

Climate Change and Resiliency Element

VISION STATEMENT

The Snohomish County Comprehensive Plan (“Plan”) includes a Vision Statement that is presented in its entirety within the Introduction of the Plan. The Vision Statement is an aspirational goal that the Plan aims to help bring to fruition through the goals, objectives, and policies of each element. The Plan’s Vision for Snohomish County in 2044 is:

We’re all in this together: In 2044 Snohomish County is a resilient, vibrant, and inclusive place to live with a high-quality of life where all residents can thrive.

The Climate Change and Resiliency Element (CRE) is consistent with the Vision Statement, and focuses on the Resilience and Conservation guiding principle:

Resilience and Conservation: Communities are resilient to the changing climate. Special efforts continue to support our most vulnerable populations. The County has achieved the regional greenhouse gas reduction target and implemented transportation and building practices that conserve resources and promote healthy living. The County is well-prepared to respond to natural disasters and emergency events to keep communities safe.

The CRE supports the Vision Statement through policies focused on strengthening the county’s climate resiliency by comprehensively addressing climate change (CR Goal 1) with equity and inclusion, and prioritizing efforts to assist the most vulnerable (CR Objective 1.A). This element also contains policies aimed at reducing greenhouse gas (GHG) emissions to meet the regional GHG emission reduction target and supporting state goals (CR Goal 2). Although a standalone element, the CRE references and works in concert with other elements of the Plan that contain policies and programs to address climate GHG emissions reductions and resiliency. In addition, there are climate change and resiliency policies in the Urban Core Subarea Plan Element. All of the CRE policies apply within the Urban Core Subarea, and the Urban Core Subarea Element also has subarea-specific climate change and resiliency policies.

OVERVIEW

Under the Growth Management Act (GMA), a Climate Change and Resiliency Element (CRE) is an optional element for Snohomish County until 2029 when it becomes mandatory. The County recognizes the severity of climate change on its communities, environment, economy, and infrastructure – both current and projected. The proposed CRE provides a policy framework to reduce greenhouse gas (GHG) emissions and increase climate resiliency that is consistent with regional and local directives and supports state efforts.

The University of Washington’s Climate Impacts Group (UW CIG) publication, “No Time To Waste,” states that the global average temperature has increased by 1 degree Celsius since pre-industrial times (1850-1900), and it is projected to rise an additional 0.5 degrees Celsius between 2030-2052.¹ For the Puget Sound region, a changing climate has resulted in increases in extreme heat events, wildfire risk, days of poor air quality, storms, flooding, sea-level rise, and reduced snowpack. The UW CIG’s publication summarizes the devastating effects on human populations and the environment associated with a 1.5-degree Celsius increase in global temperature, as illustrated in Figure CRE-1.

WASHINGTON STATE DEPARTMENT OF COMMERCE CLIMATE CHANGE GUIDANCE

The CRE is modeled after the Washington State Department of Commerce (Commerce) "Climate Element Planning Guidance." As part of the 2021 budget, the Washington State Legislature appropriated funding for Commerce to work with other state agencies to develop early climate change

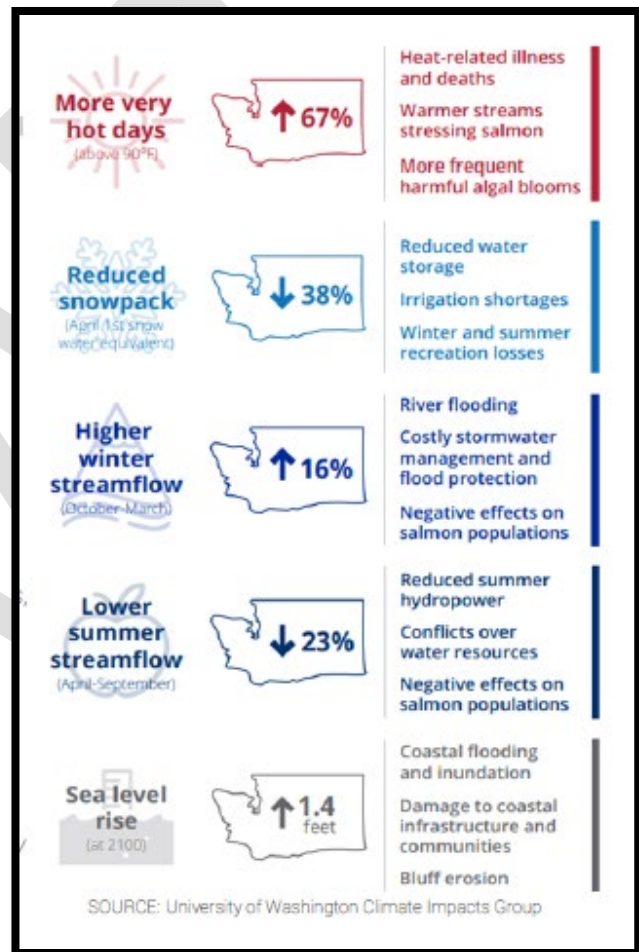


Figure CRE-1. Climate Impacts in Washington associated with a 1.5°C temperature change

