste of resources with economic value by 2030.
Current Status	For the completed projects in 2018 that reported 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:	Implement	GHGs by 2030 Carbon Neutral; Climate Equity

- 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)*

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.

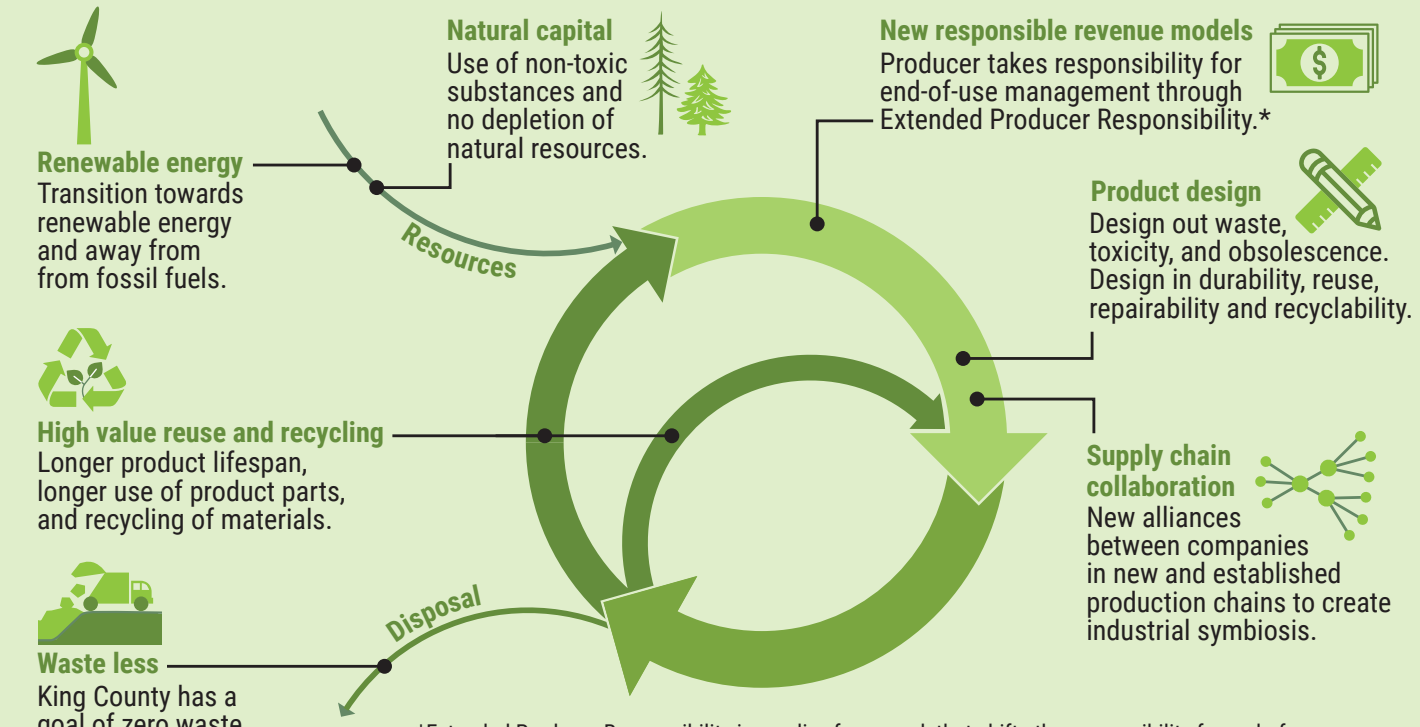
As demand for food, energy, transport, and goods increase with a growing population, higher living standards and increasing prosperity, then so does the inevitable demands on the natural environment. Here in King County, even as local sources of GHG emissions have stabilized, the total emissions emitted 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 GHGs by 2030 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	GHGs by 2030 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.

