



Climate Change Element

Vision

County services, local economy, communities, and natural resources and systems are resilient to a changing climate and County greenhouse gas emissions are reduced consistent with regional goals.

Intent

Climate change has already affected and will continue to affect the infrastructure, natural systems, economy, culture, safety, and livelihood of people who live, work, and play in Kitsap County. Kitsap County has experienced measurable and observable climate change trends and impacts including extreme heat, coastal flooding, and wildlife smoke. The intent of this chapter is to provide a consolidated policy framework related to climate issues that is essential to facilitating planning for our county and to assist in meeting the planning goals of the Growth Management Act.

Growth Management Act & Regional Coordination

The Growth Management Act includes 15 goals to guide the development and adoption of comprehensive plans and regulations, with climate change and resiliency being the most recently added following the adoption of House Bill 1181. RCW 36.70A.020 was amended during the 2023 state legislative session to include the following goal for climate change and resiliency:

Ensure that comprehensive plans, development regulations, and regional policies, plans, and strategies ... adapt to and mitigate the effects of a changing climate; support reductions in greenhouse gas emissions and per capita vehicle miles traveled; prepare for climate impact

scenarios; foster resilience to climate impacts and natural hazards; protect and enhance environmental, economic, and human health and safety; and advance environmental justice.

Climate change is a key focus area for the 2024 Comprehensive Plan update. The County is taking a proactive approach to addressing climate change impacts. This chapter includes sub-chapters focused on climate resilience and adaptation and greenhouse gas emissions reductions. Further, the chapter includes a variety of measures intended to advance environmental justice.

Relationship to Other Elements

Climate change related goals, policies, and strategies are found throughout the other chapters of the Comprehensive Plan. Goals and policies that are specifically related to Climate Change, rather than incidentally related, appear in this chapter.

Background Information & Existing Conditions

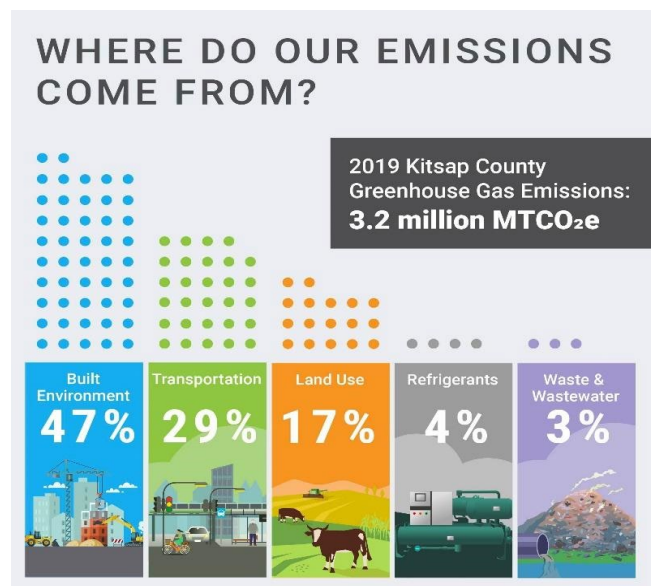
Kitsap County has recently completed assessments and studies to understand the impact of climate change on both built and natural systems. These assessments and studies help clarify the areas in which mitigation and resiliency planning is most needed. The findings of these assessments and studies, summarized below, in conjunction with other resources informed the development of this new Climate Change chapter.

Kitsap County Climate Change Resiliency Assessment, 2020

Kitsap County completed a Climate Change Resiliency Assessment in June 2020 in partnership with the cities of Bremerton and Port Orchard. The assessment is based on the best available science at the time and considers the probability of a wide range of impacts as they apply to Kitsap County including public health, infrastructure, agriculture, hydrology and hydrogeology, economy, land use and development, cultural resources, habitat, local government finance, geologic and natural hazards, and wildfire. The assessment prioritizes risks to Kitsap County's residents, environment, economy, built environment, and infrastructure due to climate change. It provides a basis for future resiliency planning and information for Kitsap County agencies to prioritize specific threats. The analysis narrowed the range of possible impacts to a set of probable impacts and provides a high-level assessment and prioritization based on probability, timing, and magnitude.

