



Mt. Rainier National Park

Sustainability 2030:

**Pierce County's
Greenhouse Gas
Reduction Plan**





Land Acknowledgement

It is our intent to start this plan in a good way, a right way. We acknowledge that the land now identified as Pierce County has for thousands of years been the traditional territory and home for the Puyallup, Nisqually, Squaxin Island, and Muckleshoot people.

Today, this land is still home to these four federally-recognized tribes. We respectfully recognize the Puyallup, Nisqually, Squaxin Island, and Muckleshoot people as past, present and future guardians of this land both culturally and legally, as evidenced by their respective treaties.

We acknowledge these Tribal governments and their respective roles today in protecting and taking care of these lands and resources. We are grateful to have the opportunity to live and work here.

With this plan, we commit to working together in stewardship of their homeland where we mutually work and reside.



*We must respond immediately to climate change
and our actions must be bold.*

The Tacoma Narrows Bridge

Introduction

The rapid impact of climate change on our everyday lives is difficult to avoid. The urgent need to take action to combat climate change is supported by science. We see that human and environmental health are impacted by air pollution generated from burning fossil fuels, increasing the risk of disease and threatening the lives of our most vulnerable populations.¹ Fossil fuel pollutants also raise temperatures, leading to a higher frequency of wildfire and flooding events. **We must respond immediately to climate change and our actions must be bold.**

Sustainability 2030: Pierce County's Greenhouse Gas Reduction Plan (Sustainability 2030 Plan) builds on prior County sustainability efforts. In 2010, the County launched a [Sustainability Initiative](#) that met 7 of its 10 internal goals and saved millions of dollars. This initial effort evolved into a [Sustainability 2020 Plan](#), which has resulted in more efficient internal operations and a reduction in GHG pollution.

The State of Washington is calling for a 45% reduction of GHG emissions by 2030, a 70% reduction by 2040 and a 95% reduction by 2050. In alignment with the state mandates, the *Sustainability 2030 Plan* calls for Pierce County to reduce government operational and community wide GHG emissions by 45% by 2030. This plan establishes clear and actionable strategies to ensure we meet this goal through five areas of focus.

The five areas of focus are:

- + **Energy and the Built Environment**
- + **Transportation**
- + **Consumption and Waste Reduction**
- + **Carbon Sequestration**
- + **Education and Outreach.**

This work is complex and requires focus and innovative leadership from elected officials, County employees and community members. Together, we can make a difference today and for future generations!

Embedding Equity in GHG Strategies as part of Pierce County's Diversity, Equity and Inclusion Initiative

Pierce County recognizes the importance of ensuring underrepresented communities are included in the prioritization, implementation and future updates of *Pierce County's Sustainability 2030 Plan*. To reduce greenhouse gases (GHG) in Pierce County, we are committed to ensuring that these changes result in a more equitable Pierce County. Additionally, we must better understand and address the health and economic disparities within Pierce County.

In order to perform the necessary work around environmental equity, we will conduct an environmental equity assessment within the first two years of this plan. This assessment will provide insight on which communities are most threatened by degraded environmental conditions. We will prioritize these communities and work together to develop GHG reduction actions that serve the health of these communities. By 2023, we plan to have a list of community-generated GHG reduction actions to share with the Pierce County Council.

Guiding Principles for Pierce County's 2030 Sustainability and GHG Reduction Plan

The following guiding principles were identified to ensure that Pierce County remains cognizant of the connections between these principles and our desired GHG reduction actions. These six guiding principles were applied to develop the GHG reduction actions:

Fiscal Responsibility: We manage financial resources to meet the present and future needs of residents of Pierce County.

Economic Development: We work toward a sustained and inclusive economic model that creates jobs, attracts and retains businesses, and improves living standards.

Innovation: We recognize sustainability as a key driver of innovation. We embrace the creation, development, and implementation of new ideas, processes, and services that aim to improve efficiency and effectiveness.

Equity: We consider equity and social justice impacts in all decision-making, promote fairness and opportunity in County government practices and build community and trust.

Vibrant Communities: We act to build safer communities, create a healthier environment, improve access to housing, and improve behavioral health.

Accountability: We behave ethically, act openly and with integrity in all that we do and take responsibility for our actions.



Point Defiance Park

Greenhouse Gas Emissions in Pierce County

Greenhouse gas (GHG) inventories are used to determine the amount of GHG emissions generated within a specific area. GHG emissions result from activities and choices made in Pierce County. For example, driving a car in Pierce County results in direct GHG emissions in Pierce County. However, the process to manufacture the car also resulted in GHG emissions but were generated outside of Pierce County. All emissions are significant and could be tracked, but most often jurisdictions complete geographical inventories focused on the GHG emissions generated within their geographic area. This plan is focused on actions and tracking of emissions occurring within the geographical boundary of Pierce County.

For the purpose of this planning effort, this plan will use the 2015 Puget Sound Clean Air Agency (PSCAA) Greenhouse Gas Emissions Inventory as a baseline for our GHG reduction goal.³

The Sustainable Resources Division within Pierce County Planning and Public Works plans to complete an updated 2019 greenhouse gas inventory in the coming year. Having an updated inventory is essential to track progress and determine necessary next steps.

Pierce County’s largest contributors of GHG emissions are the heating of homes and commercial buildings, driving vehicles, and industrial combustion. While the County’s electricity supply is predominantly clean hydropower, approximately 30% is powered by natural gas and coal. Natural gas heating is common in Pierce County and represents approximately 37% of the residential and commercial emissions.³