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)*

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

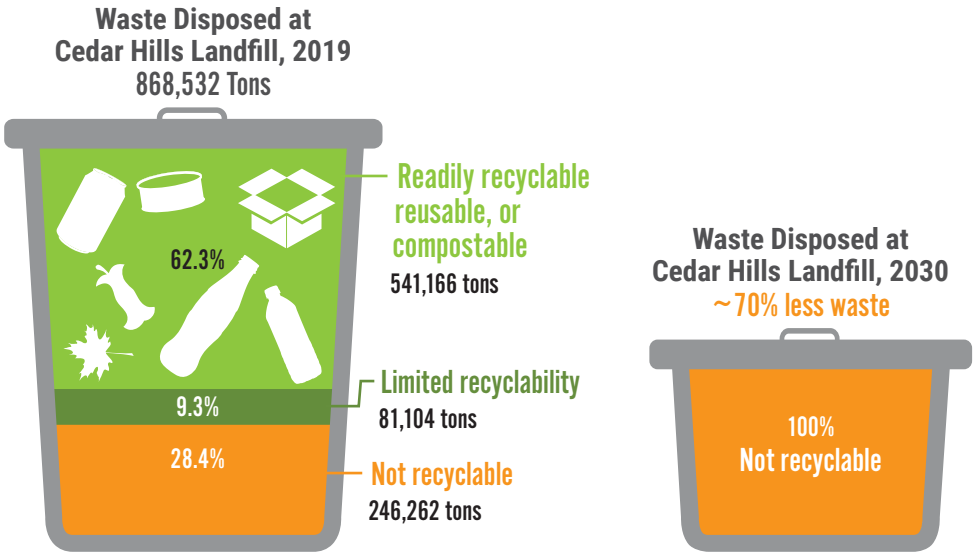
Priority Actions	King County Role	Connections and Considerations
GHG 5.2.2 **Support the transition to a reusable wood market.** Under the current building development practices, buildings are constructed out of new materials and then demolished, with the demolished wood combusted as a one-time energy 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.

ZERO WASTE OF RESOURCES BY 2030



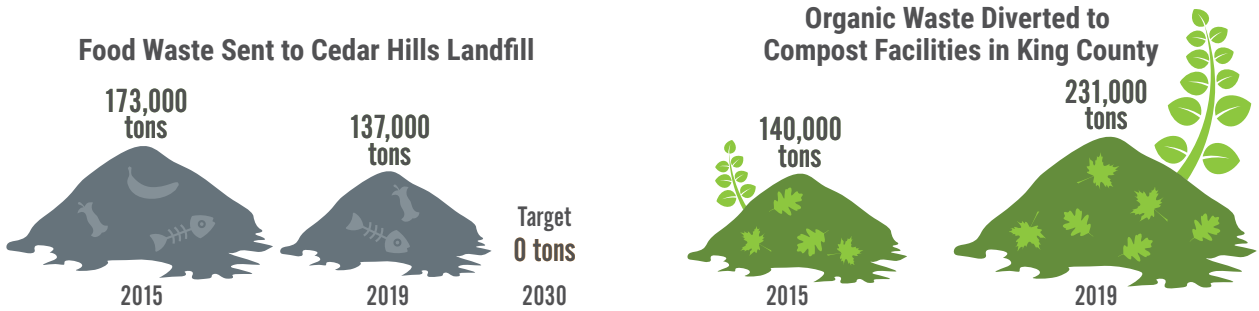
King County's Food: Too Good to Waste program has developed effective food waste prevention messaging, strategies, and award-winning online outreach for residential audiences.