¹ Snover, A.K., C.L. Raymond, H.A. Roop, H. Morgan, 2019. No Time to Waste. The Intergovernmental Panel on Climate Change’s Special Report on Global Warming of 1.5°C and Implications for Washington State. Briefing paper prepared by the Climate Impacts Group, University of Washington, Seattle. Updated 02/2019.

planning guidance for jurisdictions. The Commerce guidance includes a framework to develop a climate change element, a menu of policies, and a variety of measures for climate resiliency and reductions in GHG emissions. The CRE reflects the areas of emphasis in the Commerce guidance.

CONSISTENCY WITH STATE AND LOCAL REQUIREMENTS

Policy framework for the CRE comes from Commerce climate change guidance; the Growth Management Act, chapter 36.70A RCW (GMA); the Puget Sound Regional Council’s VISION 2050; the Countywide Planning Policies (CPPs); and the Comprehensive Plan’s Vision Statement.

In 2023 the Washington State Legislature passed Engrossed Second Substitute House Bill (ESSHB) 1181, which among other actions, amends the GMA to add Climate Change and Resiliency as a GMA planning goal under RCW 36.70A.020, and adds a Climate Change and Resiliency Element as a mandatory element of comprehensive plans under RCW 36.70A.070 for jurisdictions planning under GMA. Snohomish County is required to meet this state requirement by 2029.

RCW 36.70A.020 GMA Planning Goal (14):

(14) Climate change and resiliency. Ensure that comprehensive plans, development regulations, and regional policies, plans, and strategies under RCW 36.70A.210 and chapter 47.80 RCW 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 resiliency to climate impacts and natural hazards; protect and enhance environmental, economic, and human health and safety; and advance environmental justice.

This CRE helps the County incorporate GMA planning goal 14 by establishing a policy framework to achieve GHG emission reductions from County operations and facilities, and from the greater community as detailed in the GHG Emissions Reduction subelement. The Resiliency subelement lays a foundation to identify, adapt, and prepare for the existing and projected impacts of climate change while acknowledging that resources should be prioritized for those most vulnerable to the impacts of climate change.

VISION 2050 CONSISTENCY

VISION 2050 addresses climate change and resiliency through the Regional Growth Strategy (RGS), multicounty planning policies (MPPs), and the Regional Transportation Plan. The RGS focuses the projected growth to regional centers, cities, and urban areas served by high-capacity transit. The MPPs emphasize the need to adapt and plan for climate change in an equitable fashion with recognition that historically and currently marginalized communities bear a disproportional burden from the impacts of climate change.

This Element responds to and furthers the climate change policies of the MPPs and establishes policies and actions to assist the most vulnerable while preparing for and adapting to climate change.

COUNTYWIDE PLANNING POLICIES CONSISTENCY

The Snohomish County Countywide Planning Policies (CPPs) are guided by the GMA and VISION 2050 and reflect the county’s local circumstances. The CPPs contain several climate change-specific policies that inform this Element. The CPPs also support coordination with tribal governments, special purpose districts, and other agencies. Consistent with the CPPs, this Element emphasizes coordination with local municipalities, tribal governments, public service providers, and other planning partners. Central to this Element is the need for equity and inclusion in planning for the adverse impacts of climate change.

IMPLEMENTATION

It is important to note that like other elements of this Plan, implementation of policies is achieved through a variety of means including regulations in the Snohomish County Code (SCC); programs and projects from various County departments, service providers, and agencies; and community support. The County has been addressing climate change for several years and is steadfast in its continued efforts. Over the years, County leaders have supported the following:

- Joint Resolution No. 19-006 Committing to a goal of 100% Clean Energy by 2045
- EXECUTIVE ORDER 13-48A Regarding Climate Change and the County’s Sustainable Operations Action Plan (SOAP)
- Ordinance 21-094 For the electrification of the County’s Fleet
- Adoption of Green and High-Performance Building Code Chapter 3.06 SCC
- Commercial Property Assessed Clean Energy & Resiliency (C-PACER) program
- Hazard Mitigation Plan
- Healthy Forest Initiative
- Open Space Taxation, Purchase of Development Rights, and Transfer of Development Rights programs