Sources of GHG Emissions in Pierce County 2015

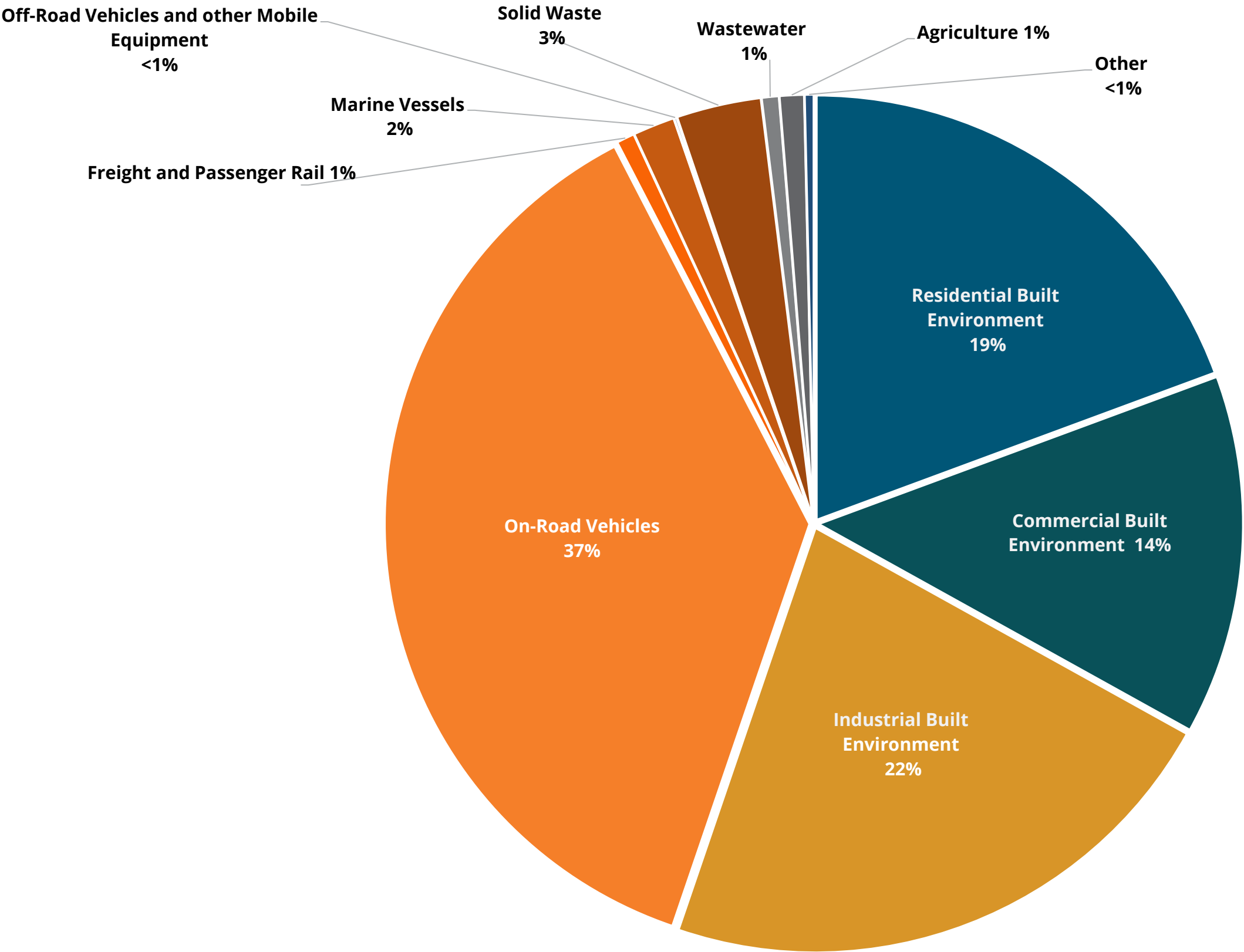


Figure A. GHG Emission Sources for Pierce County (PSCAA)

COVID-19 Impacts

COVID-19 has increased teleworking opportunities for employees which has decreased greenhouse gas emissions from commuting. Employees have adjusted to using electronic platforms for note taking, document sharing and more. Ensuring all employees have the proper resources and training on paperless tools will aid in reaching our reductions goals.

With heightened health and safety precautions more County fleet vehicles may be on the road as number of passengers allowed in the same vehicle are limited. The use of public transit has decreased significantly since the beginning of COVID-19 due to increased teleworking and health safety concerns. We truly will not be able to assess all the impacts of COVID-19 until the pandemic is over.

Climate Impacts in Pierce County

Greenhouse gas (GHG) emissions trap heat and are the leading cause of temperature rise. Between 1895 and 2011, the Pacific Northwest warmed by +1.3° F. The significant impacts from this warming have been experienced in all seasons.² With temperatures increasing at this rapid rate we have experienced detrimental impacts on our economy, environment, and our health.

In Pierce County we are experiencing increased flooding events, acidification of Puget Sound, reduced snowpack, increased landslides and more forest fires.² These destructive and life altering events not only impact the environment but have lasting effects on human health and the economy.

The "Climate Impacts in Pierce County" graphic outlines nine environmental impacts that our region must be prepared to address. The financial costs to repair or replace existing infrastructure from these climate related events are significant.

Climate Impacts in Pierce County



1. SEA LEVEL RISE

Expected sea level rise, depending on future global trends in greenhouse gas emissions and glacial melt rates. [a]

- + up to 6 inches by 2030
- + up to 15 inches by 2050
- + up to 57 inches by 2100

2. OCEAN ACIDITY

Ocean acidity is projected to increase 38–109% by 2100 relative to 2005 levels [b]. Acidic conditions are particularly of concern to the shellfish industry in Puget Sound, which depends on good water quality to grow oysters, clams and mussels.

3. WATER TEMPERATURE

Stream temperatures in the Pacific Northwest are projected to increase by 3°F by 2080. [b] Warmer water temperatures will result in more lake closures and could be lethal to salmonids and other aquatic species.

4. MOUNTAIN GLACIERS & SNOWPACK

Current trends indicate that Mt. Rainer’s glaciers—and other glaciers contributing to summertime stream flows and sedimentation in

Puget Sound watersheds, will continue to melt as temperatures warm.

5. EXTREME HEAT AND WILDFIRE

Depending on worldwide emissions increases, temperatures could increase by 3.1 to 7.2°F by 2080–99, when compared to the average temperature between 1950–1999 [c]. Climate models tell us that extreme heat events will become more frequent, while extreme cold events will become less frequent. Wildfires are expected to increase as temperatures rise and less rain falls during summer months.

6. LANDSLIDES

Landslides are expected to become more common in winter and spring [b] due to projected increases in extreme precipitation events and increasing winter precipitation, particularly in areas most prone to present-day landslides. Changes in landslide frequency and sediment transport can affect water quality, aquatic and coastal habitat, flooding, and relative sea level rise.

7. FLOODING

Flood risk is projected to increase during the fall and winter seasons. Warmer temperatures cause more precipitation to fall as rain over a larger portion of the basin. Less snowmelt will cause the lowest flows to become lower in the summer months.

8. SEDIMENTATION

For rivers originating on Mount Rainier, like the Puyallup, White, and Carbon Rivers, sediment loads are expected to increase. This further contributes to flood risk, as declining snowpack and glacial recession expose more unconsolidated soils to rain, flood flows, and disturbance events.