Kitsap County Community Wide Geographic Greenhouse Gas Emissions Inventory and Analysis, 2022

Kitsap County completed a greenhouse gas inventory that quantifies the annual emissions produced within the County's boundaries due to activities such as on-road transportation, tree loss, and energy consumption. The



inventory and analysis provide a comprehensive update of Kitsap County's geographic greenhouse gas emissions for 2019. The report includes a progress update of historical trends and progress towards emission reduction goals, a contribution analysis to explore drivers of changes in emissions between 2015 and 2019, and a wedge analysis that shows estimated emissions reductions from existing policies and additional reduction needs to meet regionwide and countywide climate goals.

Based on 2019 data, Kitsap County's total greenhouse gas emissions were 3.2 million metric tons of carbon dioxide equivalent (MTCO_{2e}). As shown in Figure 1, five main sectors produced the greenhouse gas emissions. From 2015 to 2019, Kitsap County's overall emissions increased by approximately 16%.

Federal and state policies have already been passed to address some key emission sources. For example, the state Clean Energy Transformation Act sets milestones for all electric utilities serving retail customers to be carbon neutral by 2030 and to provide energy free of greenhouse gas emissions by 2045. The act requires utilities to eliminate coal-fired electricity from state portfolios.

Future forecasts indicate that the biggest emissions sources in 2050 will result from tree loss and agriculture, natural gas, mobile sources such as on-road vehicles, aviation, and off-road equipment, and solid waste disposal. Forecasts indicate that in 2050 there will still be an emissions gap of approximately 690,000 MTCO_{2e} that the County will need to close in order to meet the regional greenhouse gas emissions reduction goal.

Key Terms

Urban Forest: land in and around urban growth areas occupied or potentially occupied by trees and associated vegetation. Urban forest land may be planted or unplanted, used or unused, and includes public and private lands, lands along transportation and utility corridors, and forested watershed lands within populated areas.

Tree Cover: the biophysical presence of trees including natural forests or plantations existing over a range of densities. Data used for analysis defined tree cover as any vegetation taller than 16.4 feet.

Frontline community: a community that often face the first and worst impacts of climate change or will experience disproportionately higher climate-related health risks. These groups of people include children, elderly people, Tribal and Indigenous peoples, outdoor laborers, people experiencing homelessness, and people with chronic illnesses, among others.

Neighborhood Gathering Sites: a meeting point designated in a neighborhood to gather volunteers and to establish a point to drop-off resources after a disaster.

Climate Resilience and Adaptation Sub-Element

Climate resilience is the ongoing process of anticipating, preparing for, and adapting to changes in climate and minimizing negative impacts to our natural systems, infrastructure, and communities. Climate resilience and adaptation goals and policies aim to improve the resiliency of Kitsap County's natural and built assets and communities to the negative impacts of climate change.

The goals and policies in this subchapter are organized by systems that are most vulnerable to and at risk of current and future climate change impacts based on the 2020 Kitsap County Climate Change Resiliency Assessment. Additionally, this sub-chapter includes Emergency Preparedness and Response goals and policies. These systems include:

- **Emergency Preparedness and Response** – Community preparedness, response, and recovery adaptation is needed as heat waves, drought, flooding, wildfires, and water shortages impacts on individuals and households are likely to increase with the changing climate.
- **Public Health** – Harmful algal blooms, seawater intrusion due to sea level rise, nearshore flooding which impacts wells and onsite septic systems, respiratory illnesses from wildfire smoke, temperature related health issues from intense heat waves, and groundwater recharge changes which affect onsite septic systems and wells are the most likely impacts to public health due to climate change. Food insecurity and health issues could increase for people with natural resource-related occupations, such as fishing, forestry, agriculture, recreation, service industries, and construction. Frontline communities, or communities that often face the first and worst impacts of climate change, have and will continue to experience disproportionately higher climate-related health risks. These groups of people include the elderly, children, communities of color, people with chronic illnesses, Tribal and Indigenous peoples, and outdoor laborers.
- **Economy** – Values of property in low-lying or coastal areas may be adversely affected from future flooding and sea level rise. A wide variety of industries may be affected in the future, including construction and development, manufacturing, food and hospitality services, and natural resource economies. Workers displaced by flooding, extreme heat, fire, and other natural hazards exacerbated by climate change results in lost wages and productivity.
- **Cultural Resources** – Historical sites and buildings, parks, waterfronts, and archaeological sites are likely to be damaged from future flooding, extreme heat, and shifting precipitation patterns. Flooding, habitat shifts, and impacts to certain species such as salmon will have cultural and health impacts for Tribes.
- **Public Infrastructure** – Coastal flooding impacts from a combination of sea level rise, storm surges, and heavy precipitation events can result in substantial physical, ecological, and infrastructure damage. This includes flooding of transportation routes, damage to waterfronts, inundation and saltwater intrusion of wastewater infrastructure, impacts to onsite sewage systems, impacts to drinking water wells, and overload of stormwater systems.
- **Land Use and Development** – Future urbanization and the increased use of impervious