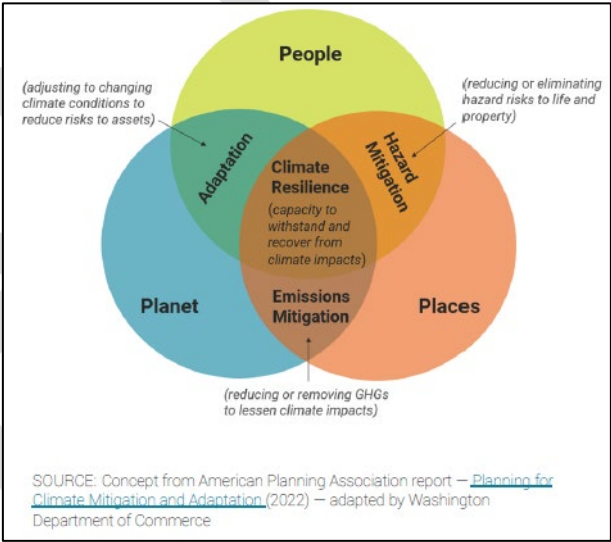


Figure CRE-2. APA’s Climate Resiliency Concept

- Low-income weatherization program
- Climate Action Advisory Committee (CAAC)
- Interdepartmental Climate Resiliency Committee (ICRC)
- Offices of Social Justice, Recovery and Resiliency, and Energy and Sustainability (OES)

GOAL, OBJECTIVES, POLICIES

[PLACEHOLDER SECTION, SEE SEPARATE LIST OF DRAFT POLICIES]



GREENHOUSE GAS EMISSIONS REDUCTION **SUBELEMENT**

To reduce the severity and duration of climate change impacts, it is imperative to reduce greenhouse gas (GHG) emissions. The objective of this subelement is to help quantify and understand the sources of GHG emissions and establish a framework that results in meaningful reductions in GHG emissions. This effort will help meet the regional emission reduction target, and support state efforts.

The CRE works in concert with other elements of the Plan that contain policies and/or programs that address the reduction of GHG emissions including the following elements:

The Transportation Element implements federal, state, and local transportation requirements through policies, programs, and capital investments. GHG emissions reduction is addressed through the expansion of and upgrades to multimodal systems, transportation demand management, and other capital investments.

The Land Use Element contains land use strategies for urban development to produce dense, compact communities with multimodal infrastructure and amenities and services in close proximity to housing to discourage single occupant vehicle trips and reduce vehicle miles traveled. Further, the Land Use Element provides strategies including the transfer and purchase of development rights for the conservation of open space and agricultural and forestry land of long-term significance – these lands play an important role in carbon sequestration.

The Parks and Recreation Element and Natural Environment Element provide programs and policies for the protection and enhancement of wetlands, estuaries, and parks, that sequester carbon and mitigate climate change impacts such as flooding and extreme heat events.

The Urban Core Subarea Plan Element provides policies that support the Regional Growth Strategy including, compact dense development and multimodal transportation infrastructure, in particular connection to the two light rail stations.

The Capital Facilities and Utilities Element promotes decarbonization of energy systems and services and stresses coordination between and among service providers.

GREENHOUSE GASES

Human activities including transportation, industry, development, and food production have generated GHGs that trap heat in Earth’s lower atmosphere, resulting in increases in the global average temperature. Greenhouse gases differ in their longevity and ability to absorb energy, which combined, defines their global warming potential (GWP). Therefore, GWP is a measure of how much energy the emissions of 1 ton of a gas will absorb over a given time (usually 100 years), relative to the emissions of 1 ton of carbon dioxide (CO₂). Knowing the GWP of GHG can

be helpful in prioritizing actions for reductions. According to the United States Environmental Protection Agency (EPA), fluorinated gases have the greatest GWP, followed by nitrous oxide and methane.² However, in 2021, CO₂ accounted for 79% of all U.S. GHG emissions from human activities. Table CRE-1 is based on information from the EPA’s “Overview of Greenhouse Gases” that provides examples of sources of GHG emissions.