9. EXTREME PRECIPITATION

Total annual precipitation in the Pacific Northwest is not projected to change substantially, but heavy rainfall may be more frequent and intense. Summer precipitation may decrease. More rain and less snow will fall in the winter. [a]

SOURCES

- [a] Washington Coastal Hazards Resilience Network: Projected Sea Level Rise in Washington State—Appendix A (2018)
- [b] Puyallup Tribe’s Climate Change Impact Assessment and Adaptation Options (2016)
- [c] UW Climate Research Group

Plan Action Guide

Roadmap

Sustainability 2030: Pierce County's GHG Reduction Plan provides a roadmap of measurable and science-based actions. These actions are necessary first steps toward reaching our GHG reduction goal. Each action is evaluated using the following criteria:

- + Greenhouse gas reduction potential
- + Associated co-benefits
- + Implementation timeline
- + Internal (Pierce County operations) or external (countywide) emissions impact
 - Internal actions are those that reduce the County's operational GHG emissions
 - External goals reduce countywide GHG emissions

This plan will require ongoing collaboration and partnership between internal departments, community partners, residents and businesses in order to reach our greenhouse gas reduction goal.

Timeline 2020 - 2030

Looking forward to 2030, this plan outlines actions to be taken in the short and mid-term. Future plan updates will align with the two-year biennial budget cycle. The first update will occur in 2023 for the 2024-2025 biennial budget cycle. The plan will be a living document and revisions will be made every two years or as necessary.

Climate Resilience Plan

This plan works in conjunction with Pierce County's existing [Climate Resilience Plan](#), which focuses on mitigating the expected effects of climate change in Pierce County.

Key Goals

Reduce County government operations and countywide GHG emissions by 45% by 2030.

Reducing GHG Emissions

The following are the areas of focus to reduce GHG emissions in Pierce County:

	Energy & Built Environment	Page 8
	Transportation	Page 10
	Consumption & Waste Management	Page 12
	Carbon Sequestration	Page 13
	Education & Outreach	Page 14



Mt. Rainier from Lake Tapps



Energy & Built Environment

About

Buildings are the most rapidly growing source of GHG emissions in Washington state. While statewide emissions have grown 10% overall since 1990, building emissions have jumped by 50%, more than any other source in our state.⁶

The energy and built environment sector represent 55% of Pierce County's GHG emissions. Residential homes account for 19%, commercial buildings 14%, and industrial buildings account for 22%.

GHG emissions in this sector come from electricity generation, natural gas and petroleum heating. Approximately 70% of Pierce County's electricity comes from hydroelectricity (a low carbon energy source).

- The greatest opportunities to reduce GHG emissions are:**
- + Transitioning the electric grid toward 100% clean energy.
 - + Transitioning to electric heating in homes, commercial and industrial buildings.
 - + Improving land use codes to efficiently utilize land, materials, energy, alternative transportation systems and infrastructure.

- Objectives**
1. Expand clean and renewable energy use.
 2. Improve energy efficiency of homes, commercial buildings and industrial buildings.

TABLE LEGEND	
Co-Benefits	
Enhance Public Health	+
Improve Water Quality	💧
Improve Air Quality	🌬️
Promote Equity	⚖️
Economic Benefits	\$
GHG Impact	
Strong	🟢
Moderate	🟡
Less	🔴
Timeline	
Short-term	2021 - 2023
Mid-term	2024 - 2026
Long-term	2027 - 2030
Internal	External
Action that reduces the County's operational GHG emissions.	Action that reduces county-wide GHG emissions.

Action Identifier	Actions	GHG Impact Scale	Co-Benefits	Timeline	Lead Department	Internal / External	Partners
EBE-1	Review development code for opportunities to increase building energy efficiency, expand the use of clean and renewable energy and increase the installation of green infrastructure.	🟢	🏡 💧 🌬️ ⚖️ \$	Short-term	Planning & Public Works - Buildings, Surface Water Management, Sewer	External	Builders, Utilities
EBE-2	Engage with local utilities to explore fuel switching to electric energy upgrades in homes and commercial buildings.	🟢	🏡 🌬️ ⚖️ \$	Short-term	Planning & Public Works - Sustainable Resources	External	Utilities
EBE-3	Expand incentives for new construction projects that exceed energy efficiency standards with a focus on affordable and multifamily housing.	🟢	🏡 🌬️ ⚖️ \$	Short-term	Planning & Public Works - Planning, County Council, Executive	External	Utilities, State of WA
EBE-4	Develop tools to transition new development to utilize electricity and establish incentives for the replacement of existing low efficiency energy systems associated with building retrofits.	🟢	🏡 🌬️ ⚖️	Short-term	Facilities, Planning & Public Works – Planning, Sewer	Internal & External	Utilities
EBE-5	Develop and implement a building energy conservation program to establish state mandated energy management plans, perform energy audits, train staff in energy management best practices, and implement cost effective energy efficiency projects in County owned facilities.	🟢	🏡 🌬️ \$	Short-term	Facilities, Finance, Planning & Public Works, Parks	Internal	All Departments
EBE-6	Conduct a municipal building electrification study to determine a plan for transitioning all County buildings to clean low-carbon electricity. Use equipment end of life events as a catalyst to move toward electrification.	🟢	🏡 💧 🌬️ \$	Short-term	Facilities, Planning & Public Works, Parks	Internal	Utilities
EBE-7	Collect and review energy performance data on all County owned and leased facilities. Incorporate energy usage reporting requirements into Pierce County's property leasing contracts and use data in budgeting and decision-making processes.	🟢	🏡 🌬️ \$	Short-term	Facilities, Planning & Public Works - Sewer	Internal	All Departments
EBE-8	Leverage Unified Sewer Planning process to identify opportunities and costs for capturing and using biogas with goal of reducing GHG emissions significantly.	🟢	🏡 💧 🌬️ \$	Short-term	Planning & Public Works – Sewer, Sustainable Resources	Internal	Utilities
EBE-9	Expand current programs to provide more trees to Pierce County residents, prioritizing urban areas to reduce heat and improve energy efficiency.	🟡	🏡 💧 🌬️ \$	Short-term	Parks, Planning & Public Works - Planning, Surface Water Management, Sewer	External	Pierce Conservation District
EBE-10	Explore the installation of community solar projects on County buildings and facilities.	🟡	🏡 💧 🌬️ ⚖️ \$	Mid-term	Planning & Public Works - Sustainable Resources, Sewer, Parks	External	Utilities

TABLE LEGEND

Co-Benefits	
Enhance Public Health	♥
Improve Water Quality	💧
Improve Air Quality	🌬️
Promote Equity	⚖️
Economic Benefits	💰

GHG Impact	
Strong	🟢
Moderate	🟡
Less	🔴

Timeline	
Short-term	2021 - 2023
Mid-term	2024 - 2026
Long-term	2027 - 2030

Internal	External
Action that reduces the County's operational GHG emissions.	Action that reduces county-wide GHG emissions.