pavements are likely to increase the probability and severity of climate impacts such as urban flood events. Land use and vegetation cover may also shift with warmer temperatures and changing precipitation patterns, which may have secondary effects on natural flood control, urban heat island effect, and wildfire risk.

- **Hydrology and Hydrogeology** – Intense precipitation events, changes in seasonal precipitation patterns, higher water temperatures, changing streamflow patterns, less groundwater recharge, and declining water quality have implications for ecosystems, infrastructure, agriculture, and local communities.
- **Geologic and Natural Hazards** – Landslide risk will likely increase due to heavier rain events, soil erosion and destabilization, and sediment transport patterns. Bluff erosion rates may accelerate from winter storms, storm surges, sea level rise, and heavy rain events. Increased rates of bluff erosion will have long-term implications for properties, roads, and habitat on bluffs.
- **Habitat** – Future climate change will likely alter terrestrial, freshwater, marine, and coastal habitats. These habitat changes will have a wide range of impacts to sensitive species and ecological processes. The prevalence of invasive species and diseases is likely to increase.
- **Wildfire** – Wildfire risk is growing for Kitsap County under future climate conditions. New development within or adjacent to previously undeveloped (wildland) areas increases the risk of larger, more frequent, and destructive fires in susceptible areas and increases the likelihood that fires will spread uncontrolled across large areas and broad landscapes.

Climate Change Goal 1. Emergency Preparedness and Response

In collaboration with tribes and local emergency management programs, enhance emergency preparedness, prevention, response, and recovery efforts and mitigate the impacts associated with extreme weather and other hazards worsened by climate change.

Climate Change Policy 1.1. Support all hazard emergency preparedness, planning, and resiliency programs to reduce the impacts of climate change, such as heat waves, drought, flooding, wildfires, and water shortages on individuals and households.

Climate Change Policy 1.2. Ensure emergency evacuation procedures, including safe evacuation routes and arrival destinations exist, are in place, adequate to ensure life-safety, are known and accessible during flooding, wildfires, and other emergencies.

Climate Change Strategy 1.a. Develop policy recommendations to support mitigation efforts.

Climate Change Strategy 1.b. Support development of mitigation funds for homeowners to raise properties or relocate.

Climate Change Strategy 1.c. Support fireworks ban with alternatives in collaboration with tribes and local emergency management programs and fire districts.

Climate Change Strategy 1.d. Facilitate development of objectives and strategies to improve resilience in vulnerable populations and frontline communities.

Climate Change Strategy 1.e. Facilitate development of disaster shelters that could be operated to provide life-safety respite during events where normal severe weather shelters cannot be opened.

Climate Change Strategy 1.f. Develop and implement strategies to expedite debris management and removal during and after a disaster to reduce the risks of subsequent fire, flood, injury, contamination of waterways, blocking public safety access, and disease vectors.

Climate Change Strategy 1.g. Develop and expand hazard specific public information and outreach programs in coordination with county first responders, law enforcement, public and private agencies, local emergency management departments, and Department of Community Development. Include the expansion of address searchable Geographic Information System (GIS) hazard maps and mitigation strategies for property owners.

Climate Change Strategy 1.h. Identify locations within the county using available technology to aid in finding people, such as homeless encampments, and emergencies that do not have a physical address.

Climate Change Strategy 1.i. Develop a comprehensive countywide wildfire mitigation and protection strategy in collaboration with county residents, local fire marshals and code

authorities, fire districts and departments, emergency management agencies, public and private utility providers, public schools, evacuation maps, and community warning systems.

Climate Change Strategy 1.j. Develop key evacuation sites to provide emergency sheltering during mandatory evacuations.

Climate Change Strategy 1.k. Develop eco-friendly paved bike routes to offer alternative transportation options and serve as emergency routes when primary roadways are blocked.