Table CRE-1 GHG Global Warming Potential and Example of Sources

GHG	Global Warming Potential (GWP)	Example of Sources
<u>Carbon Dioxide (CO₂)</u>	<u>GWP of 1 regardless of the time period used, because it is the gas being used as the reference. CO₂ emissions cause increases in atmospheric concentrations of CO₂ that will last thousands of years.</u>	<u>The burning of fossil fuels (coal, natural gas, and oil), trees, and other biological materials for energy and transportation. Also, a result of certain chemical reactions.</u>
<u>Methane (CH₄)</u>	<u>GWP of 27-30 times that of CO₂ over 100 years. CH₄ emitted today lasts about a decade on average, which is much less time than CO₂. But CH₄ also absorbs much more energy than CO₂.</u>	<u>Through the production and transport of coal, natural gas, and oil. From livestock and other agricultural practices, and by the decay of organic waste in municipal solid waste landfills.</u>
<u>Nitrous Oxide (N₂O)</u>	<u>GWP of 273 times that of CO₂ over 100 years.</u>	<u>Agriculture and industrial activities; combustion of fossil fuels and solid waste; as well as processes in treatment of wastewater.</u>
<u>Fluorinated Gases</u>	<u>These GHGs have a very high (thousands or tens of thousands) GWP relative to CO₂.</u> <u>Fluorinated gases include: Chlorofluorocarbons (CFCs), hydrofluorocarbons (HFCs), hydrochlorofluorocarbons (HCFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF₆)</u>	<u>Emitted from a variety of household, commercial, and industrial applications and processes.</u>

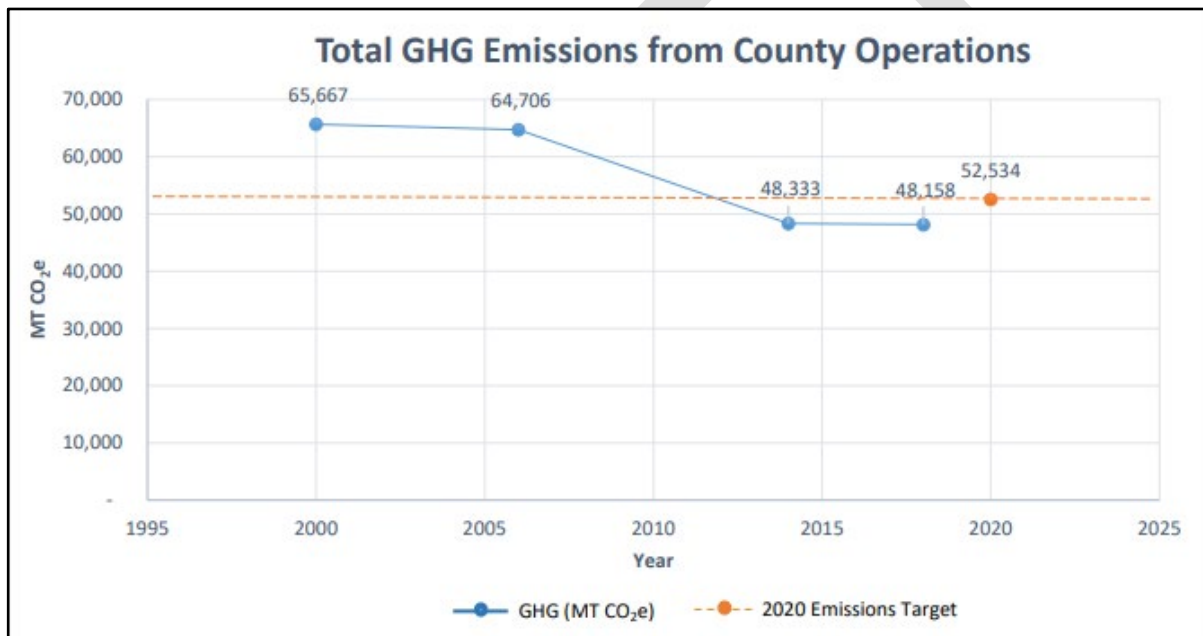
² U.S. Environmental Protection Agency “Overview of Greenhouse Gases” <https://www.epa.gov/ghgemissions/overview-greenhouse-gases>, last visited April 27, 2023.

GREENHOUSE GAS EMISSIONS INVENTORIES

County Government Operations Inventory

Since 2009, the County has periodically conducted GHG emissions inventories for County government operations. The purpose of these inventory reports was to assess the County’s progress in meeting its GHG emissions reduction target as established in Executive Order 13-48A, which put forth a 20 percent emission reduction below 2000 levels by the year 2020. The most recent GHG emissions inventory was completed in 2020 and reflected GHGs produced by County operations in the 2018 calendar year. Based on the 2020 report, the County had reached its 20 percent emissions reduction goal two years before the 2020 target date.