Action Identifier	Actions	GHG Impact Scale	Co-Benefits	Timeline	Lead Department	Internal / External	Partners
EBE-11	Eliminate barriers and provide financial incentives to the installation of renewable energy projects.	🟡	♥ 🌬️ ⚖️ 💰	Short-term	Planning & Public Works - Planning	External	Utilities
EBE-12	Continue to support Pierce County's home weatherization program and identify opportunities to expand funding. Ensure low-income residents can benefit from energy efficiency improvements to help them afford to stay in their homes.	🟡	♥ 🌬️ ⚖️ 💰	Short-term	Human Services	External	State, Federal
EBE-13	Work with utilities to explore strategies to reduce GHG emissions in multifamily housing.	🟡	♥ 🌬️ ⚖️ 💰	Mid-term	Planning & Public Works - Planning, Sustainable Resources	External	Utilities
EBE-14	Implement a Commercial Property Assessment Clean Energy Resilience (C-PACER) program to provide financing for clean energy measures in commercial properties.	🟡	♥ 🌬️ ⚖️ 💰	Mid-term	County Council, Executive	External	State, Federal
EBE-15	Design all new County owned buildings to run on electricity, with an exception for generators where an all-electric version is not feasible.	🟡	♥ 💧 🌬️ ⚖️ 💰	Short-term	Facilities, Planning & Public Works, Parks	Internal	Utilities
EBE-16	Incorporate energy efficiency and energy performance as integral elements of any County review of space needs.	🟡	♥ 💧 🌬️ 💰	Short-term	Facilities, Executive, County Council, Finance	Internal	
EBE-17	Explore the benefits and barriers of establishing a revolving loan fund to support GHG reduction projects.	🟡	♥ 🌬️ 💰	Mid-term	Finance, Facilities	Internal	Other Municipalities All Departments
EBE-18	Develop code that allows and incentivizes low GHG construction materials such as cross laminated timber (CLT) as an alternative to concrete in new projects.	🟡	♥ 💧 💰	Short-term	Planning & Public Works - Building	External	Builders, Economic Development
EBE-19	Complete the change out of building and streetlights to LED's and more efficient lighting controls.	🔴	🌬️ 💰	Short-term	Facilities, Planning & Public Works, Parks	Internal	Utilities
EBE-20	Explore the benefits and costs of participation in utility's green power purchasing program.	🔴	♥ 💧 🌬️ 💰	Mid-term	Facilities, County Council, Executive	Internal	Utilities



Transportation

About

Transportation is the second largest contributor of GHG emissions in Pierce County, responsible for approximately 40% of all GHG emissions. On-road vehicles alone comprise 37% of emissions.³ Population

in Pierce County has increased by nearly 70,000 people since 2015, with almost 60% moving into Pierce County's unincorporated Urban Growth Area.⁴ Additionally, 46% of Pierce County residents commute 30 minutes or more to work.⁵

Reducing GHG emissions in the transportation sector will reduce particulate matter pollution, improve air quality and human health. Communities living closest to busy roads will see the greatest improvement.

The greatest opportunities to reduce GHG emissions in transportation are:

- + Transitioning to electric vehicles.
- + Reducing trips.
- + Supporting transit and active transportation options.

Objectives

1. Optimize technology and develop policies that minimize commutes and incentivize teleworking.
2. Increase use of public transit, ride sharing and active (walking, biking) transportation.
3. Promote electric vehicles, clean fuels and expand the network of electric car charging stations.
4. Encourage density in the urban unincorporated area with mixed-use and transit-oriented development.

TABLE LEGEND

Co-Benefits	
Enhance Public Health	♥
Improve Water Quality	💧
Improve Air Quality	🌬️
Promote Equity	♿
Economic Benefits	\$

GHG Impact	
Strong	🟢
Moderate	🟡
Less	🔴

Timeline	
Short-term	2021 - 2023
Mid-term	2024 - 2026
Long-term	2027 - 2030

Internal	External
Action that reduces the County's operational GHG emissions.	Action that reduces county-wide GHG emissions.

Action Identifier	Actions	GHG Impact Scale	Co-Benefits	Timeline	Lead Department	Internal / External	Partners
T-1	Support Pierce Transit's efforts to increase bus rapid transit with electric buses and to electrify their fleet.	🟢	♥💧🌬️♿	Short-term	County Council, Executive	External	Pierce Transit
T-2	Identify strategies to increase first/last mile access to Sound Transit hubs via Pierce Transit or other micromobility (electric scooters, bikes).	🟢	♥💧🌬️♿\$	Mid-term	Planning & Public Works - Commute Trip Reduction, Planning	External	Pierce Transit, Sound Transit, Micromobility companies
T-3	Review Land Use plans to identify specific strategies for greenhouse gas reductions.	🟢	♥💧🌬️♿	Short-term	Planning & Public Works - Long Range Planning	External	PSRC, Department of Commerce
T-4	Support efforts to advance electrification at the Port of Tacoma and Northwest Seaport Alliance (NWSA), including the Shore Power Program, the South Harbor Electrification Roadmap (SHERM) project, and potential development of a regional clean truck collaborative.	🟢	♥💧🌬️♿	Short-term	County Council, Executive	External	Port of Tacoma, City of Tacoma, TPU, Northwest Seaport Alliance
T-5	Support and participate in regional and state-wide efforts to accelerate transportation electrification.	🟢	♥💧🌬️	Short-term	Planning & Public Works - Sustainable Resources	External	Port of Tacoma, City of Tacoma, TPU, Northwest Seaport Alliance
T-6	Establish a trip reduction policy that includes a remote work strategy, appropriate technology, and considers how employees can work or deploy from closest field office.	🟢	♥💧🌬️♿\$	Short-term	Human Resources, IT Department, Facilities	Internal	All Departments
T-7	Create policy requiring all County owned vehicles use GPS tracking technology to right-size fleet and maximize efficiency.	🟢	♥💧🌬️\$	Short-term	Finance, Planning & Public Works - Maintenance & Operations, Parks, Human Resources	Internal	Clean Cities
T-8	Develop fleet electrification plan including necessary charging infrastructure and implement electric first policy when purchasing replacement vehicles and other fuel burning equipment. When electric vehicles are inadequate, hybrid vehicles are preferred choice.	🟢	♥💧🌬️\$	Short-term	Finance, Facilities, Planning & Public Works - Fleet, Maintenance & Operations, Parks	Internal	Clean Cities, Utilities
T-9	Purchase hybrid Sheriff vehicles until electric vehicles are pursuit rated. Look for opportunities to use electric vehicles when pursuit rated is not required.	🟢	♥💧🌬️\$	Short-term	Finance, Sheriff	Internal	Clean Cities
T-10	Utilize low carbon biodiesel until low GHG renewable diesel is cost competitive.	🟢	♥💧🌬️	Short-term	Planning & Public Works - Maintenance & Operations	Internal	Clean Cities
T-11	Develop an electric ferry plan and support green fuel opportunities such as biodiesel.	🟢	♥💧🌬️	Mid-term	Planning & Public Works - Airport & Ferry	Internal	HMS