Climate Change Strategy 1.l. Identify locations that can serve as “resilience hubs,” community-serving facilities augmented to support multiple Neighborhood Gathering Sites for residents and coordinate resource distribution and services before, during, or after a natural hazard event.

Climate Change Strategy 1.m. Explore locations for permanent Neighborhood Emergency Supplies and Tools {NEST} kits for use by KCDEM volunteers and staff to use during declared emergencies.

Climate Change Goal 2. Public Health

Protect community health and well-being from the impacts of climate-exacerbated hazards, prioritizing focus on overburdened communities, and ensuring that the most vulnerable residents do not bear disproportionate health impacts.

Climate Change Policy 2.1. Prioritize options for at-risk community members during wildfire smoke, extreme heat events, and flooding.

Climate Change Policy 2.2. Promote mitigation actions in flood-prone areas where wastewater systems and drinking water supplies may be compromised.

Climate Change Policy 2.3. Ensure public health and safety data related to climate change impacts are tracked, evaluated, and used for adaptive management of strategies and actions.

Climate Change Strategy 2.a. Support the Kitsap Public Health District in providing education and information to the community about the public health impacts of wildfire smoke and flooding.

Climate Change Strategy 2.b. Incentivize infrastructure updates (e.g., HVAC improvements) that protect against wildfire smoke for facilities that serve at-risk populations. Connect interested parties to grant resources as they become available for facilities to make improvements.

Climate Change Strategy 2.c. Support the Kitsap Public Health District in providing educational materials to the community on available air quality assistance and resources such as filter fans.

Climate Change Strategy 2.d. Amplify messaging from official agency watches and warnings to county residents about air quality and recommended actions to reduce exposure to wildfire smoke and particulate matter.

Climate Change Strategy 2.e. Incorporate wastewater and drinking water mitigation measures for new construction.

Climate Change Strategy 2.f. Support the Kitsap Public Health District in assessing onsite septic systems vulnerability and updates to existing construction to protect against saltwater intrusion for health and long-term care.

Climate Change Strategy 2.g. Support the Kitsap Public Health District in assessing drinking water system vulnerability to sea level rise and provide information to the community about likely impacted areas.

Climate Change Strategy 2.h. Work with Kitsap Public Health District and Kitsap County Department of Emergency Management to develop and implement a wildfire smoke resilience strategy in partnership with Kitsap County residents, tribes, state, county, and city emergency management partners, Puget Sound Clean Air Agency, and other partners.

Climate Change Strategy 2.i. Develop a program to provide emergency cooling and/or air-purifying resources to vulnerable populations.

Climate Change Strategy 2.j. Promote monitoring and mitigation actions for increased public health impacts due to climate change including those of the Kitsap Public Health District.

Climate Change Strategy 2.k. Support the Kitsap Public Health District's tracking of climate change related health indicators as part of their ongoing community health assessment.

Climate Change Strategy 2.l. Support the Kitsap Public Health District in providing educational materials and public health advisories to the community about harmful algae blooms (HABs) to minimize exposure.

Climate Change Strategy 2.m. Support the Kitsap Public Health District's efforts to provide educational materials and public health advisories to the community about increasing zoonotic diseases related to climate change.

Climate Change Goal 3. Economy

Shoreline properties, port districts, maritime industries, and businesses are resilient to impacts of climate change.

Climate Change Policy 3.1. Ensure development of Kitsap's shoreline and waterfront economy is resilient to coastal flooding and sea level rise.

Climate Change Policy 3.2. Support workers displaced due to impacts of climate change.

Climate Change Policy 3.3. Support relocation or elevating of businesses in future inundation areas.

Climate Change Strategy 3.a. Assess the impacts of sea level rise on economic resources and develop strategies to mitigate the impacts.

Climate Change Goal 4. Tribal Treaty Rights

Acknowledge Tribal treaty rights and culturally important consumptive and non-consumptive resources including foods, medicinal plants, and materials.

Climate Change Policy 4.1. Protect, enhance, and restore ecosystems to meet tribal treaty rights and conserve resources and materials that could be adversely impacted by climate change.

Climate Change Strategy 4.a. Implement the Kitsap Natural Resources Asset Management Program to assist in the enhancement, protection, and restoration ecosystem health.

Climate Change Goal 5. Cultural Resources

Cultural resources including historical sites and buildings, parks, waterfronts, and archaeological sites are protected from climate change impacts.