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

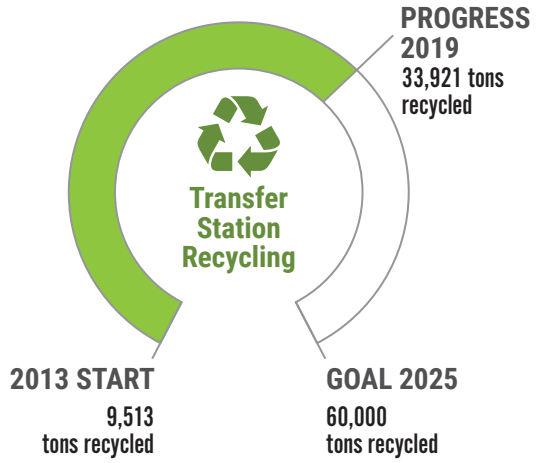
To reduce the amount of recyclable materials in the landfill, King County's Sort It Out program asks self-haul transfer station and drop box customers to place selected materials in designated recycling bins or areas at facilities.

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

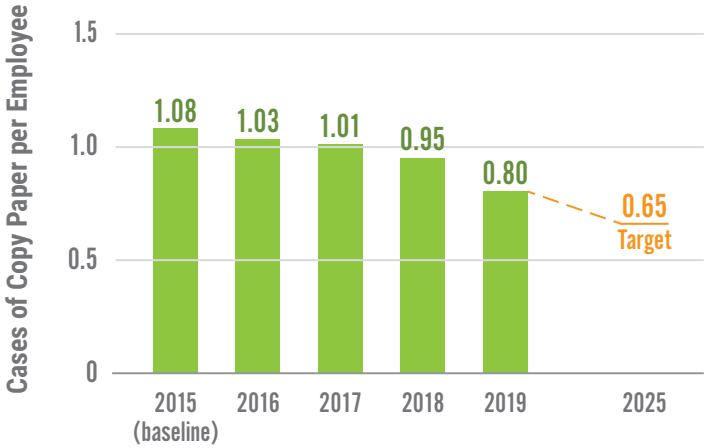
The surplus and reuse programs within Metro, Fleet, and Roads reuses over 5,000 items each year and recycles specialized materials.

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.

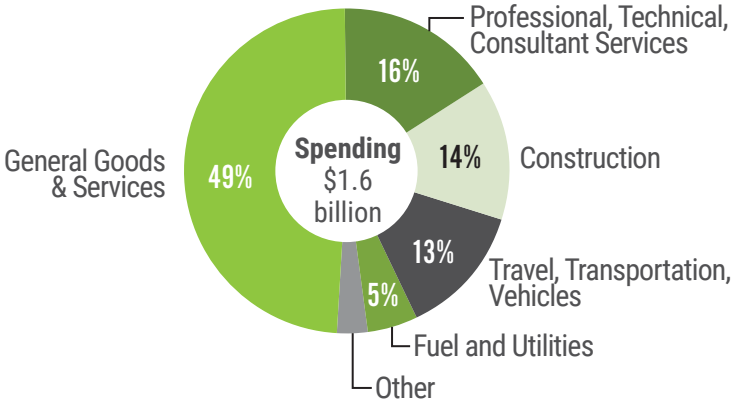


CATEGORY: SUSTAINABLE PURCHASING

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.