Transportation

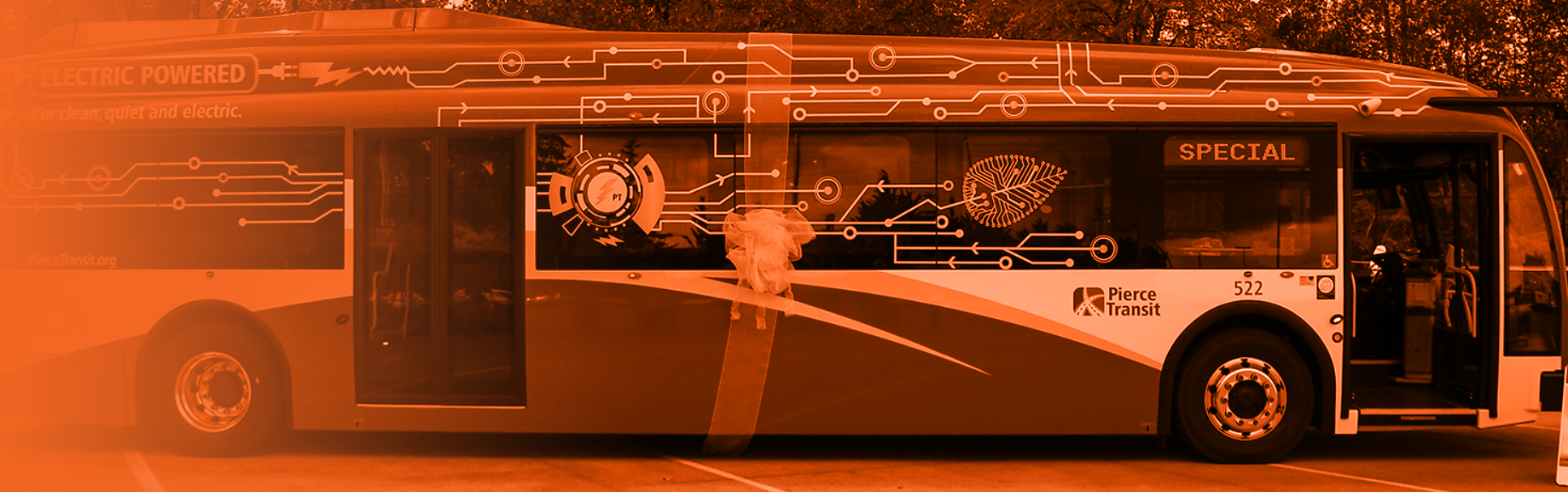


TABLE LEGEND

Co-Benefits

Enhance Public Health	♥
Improve Water Quality	💧
Improve Air Quality	🌬️
Promote Equity	♿
Economic Benefits	\$

GHG Impact

Strong	Strong
Moderate	Moderate
Less	Less

Timeline

Short-term	2021 - 2023
Mid-term	2024 - 2026
Long-term	2027 - 2030

Internal

External

Action that reduces the County's operational GHG emissions.	Action that reduces county-wide GHG emissions.
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Action Identifier	Actions	GHG Impact Scale	Co-Benefits	Timeline	Lead Department	Internal / External	Partners
T-12	Establish mixed use development parking and zoning regulations that support electric vehicle and active transportation infrastructure, parking requirement reductions and car-sharing.	Strong	♥ 💧 🌬️ =	Short-term	Planning & Public Works - Planning	External	Downtown on the Go, Builders, Utilities, Car-sharing companies
T-13	Incentivize major regional employers to establish satellite offices in Pierce County or incentivize teleworking to reduce traffic flow into King County.	Moderate	♥ 💧 🌬️	Mid-term	Economic Development	External	Economic Development Board
T-14	Increase County employee, business, and school district participation in ORCA passport program.	Moderate	♥ 💧 🌬️ = \$	Short-term	Planning & Public Works - Commute Trip Reduction	Internal, External	Pierce Transit Sound Transit Downtown on the Go, School Districts
T-15	Support an electric aviation program that includes charging stations and looks at the viability of an electric plane.	Moderate	♥ 🌬️ \$	Short-term	Planning & Public Works - Airport & Ferry, Sheriff	Internal, External	
T-16	Consider access to high frequency transit, walkability and bicycle infrastructure whenever the County builds or leases space.	Moderate	♥ 💧 🌬️ =	Short-term	Facilities, Planning & Public Works, Parks	Internal	Downtown on the Go, TPCHD
T-17	Explore opportunities to pursue transportation technical assistance partnerships for County fleet.	Moderate	♥ 🌬️ \$	Short-term	Finance, Planning & Public Works - Maintenance & Operations	Internal	US Department of Energy, Clean Cities
T-18	Encourage move toward low-carbon aviation fuel at Pierce County airports.	Moderate	♥ 💧 🌬️ \$	Mid-term	Planning & Public Works - Airport & Ferry	External	
T-19	Use data to create more efficient all electric pool vehicle system for intergovernmental travel.	Moderate	💧 🌬️ = \$	Mid-term	Finance, Planning & Public Works - Maintenance and Operations, Parks	Internal	Utilities, Clean Cities
T-20	Consider how a ride share system could result in a reduced County-owned fleet.	Moderate	🌬️ \$	Short-term	Finance, Planning & Public Works - Maintenance and Operations	Internal	Ride Share Companies
T-21	Significantly increase amount of bicycle and pedestrian infrastructure with a focus on creating accessibility in the urban area and connections to cities.	Less	♥ 💧 🌬️ = \$	Short-term	Planning & Public Works - Planning, Parks	External	Downtown on the Go, ForeverGreen Trails
T-22	Review current practice in which most departments absorb costs associated with employee parking.	Less	♥ 💧 🌬️ \$	Short-term	Facilities, Finance, County Council	Internal	Downtown on the Go
T-23	Increase biking infrastructure at County buildings and create e-bike pilot program.	Less	♥ 💧 🌬️ =	Mid-term	Facilities, Planning & Public Works	Internal	Downtown on the Go, Clty of Tacoma
T-24	Partner with electric utilities throughout the County to develop an electric vehicle infrastructure plan to facilitate the establishment of electric vehicle charging stations Countywide. Develop an EV best practices toolbox of EV infrastructure development strategies and options for local government to consider implementing.	Strong	♥ 💧 🌬️ = \$	Short-term	Planning & Public Works	External	Electric Utilities, Cities and Towns
T-25	Adopt road standards that support autonomous vehicles and evaluate our roads for compatibility with autonomous vehicles.	Strong	♥ 💧 🌬️ = \$	Mid-term	Planning & Public Works	Internal	State, Federal



Consumption & Waste Management

About

Solid waste poses many environmental challenges in Pierce County. The 304th Street Landfill is the only operational municipal solid waste landfill in Pierce County and has approximately 10-16 years

of remaining capacity. Solid waste collection and disposal generates GHG emissions as a result of the operation of heavy equipment and vehicles. As materials in the landfill break down, GHG emissions are generated.