Climate Change Policy 5.1. Protect and preserve historical and archaeological sites from climate impacts.

Climate Change Strategy 5.a. Develop and implement a historic preservation plan that includes identification of climate impacts and mitigation planning for cultural resources such as historical sites and buildings, parks, waterfronts, and archaeological sites.

Climate Change Goal 6. Public Infrastructure and Transportation Network

Public services, utilities, and infrastructure are resilient to impacts of climate change.

Climate Change Policy 6.1. Develop and adopt a coordinated plan for infrastructure system resilience and recovery after disasters.

Climate Change Policy 6.2. Develop and adopt a climate change mitigation plan that assesses the vulnerabilities of vital assets, in coordination with the cities, Tribes, federal, and regional jurisdictions.

Climate Change Policy 6.3. Consider stormwater utility improvements to accommodate increased conveyance during extreme rain events and coastal flooding.

Climate Change Policy 6.4. Explore adoption of a coordinated wastewater management plan to include Kitsap Public Health District, Public Utility Districts, Public Works, and other entities to enhance resiliency and adaptation planning for sewer utilities and wastewater management systems.

Climate Change Policy 6.5. Proactively manage the transportation system’s risk exposure to sea level rise, coastal flooding, extreme precipitation, and extreme heat.

Climate Change Strategy 6.a. Construct new wastewater management systems in areas resilient to climate change.

Climate Change Strategy 6.b. Coordinate with Public Works, utility providers, Kitsap Public Health District, and coastal communities to develop a sea level rise and coastal flooding vulnerability and risk assessment that identifies and maps areas of highest risk and outlines strategies to protect coastal infrastructure, communities, and natural assets.

Climate Change Strategy 6.c. Integrate climate resilient design in all equipment acquisition and transportation construction projects (e.g., climate smart culverts and bridges for fish passage and habitat quality).

Climate Change Goal 7. Resiliency Through Land Use

Establish land use patterns that increase the resilience of the built environment, ecosystems, and communities to climate change.

Climate Change Policy 7.1. Restore and maintain critical areas and open space areas to maximize the climate resilience benefits they provide (e.g., frequently flooded areas, floodplains).

Climate Change Policy 7.2. Focus new development in areas where exposure to climate hazards is low.

Climate Change Policy 7.3. Consider environmental justice impacts to overburdened communities when considering new land use designations and rezoning actions.

Climate Change Strategy 7.a. Explore the use of environmental justice audits in creation of new zoning designations or rezoning.

Climate Change Strategy 7.b. Develop, implement, and periodically update the Shoreline Master Program and coastal resiliency plans to mitigate and adapt to climate change impacts.

Climate Change Goal 8. Protect and enhance forests

Climate Change Policy 8.1. Consider an urban forest master plan and applicable development regulations to maintain and expand tree canopy cover, improve watershed health, prioritize carbon sequestration, and build climate resilience. Ensure that construction within or abutting urban forests

occurs in such a way as to protect the forest and the structures against the hazards of wildfire spreading from one to the other.

Climate Change Policy 8.2. Prioritize urban forestry planning resources for frontline communities that are impacted first and worst by climate change.

Climate Change Policy 8.3. Encourage private forestland to remain in timber production.

Climate Change Policy 8.4. Preserve tree canopy cover in critical areas such as stream, wetlands, geologic hazard areas, critical aquifer recharge areas, frequently flooded areas, and shorelines.

Climate Change Policy 8.5. Promote programs and grants to protect forested areas.

Climate Change Strategy 8.a. Reduce loss of private forestland through forest stewardship, education, and incentives for forest landowners to keep private forest lands in production.

Climate Change Strategy 8.b. Provide vegetation guidance to promote the planting of species that are resilient to climate change.

Climate Change Strategy 8.c. Coordinate with conservation groups and land trusts to identify and implement public outreach and education opportunities for the use of the Open Space Program, Transfer of Development Rights Program, Conservation Futures Tax Program, and other programs.

Climate Change Goal 9. Hydrology and Hydrogeology

Protect and preserve water quality and quantity from drought, extreme heat, extreme precipitation, and other hazards exacerbated by climate change.

Climate Change Policy 9.1. Prioritize green infrastructure and low-impact development techniques, where appropriate, to address increased storm events, stormwater runoff, and local ocean acidification due to nutrient loading from runoff.