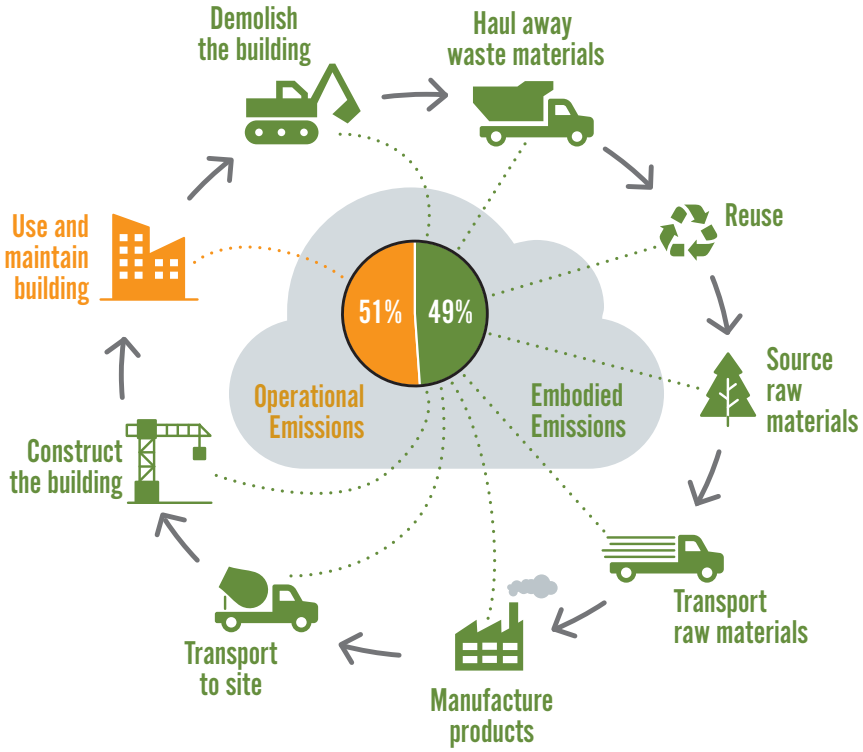
Priority Actions	King County Role	Connections and Considerations
GHG 5.7.2 **Build markets for compost and other recycled content materials.** To achieve a circular economy, to improve the health of the recycling system and to achieve the maximum GHG reductions, materials that enter the recycling stream 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)

GLOBAL CARBON EMISSIONS OF NEW CONSTRUCTION 2020-2050



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

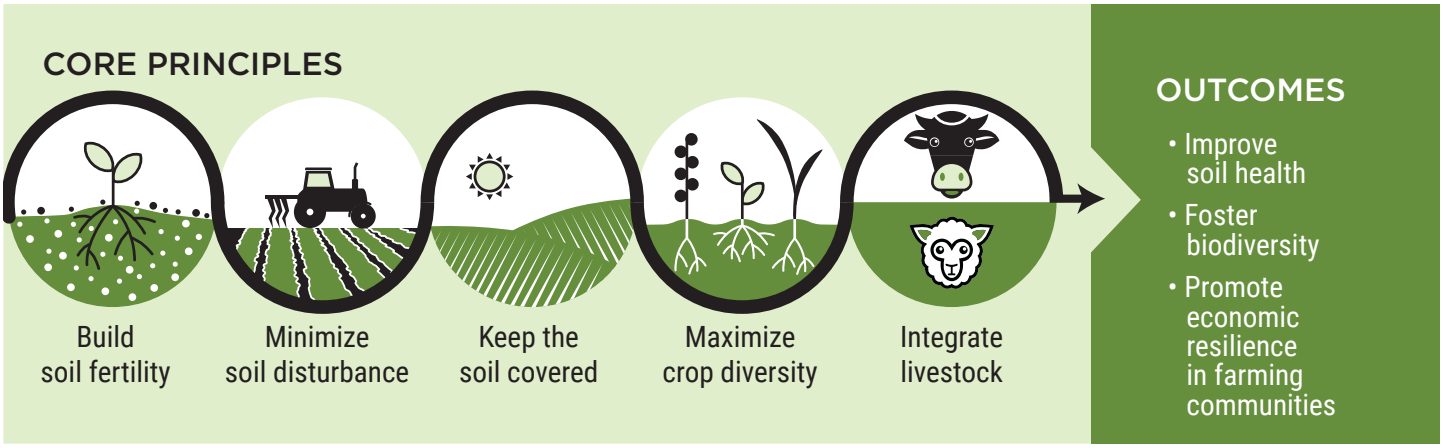
There are more than 811,000 acres of forest land in King County, which equates to approximately 60 percent of the County. Total forest cover is even greater because that estimate does not include all rural and urban residential tree cover. Although sequestration rates vary greatly depending on dominant 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