While solid waste accounts for 3% of Pierce County's locally generated GHG emissions, the purchases we make, and their associated GHG emissions are not included. We know from neighboring counties that consumption related emissions can account for nearly

25% of the county's overall emissions.

The greatest opportunities to reduce emissions in consumption and waste management are:

- + Reducing consumption and food waste.
- + Ensuring our solid waste system follows GHG reduction best management practices.

Objectives

1. Expand GHG reduction efforts in solid waste and recycling.
2. Encourage behaviors that consider life cycle impacts and reduce waste.

TABLE LEGEND

Co-Benefits	
Enhance Public Health	+
Improve Water Quality	💧
Improve Air Quality	🌬️
Promote Equity	⚖️
Economic Benefits	\$

GHG Impact	
Strong	🟢
Moderate	🟡
Less	🔴

Timeline	
Short-term	2021 - 2023
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Long-term	2027 - 2030

Internal	External
Action that reduces the County's operational GHG emissions.	Action that reduces county-wide GHG emissions.

Action Identifier	Actions	GHG Impact Scale	Co-Benefits	Timeline	Lead Department	Internal / External	Partners
CWM-1	Develop targeted campaigns for recycling material with highest GHG reduction impact (paper, metal, food waste).	🟢	💧 🌬️ ⚖️ \$	Short-term	Planning & Public Works - Sustainable Resources, Communications	External	LRI, Waste Connections, UP Refuse
CWM-2	Increase landfill methane capture and promote greenhouse gas reduction best management practices at County and LRI facilities. Plan for lowest GHG disposal and transport.	🟢	💧 🌬️ ⚖️ \$	Short-term	Planning & Public Works - Sustainable Resources	External	LRI
CWM-3	Establish incentives for recycling of construction and demolition debris.	🟢	💧 🌬️ \$	Short-term	Planning & Public Works - Sustainable Resources	External	LRI, Demolition contractors, UP Refuse
CWM-4	Create business technical assistance program to increase recycling and identify ways to reduce waste through local collaborative networks.	🟢	💧 🌬️ \$	Short-term	Planning & Public Works - Sustainable Resources, Economic Development	External	Area Businesses, Industrial Manufacturing Materials Exchange
CWM-5	Explore affordable and lowest GHG option for food waste recycling. Develop and implement a plan to capture food waste by 2030.	🟢	💧 🌬️ ⚖️ \$	Short-term	Planning & Public Works - Sustainable Resources, Sewer	External	LRI, Pierce Conservation District, WSU Puyallup
CWM-6	Develop a County sustainable purchasing working group to develop and implement a new Sustainable Purchasing Policy.	🟢	💧 🌬️ ⚖️ \$	Short-term	Planning & Public Works - Sustainable Resources, Finance	Internal	Vendors, All Departments
CWM-7	Continue to support and expand gleaning and food recovery programs.	🟡	💧 🌬️ ⚖️ \$	Short-term	Planning & Public Works - Sustainable Resources	External	Harvest Pierce County/Pierce Conservation District
CWM-8	Expand and enhance internal recycling support and waste reduction efforts, including the addition of internal waste audits.	🟡	💧 🌬️ \$	Short-term	Planning & Public Works - Sustainable Resources	Internal	D.M. Disposal, City of Tacoma, All Departments
CWM-9	Implement a green office policy that reduces waste and conserves energy and fuel.	🟡	💧 \$	Short-term	Planning & Public Works - Sustainable Resources, Finances	Internal	All Departments
CWM-10	Update the Solid Waste Management Plan to include requirements for recycling and disposal of batteries, solar panels, and other green infrastructure.	🔴	💧 🌬️ ⚖️ \$	Mid-Term	Planning & Public Works	Internal/ External	Waste Disposal Companies, Demolition contractors



Carbon Sequestration

About

Carbon sequestration is the process of capturing carbon dioxide from the atmosphere and storing it long-term in plants, soils and the ocean. Removing carbon from the atmosphere is as important as reducing GHG emissions. Land, plants and soil

combined remove approximately 26% of GHG emissions from the atmosphere.⁷ Through natural processes like photosynthesis, plants and healthy ecosystems absorb and store carbon. Healthy soils comprised of organisms and organic matter enable soil to store carbon, which also improves production, water retention and decreases erosion.

The oceans, kelp forests and saltwater wetlands remove approximately 17% of the GHG emissions from the atmosphere.⁸ Fast-growing plants and seaweeds are particularly good at storing carbon.

Additionally, their low oxygen soils store carbon for hundreds or even thousands of years.

The greatest opportunities to increase carbon sequestration are:

- + Protecting and conserving kelp forests, saltwater wetlands and agricultural lands.
- + Maintain forestland and increase tree canopy cover in our urban areas.

Objectives

1. Protect and conserve lands for carbon sequestration.
2. Increase the use of carbon sequestration best management practices.

TABLE LEGEND

Co-Benefits	
Enhance Public Health	🏡
Improve Water Quality	💧
Improve Air Quality	🌬️
Promote Equity	⚖️
Economic Benefits	💰

GHG Impact	
Strong	🟢
Moderate	🟡
Less	🔴

Timeline	
Short-term	2021 - 2023
Mid-term	2024 - 2026
Long-term	2027 - 2030

Internal	External
Action that reduces the County's operational GHG emissions.	Action that reduces county-wide GHG emissions.