Climate Change Policy 9.2. Promote environmentally sustainable farming practices, water-storage systems, and nutrient management that help adapt to a changing climate and reduce production losses while balancing ecosystem needs.

Climate Change Policy 9.3. Promote a healthy beaver population and allow beavers to expand their habitat network while reducing conflicts between beavers, flooding, infrastructure, and private property.

Climate Change Strategy 9.a. Incentivize development that minimize the use of impervious pavements and retains existing tree canopy.

Climate Change Strategy 9.b. Provide guidance to promote the use of smart irrigation, stormwater nutrient management, preventative maintenance, water conservation and wastewater reuse, plant selection, and landscape management.

Climate Change Strategy 9.c. Identify and promote the development of water supplies in wildland and wildland urban interface or intermix areas to increase firefighting capabilities in rural and resource lands.

Climate Change Strategy 9.d. Restore and protect suitable beaver habitat to encourage natural recolonization of beavers.

Climate Change Strategy 9.e. Restore and protect vegetated corridors between watersheds to allow beavers to migrate between and recolonize vacant watersheds.

Climate Change Strategy 9.f. Incentivize relocation of infrastructure and structures away from areas likely to support or be flooded by beavers.

Climate Change Strategy 9.g. Restrict removal and modification of beaver dams to the extent possible while still protecting essential structures, infrastructure, and working lands.

Climate Change Goal 10. Geologic and Natural Hazards

Built environment and new construction are resilient against landslides and other land instabilities.

Climate Change Policy 10.1. Develop regulations designed to avoid or prohibit development, construction, or reconstruction in areas with known severe slide potential or other geologic hazards.

Climate Change Strategy 10.a. Ensure development regulations are based on best available science and take into consideration geologic and natural hazards exacerbated by climate change impacts.

Climate Change Goal 11. Habitat

Ensure the health, functions, and processes of natural environments and ecosystems, including forest lands, shorelines, freshwater systems, and critical areas are protected.

Climate Change Policy 11.1. Sustain functionality of ecosystem services and fish and wildlife habitat into the future.

Climate Change Policy 11.2. Utilize best available science to assist in identifying and protecting crucial wildlife corridor and riparian areas that may face impacts of climate change.

Climate Change Policy 11.3. Consider climate change impacts including sea level rise, extreme precipitation, increased streamflow, and other impacts in floodplain management planning.

Climate Change Policy 11.4. Support actions that increase the resilience of aquatic ecosystems.

Climate Change Policy 11.5. Protect and restore watershed-scale processes to maximize the ecological benefits and climate resilience of riparian ecosystems.

Climate Change Policy 11.6. Consider sea-level rise in coastal and nearshore habitat restoration projects.

Climate Change Policy 11.7. Protect and restore riparian vegetation to improve resilience of streams by reducing erosion, providing shade, regulating temperature, and enhancing other indicators.

Climate Change Policy 11.8. Protect and restore wetlands and headwaters to ensure biological and hydrological connectivity.

Climate Change Policy 11.9. Restore floodplains and their connectivity to improve the resilience of waterways and reduce flood risk.

Climate Change Strategy 11.a. To improve the climate resilience of streams and watersheds, implement actions identified in restoration and salmon recovery plans for watersheds in Kitsap County, including, but not limited to: Hood Canal Integrated Watershed Plan, West Sound Ecosystem Recovery Plan, East Kitsap Demographically Independent Population Steelhead Recovery Plan, Salmon Recovery and Conservation Plan East Kitsap Watershed Chapter, West Sound Nearshore Integration and Synthesis, Chico Creek Watershed Restoration Plan, Curley Creek Watershed Restoration Plan, and Blackjack Creek Watershed Restoration Plan.

Climate Change Strategy 11.b. Maintain and update a critical areas ordinance that incorporates climate change considerations.

Climate Change Strategy 11.c. Update the Shoreline Master Program to address potential changes to shorelines from sea level rise and coastal flooding.

Climate Change Strategy 11.d. Take early action to eliminate or control non-native invasive species, especially where they threaten native species or ecosystem function.

Climate Change Strategy 11.e. Implement the Kitsap Natural Resources Asset Management Program to assist in prioritizing projects that restore ecosystem health.

Climate Change Goal 12. Wildfire Resilience

Create resilience against wildfire across private forest lands and Wildland Urban Interface / intermix areas.