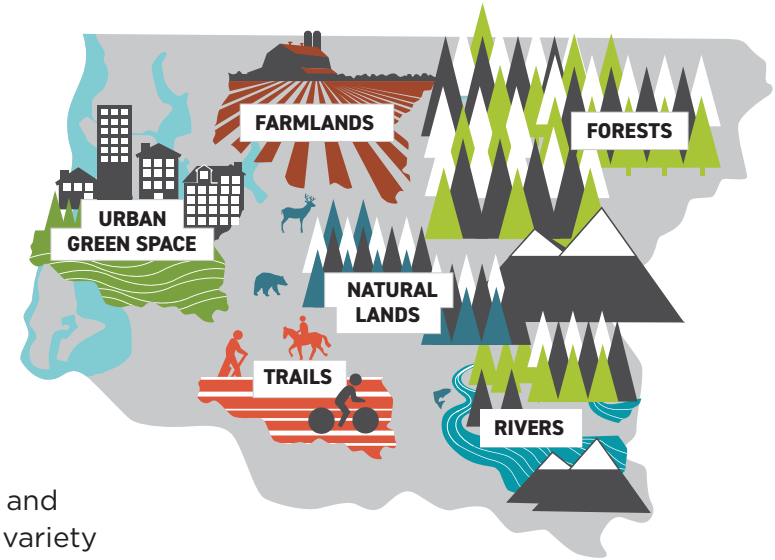
Goal: Protect additional high-value forests and farmland; expand total area of forest cover and actively farmed land; and restore health, viability, and climate resilience of forests and farmland.

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).

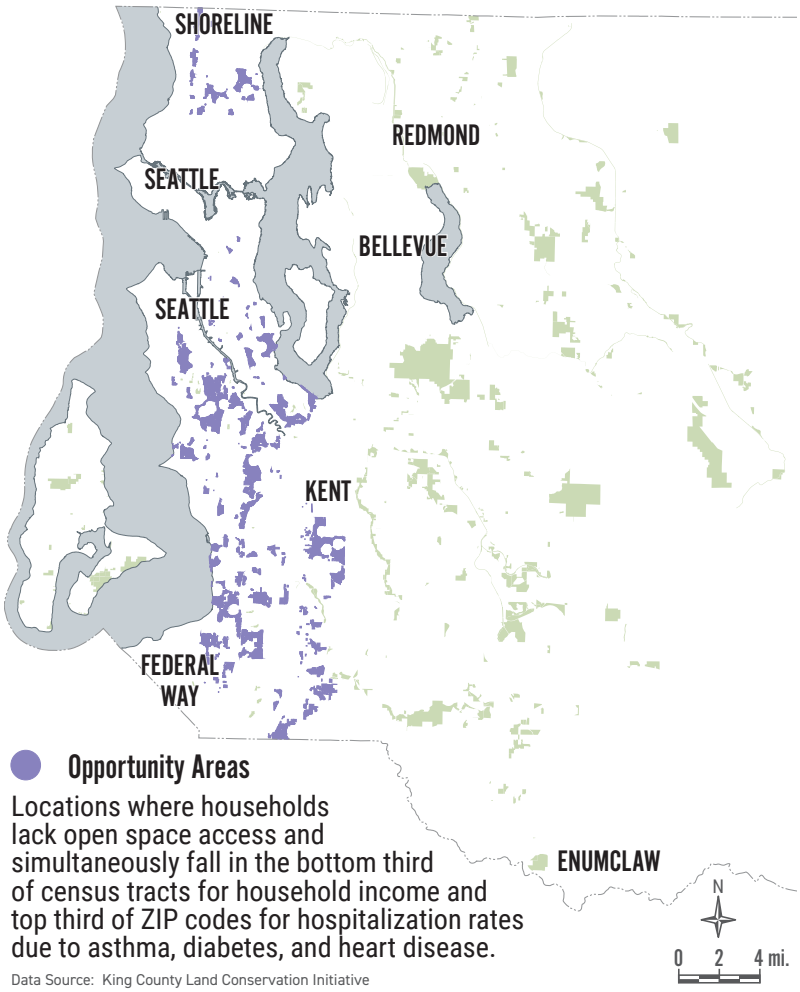
	Priority Actions	King County Role	Connections and Considerations
GHG 6.1.1	**Sustain accelerated pace of acquisitions realized in 2019 to meet LCI acreage targets.** King County tripled the amount of open space conservation funding awarded in 2019 based on new financing tools approved through the LCI. 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