Action Identifier	Actions	GHG Impact Scale	Co-Benefits	Timeline	Lead Department	Internal / External	Partners
CS-1	Create a County conservation plan that identifies potential lands and strategies for carbon sequestration and ecosystem services.	🟢	🏡 💧 🌬️ 💰	Short-term	Parks, Planning & Public Works - Long Range Planning, Surface Water Management, Office of County Engineer, Facilities	External	Land Trusts
CS-2	Provide training, education, financial incentives and recognition opportunities to landowners on best management practices for carbon sequestration.	🟢	🏡 💧 🌬️	Short-term	Planning & Public Works - Ag Liaison	External	Pierce Conservation District, WSU Puyallup, Pierce County Extension
CS-3	Develop and implement a policy that incentivizes green infrastructure (raingardens, bioswales, green roofs) and works to remove impervious surfaces where appropriate.	🟢	🏡 💧 🌬️ ⚖️ 💰	Short-term	County Council, Executive, Parks, Planning & Public Works - Building, Planning, Surface Water Management	Internal	Floodplains for the Future, Conservation District, WSU Puyallup
CS-4	Partner with local Tribes and others to identify innovative ways to sequester carbon in estuaries and the nearshore environment.	🟡	🏡 💧 🌬️ ⚖️ 💰	Short-term	Planning & Public Works - Surface Water Management	External	Tribes, Pierce Conservation District, WSU Puyallup
CS-5	In the next update of Conservation Futures, include carbon sequestration potential as a metric in scoring criteria.	🟡	🏡 💧 🌬️ ⚖️ 💰	Mid-term	Parks, County Council, Executive	External	Land Trusts, PC Agriculture Advisory Committee
CS-6	Develop strategic alignment of priorities between Conservation Futures, Transfer of Development Rights, and the Open Space Program to maximize conservation.	🟡	🏡 💧 🌬️ ⚖️ 💰	Short-term	Parks, Planning & Public Works, Assessor-Treasurer	External	Land Trusts
CS-7	Establish new incentives to conserve rural and resource lands from development. The rural land base is critical to keeping the agricultural and forest economy alive (feedstores, etc.).	🟡	🏡 💧 🌬️ ⚖️ 💰	Short-term	Parks, Planning & Public Works - Ag Liaison	External	PC Agriculture Advisory Committee, Pierce Conservation District, WSU Puyallup
CS-8	Develop and implement a countywide forest program to support small forest landowners and steward County properties.	🟡	🏡 💧 🌬️ ⚖️	Mid-term	Parks, Planning & Public Works, County Council, Executive	Internal, External	Land Trusts, Pierce Conservation District, Grit City Tree Program, WSU Puyallup
CS-9	Support WSU Extension efforts to hire a Regional Agricultural Specialist for Pierce and King Counties to support and promote best management practices.	🟡	🏡 💧 🌬️	Short-term	Planning & Public Works	External	WSU Puyallup, Pierce Conservation District
CS-10	Promote the use of compost and SoundGro in Pierce County.	🟡	🏡 💰	Short-term	Planning & Public Works - Sustainable Resources, Sewer	External	Pierce Conservation District, WSU Puyallup, Pierce County Extension
CS-11	Continue to support and participate in coordinated regional agricultural coalitions.	🟡	🏡 🌬️ 💰	Short-term	Planning & Public Works - Ag Liaison	External	Pierce County Extension, Land Trusts, Tribes, Conservation District, Farmers
CS-12	Inventory and classify all County owned forested and undeveloped natural lands to plan for long term use.	🔴	💧 🌬️ 💰	Short-term	Parks, Planning & Public Works, Facilities	Internal	Land Trusts



Education & Outreach

About

Education and outreach are essential in building understanding and support for the actions identified in this plan. Internal communications and training increase awareness of sustainability policies,

expectations and best practices. The result is greater participation to reduce GHG emissions and building a culture of sustainability.

To create understanding and generate community-wide action we must engage all Pierce County residents and work together with employers, businesses and industry.

Our success in reducing GHG emissions in Pierce County relies on:

- + Make it easier for community members to take action.

- ### Objectives
1. Increase awareness and understanding of GHG emissions and their impacts.
 2. Increase participation in reducing greenhouse gas emissions.
 3. Increase broad community engagement to develop GHG reduction policies that are equitable.

TABLE LEGEND

Co-Benefits	
Enhance Public Health	🏡
Improve Water Quality	💧
Improve Air Quality	🌬️
Promote Equity	⚖️
Economic Benefits	💰

GHG Impact	
Strong	🟢
Moderate	🟡
Less	🔴

Timeline	
Short-term	2021 - 2023
Mid-term	2024 - 2026
Long-term	2027 - 2030

Internal	External
Action that reduces the County's operational GHG emissions.	Action that reduces county-wide GHG emissions.

Action Identifier	Actions	GHG Impact Scale	Co-Benefits	Timeline	Lead Department	Internal/ External	Partners
EO-1	Create a Pierce County sustainability collaborative to share best practices with cities, tribes, and major employers.	🟢	🏡💧🌬️⚖️💰	Short-term	Planning & Public Works - Sustainable Resources	External	Cities, tribes, large employers, etc.
EO-2	Provide GHG reduction educational workshops, activities and engagement opportunities for residents.	🟢	🏡💧🌬️⚖️💰	Short-term	Planning & Public Works - Sustainable Resources, Parks	External	Pierce Conservation District, City of Tacoma, Utilities, Tribes, Local Farms, WSU Puyallup, TPCHD, Pierce County Extension
EO-3	Develop and implement a community engagement effort that is equitable and prioritizes underrepresented communities.	🟢	🏡💧🌬️⚖️💰	Short-term	Planning & Public Works - Sustainable Resources, Communications	External	Cities, Tribes, Non-Profits, TPCHD
EO-4	Develop employee training with emphasis on greenhouse gas reduction practices (Green driving/anti-idling, bike safety, recycling, smart workspaces, remote work technology, etc.).	🟢	🏡💧🌬️⚖️💰	Short-term	Planning & Public Works - Sustainable Resources, Human Resources, Communications	Internal	All Departments
EO-5	Host an annual youth sustainability summit.	🟡	🏡💧🌬️⚖️💰	Short-term	Planning & Public Works - Sustainable Resources	External	City of Tacoma, Pierce Conservation District, school districts, etc.
EO-6	Support k-12 teachers in implementing appropriate GHG reduction and climate impact curriculum.	🟡	🏡💧🌬️⚖️💰	Short-term	Planning & Public Works - Sustainable Resources	External	School Districts, WA Green Schools, OSPI, WA State LASER
EO-7	Promote reuse of goods through sharing information for landfill alternatives including online platforms such as Buy Nothing groups.	🟡	⚖️💰	Short-term	Planning & Public Works - Sustainable Resources, Communications	External	Social media reuse groups
EO-8	Develop and distribute employee sustainability newsletter.	🟡	🏡💧🌬️⚖️💰	Short-term	Planning & Public Works - Sustainable Resources, Communications	Internal	All Departments, TPCHD
EO-9	Redesign the County sustainability website to highlight County sustainability projects, education, and resources.	🔴	🏡💧🌬️⚖️💰	Short-term	Planning & Public Works - Sustainable Resources, Communications	Internal	All Departments
EO-10	Assist in preparing for an electrified transportation future by partnering with local education providers in support of work force re-training programs associated with electrical transportation modes including automobiles, buses, semitrucks, ferries and airplanes and solar installation.	🟢	🏡💧🌬️⚖️💰	Short-term	Planning & Public Works	External	High School, Technical College and Community College