Climate Change Policy 12.1. Promote and incentivize creation and implementation of Firewise strategies in coordination with county fire districts, the WA Department of Natural Resources, community groups, and landowners in forest and urban interface / intermix areas.

Climate Change Strategy 12.a. Implement modern fire protection regulations and best management practices for all new development in urban interface / intermix areas and on private forest lands.

Climate Change Strategy 12.b. Provide incentives for current landowners to adopt and implement best management practices and modern fire regulations on existing land development and forest lands.

Climate Change Strategy 12.c. Provide educational material and resources for new and existing property owners to use in lowering their risk for wildland fires including fire resistive construction techniques, construction and maintenance of defensible spaces, and fire-resistant landscapes, fuel reduction, and land use practices.

Climate Change Strategy 12.d. Develop a mitigation fund for fire-wise neighborhood projects and re-roofing of homes with noncombustible materials.

Greenhouse Gas Emissions Reduction Sub-Element

Greenhouse gas emissions reduction means taking action to reduce or eliminate greenhouse gas emissions, the quantity of which can help estimate the extent and severity of climate change impacts over time. This greenhouse gas reduction sub-chapter includes goals and policies that have a demonstrated ability to reduce local greenhouse gas emissions in support of statewide and regional climate goals.

A comprehensive update of Kitsap County’s geographic greenhouse gas emissions was completed in 2022 as part of the Puget Sound Regional Emissions Analysis Project. It includes a progress update of historical trends, contribution analysis update to explore drivers of changes in emissions between 2015 and 2019, and a wedge analysis that shows estimated emissions reductions from existing policies. The goals and policies in this sub-chapter are organized by and build on the 2022 Kitsap County Greenhouse Gas Emissions Analysis.

- **Building energy** – residential, commercial, and industrial electricity and natural gas use and associated loss and leakage, residential fuel oil and propane, and industrial processes. Electricity and natural gas use in buildings account for most of the emissions in this sector.
- **Transportation** – driving within county limits, flights from county travelers, maritime and rail travel, equipment used for agriculture, recreation, construction, logging, and commercial activities. On-road passenger travel and freight movement account for most of the emissions in this sector.
- **Tree Loss** – agriculture and loss of tree cover. Loss of tree cover accounts for most of the emissions in this sector.
- **Solid Waste** – solid waste generation and disposal. Emissions from solid waste disposal transportation to a landfill out of state account for most of the emissions in this sector.

Climate Change Goal 13. Emissions Reduction

Reduce greenhouse gas emissions consistent with regional goal.

Climate Change Policy 13.1. Kitsap County adopts VISION 2050’s climate change goal for the Puget Sound region to reduce greenhouse gas emissions to 80% below 1990 levels by 2050.

Climate Change Strategy 13.a. Work with incorporated cities, transit agencies, utility providers, tribes, and community partners to explore and implement strategies and actions to reduce community wide greenhouse gas emissions.

Climate Change Goal 14. Building Decarbonization

Reduce greenhouse gases from buildings energy systems.

Climate Change Policy 14.1. Promote energy efficiency in county buildings.

Climate Change Policy 14.2. Recognize the importance of retrofitting existing buildings rather than building new.

Climate Change Policy 14.3. Promote cost-effective renewable low-carbon energy generation.

Climate Change Policy 14.4. Promote energy conservation in new buildings.

Climate Change Strategy 14.a. Explore use of solar panels and other alternative energy on county buildings.

Climate Change Strategy 14.b. Promote energy efficiency assessments to prioritize investments in County facilities.

Climate Change Strategy 14.c. Explore funding and collaboration with community partners on incentives connecting homeowners and renters to energy efficiency opportunities (e.g., appliances, weatherization).

Climate Change Strategy 14.d. Develop a public building retrofit and replacement plan based on needs assessment and where the benefits are shared by low-income populations and BIPOC communities.

Climate Change Strategy 14.e. Explore programs and incentives for businesses and organizations to implement small-scale renewable energy production and storage at their properties.

Climate Change Strategy 14.f. Explore incentives for sustainable and green development (e.g., LEED certified) and low impact development.

Climate Change Goal 15. Tree Loss Prevention

Minimize tree loss due to development and preserve existing tree canopy cover.

Climate Change Policy 15.1. Focus growth within existing Urban Growth Areas (UGAs) using infill and redevelopment techniques.