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

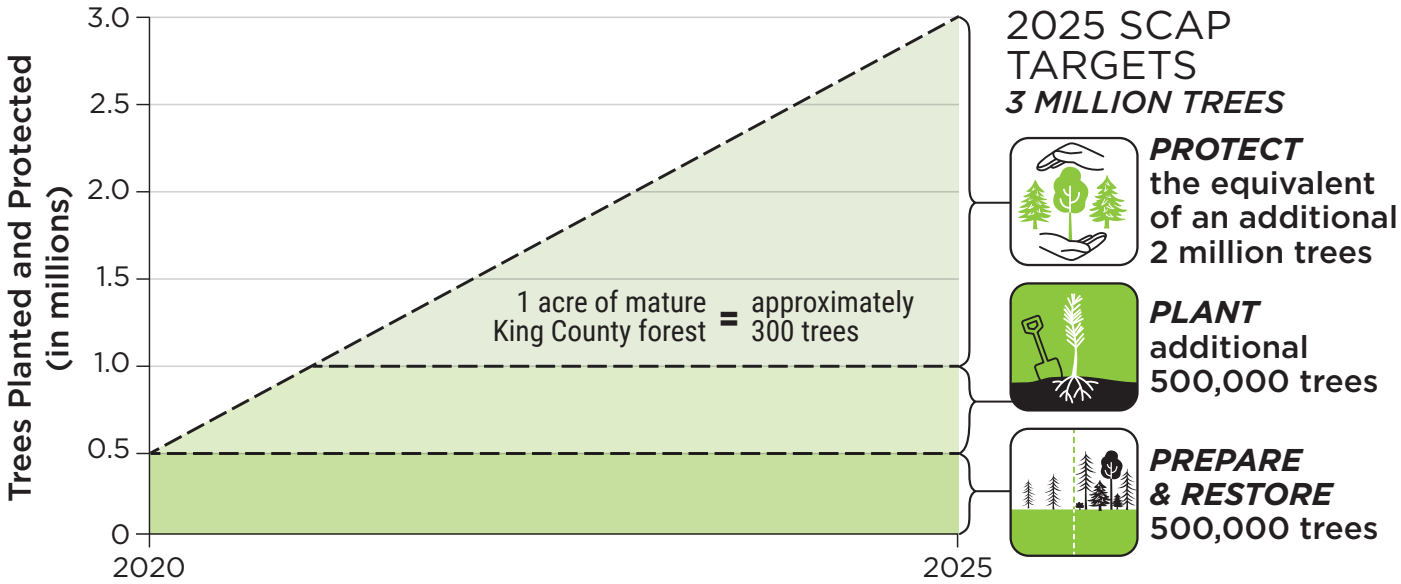
Strategy GHG 6.3. Assess, prioritize, and plan projects to maximize the carbon sequestration potential of County-owned lands.

	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:

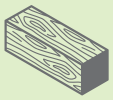
- **Climate:** Forest carbon storage and forest resilience
- **Human health:** Air quality, shade/lower temperatures, green space access
- **Rural forest health:** Maintenance, restoration, and resilience
- **Salmon (and wildlife) habitat:** Ecosystem benefits for salmon, orcas, and other species
- **Sustainable 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.

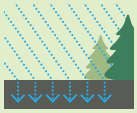
Enhancing salmon and other wildlife habitat.



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 38: 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.)