Moving Forward

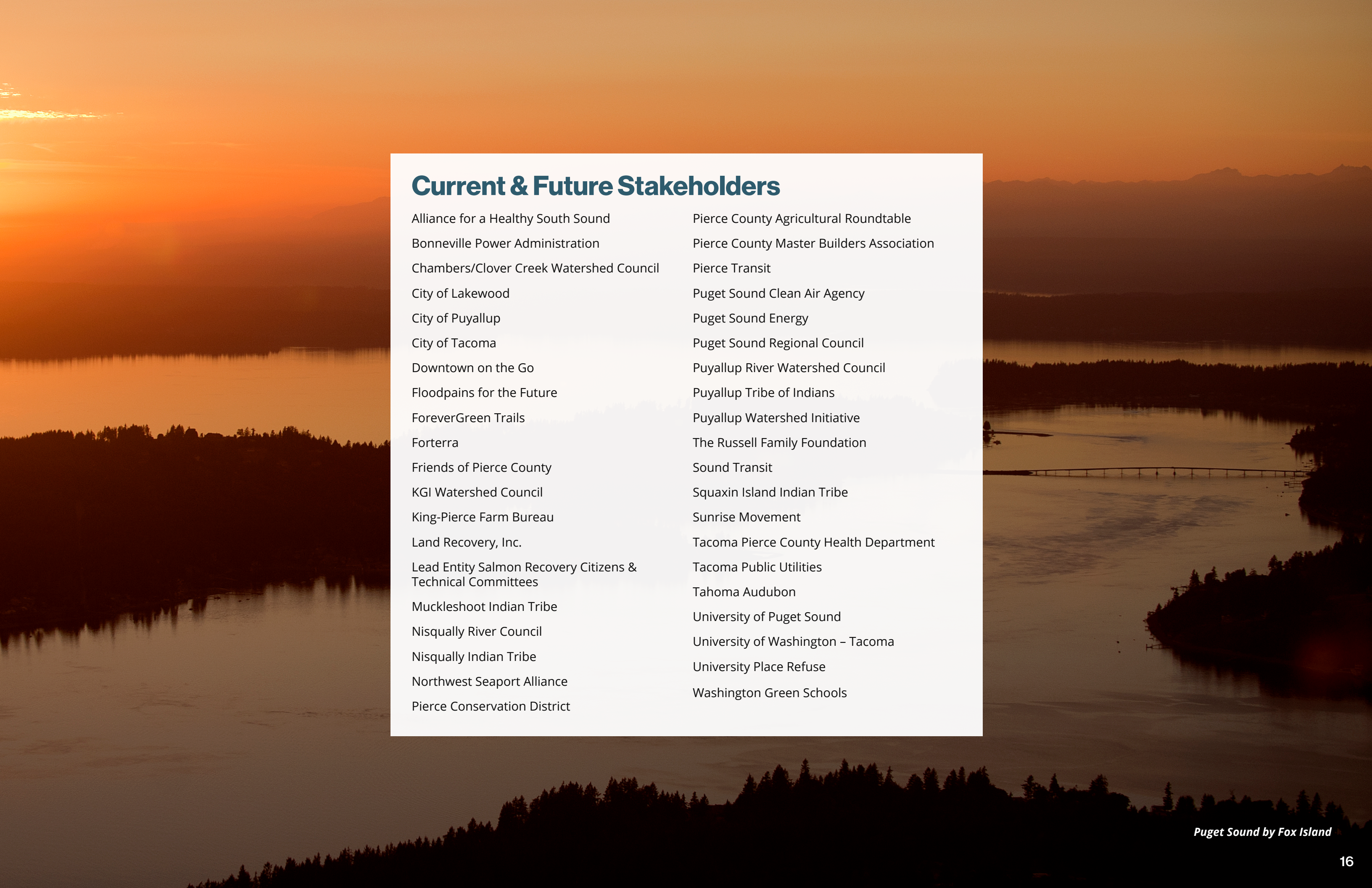
Transitioning from planning to implementation is critical to reaching our goal of reducing GHG emissions by 45% by 2030. As the County moves toward implementation of the Sustainability 2030 Plan the following are key next steps:

- + Establish key performance measures and metrics.
- + Develop a 2021 action implementation workplan.
 - Establish sustainable and long-term workplace policies that reduce GHG emissions.
 - Conduct environmental equity assessment.
- + Hire a Sustainability Manager.
- + Perform a greenhouse gas inventory for both County government operations and countywide emissions.

The following four actions are critical to meeting our GHG reduction goals:

1. Ensure Pierce County Executive and Council engagement, oversight and support of GHG reduction efforts.
2. Secure funding resources for plan implementation and coordination.
3. Establish annual internal and countywide performance measures.
4. Conduct an environmental equity assessment to identify and prioritize community-wide actions by 2022.

Photo courtesy of the Washington Department of Health



Current & Future Stakeholders

Alliance for a Healthy South Sound

Bonneville Power Administration

Chambers/Clover Creek Watershed Council

City of Lakewood

City of Puyallup

City of Tacoma

Downtown on the Go

Floodpains for the Future

ForeverGreen Trails

Forterra

Friends of Pierce County

KGI Watershed Council

King-Pierce Farm Bureau

Land Recovery, Inc.

Lead Entity Salmon Recovery Citizens &
Technical Committees

Muckleshoot Indian Tribe

Nisqually River Council

Nisqually Indian Tribe

Northwest Seaport Alliance

Pierce Conservation District

Pierce County Agricultural Roundtable

Pierce County Master Builders Association

Pierce Transit

Puget Sound Clean Air Agency

Puget Sound Energy

Puget Sound Regional Council

Puyallup River Watershed Council

Puyallup Tribe of Indians

Puyallup Watershed Initiative

The Russell Family Foundation

Sound Transit

Squaxin Island Indian Tribe

Sunrise Movement

Tacoma Pierce County Health Department

Tacoma Public Utilities

Tahoma Audubon

University of Puget Sound

University of Washington – Tacoma

University Place Refuse

Washington Green Schools



Lake Tapps

Coordination with Other Plans

[City of Tacoma Environmental Action Plan](#)

[Clear Creek Strategy Plan](#)

[Department of Ecology Plan](#)

[Northwest Ports Clean Air Strategy](#)

[Parks, Recreation and Open Space Plan](#)

[Pierce County Community Plans](#)

[Pierce County Comprehensive Plan](#)

[Pierce County Solid Waste Management Plan & Supplement](#)

[Pierce Transit Development Plan](#)

[Puget Sound Clean Air Agency Strategic Plan](#)

[Puget Sound Regional Council Transportation Plan](#)

[Salmon Habitat Protection and Restoration Strategy for Puyallup and Chambers Watersheds](#)

[Washington Department of Commerce 2021 State Energy Strategy](#)

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