Climate Change Policy 15.2. Reduce tree loss by using infill, redevelopment techniques, and lot clustering in rural zones.

Climate Change Policy 15.3. Coordinate with federal and state agencies to create and support forest management plans to minimize tree loss on military bases in Kitsap County.

Climate Change Policy 15.4. Coordinate with the Department of Natural Resources (DNR), Tribal governments, community groups, and private forest landowners to promote long-term preservation of forest lands.

Forests store carbon in tree trunks, roots, leaves, branches, and soil. When tree cover is lost, that carbon is released into the atmosphere.

Trees and forests in Kitsap County sequester around 942,000 MTCO₂e per year.

Tree cover loss is driven by deforestation due to development and other factors including timber harvest, fire, disease, and storm damage.

Tree cover loss emissions in 2019 increased by 51% compared to 2015.

Climate Change Strategy 15.a. Develop and implement a tree preservation ordinance to protect existing tree canopy cover and replace removed trees in areas slated for development (Alternative 2 and 3).

Climate Change Goal 16. Park Tree Canopy

Manage tree canopy within park areas to sequester carbon.

Climate Change Policy 16.1. Support implementation of forest management plans to maintain healthy forests on Parks-owned properties while allowing opportunities for recreation.

Climate Change Strategy 16.a. Identify and assess parks resource areas for their suitability for recreational uses and opportunities for habitat restoration or preservation utilizing tools including but not limited to the Kitsap Natural Resource Asset Management Program.

Climate Change Goal 17. Transportation Decarbonization

Reduce greenhouse gas emissions from on-road passenger and freight vehicle.

Climate Change Policy 17.1. Encourage mixed use, high density, Transit Oriented Development (TOD) to reduce reliance on Single Occupancy Vehicles (SOVs).

Climate Change Policy 17.2. Support compact commercial areas in order to encourage pedestrian and non-motorized travel and transit use.

Climate Change Policy 17.3. Support EV charging expansion throughout the county in collaboration with local utilities.

Climate Change Policy 17.4. Work in collaboration with local utilities, freight companies, and service agencies toward fleet electrification of freight and service vehicles.

Climate Change Strategy 17.a. Work with Kitsap Transit to plan and implement Express and Bus Rapid Transit services to help reduce greenhouse gas emissions within the Urban Growth Areas and between communities and centers.

Climate Change Strategy 17.b. Develop and implement an EV Infrastructure Plan.

Climate Change Strategy 17.c. Develop a plan to electrify freight and publicly owned service vehicles, which should include analysis and recommendations on 2030 and 2050 fleet electrification goals and on the facilities and infrastructure required to meet those goals and complement the EV Infrastructure plan.

Climate Change Goal 18. County Equipment Decarbonization

Decarbonize County owned off-road and construction equipment.

Climate Change Policy 18.1. Partner with public and private entities to utilize more sustainable fuels in offroad equipment.

Strategy 18.a. Establish goal dates to phase out gas-powered maintenance equipment and transition to using electric equipment (lawnmowers, leaf blowers, etc.) for County maintenance and operations and allocate funding for additional batteries to avoid down time due to charging needs.

Climate Change Goal 19. Solid Waste and Wastewater Emissions Reduction

Reduce emissions resulting from the generation, transportation, and disposal of solid waste.

Climate Change Policy 19.1. Encourage reduction as a first step in reducing waste and associated emissions.

Climate Change Policy 19.2. Ensure that community facilities for reuse and recycling, including composting, are easily accessible.

Climate Change Policy 19.3. Consider methods to deal with solid waste locally, thereby reducing emissions associated with transportation to out-of-state landfill facilities.

Climate Change Policy 19.4. Reduce carbon footprint of wastewater treatment facilities.

Climate Change Policy 19.5. Explore collaborative partnerships to reduce energy demand at existing facilities and offset emissions.

Climate Change Strategy 19.a. Engage in environmentally preferable purchasing practices and support use of products with minimal impacts on the environment, health, and safety.

Climate Change Strategy 19.b. Encourage local development of recovery facilities for recyclable materials.

Climate Change Strategy 19.c. Evaluate scenarios of operating a local landfill with methane capture, waste to energy plant, or other methods of keeping solid waste disposal local.

Resources

[Kitsap County Climate Change Resiliency Assessment, 2020](#)

[Kitsap County Communitywide Geographic Greenhouse Gas Emissions, 2022](#)