Figure CRE-3. Total GHG Emissions from County Operations based on the 2020 report



A key finding of the report on 2018 emissions was that 82 percent of the County’s operational emissions were generated from the combustion of fossil fuels in buildings and vehicles, and from the County’s closed Cathcart Landfill. In addition, the report revealed that GHGs from County government operations comprised less than 1 percent of the total Snohomish County community emissions, with County government and community GHGs at 48,158 million metric tons (MT) of CO₂ equivalent (CO₂e) and 5,187,000 MT CO₂e, respectively. Policies in this Element and the General Governmental Facilities section of the Capital Facilities and Utilities Element address reductions of GHG emissions from County facilities and operations.

Communitywide Geographic Inventory

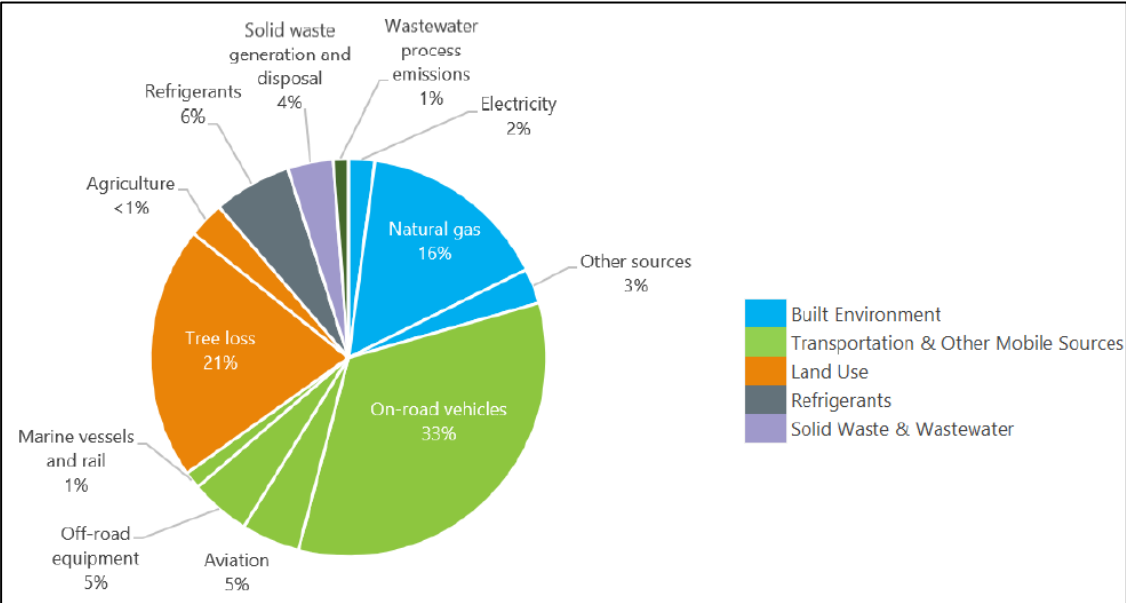
Through the Puget Sound Regional Emissions Analysis Project led by King County and Cascadia Consulting, a Snohomish County Communitywide Geographic GHG Emissions report was completed in 2022. This project was a collaboration of Puget Sound Regional Council (PSRC), Puget Sound Clean Air Agency (PSCAA), King County-Cities Climate Collaborative (K4C), Kitsap County, Pierce County, and the City of Seattle.

This GHG emission report accounts for the 2019 emissions from the activities of Snohomish County residents, businesses, employees, and visitors undertaken within or originating from within the county. The findings of this inventory reveal that:

- In 2019, Snohomish County’s residents, businesses, employees, and visitors produced 6.8 million MTCO₂e.
- Total GHG emissions in 2019 increased 7% compared to the last communitywide inventory conducted in 2015 by the Puget Sound Clean Air Agency (PSCAA).
- Per-capita GHG emissions in 2019 declined 1% compared to 2015.
- The largest GHG emissions sources are on-road transportation (~34%), tree loss (~21%), and building natural gas (~16%).

The increase in emissions from 2015 to 2019 was generally driven by a gain in population, a loss in tree cover, and an increase (per capita) of the use of natural gas for residential heating. The largest contributor to decreasing GHG emissions was the efficiency of passenger vehicles (decreased emissions per mile).

Figure CRE-4. Sources of greenhouse gas emissions for Snohomish County in 2019.



Countywide, GHG emissions are projected to increase with a growing population. However, key federal and state efforts are making gains in emission reductions including the Federal Corporate Average Fuel Economy, Washington Clean Fuel Standard, Washington Climate Commitment Act, Washington Clean Buildings Act, and Washington Clean Energy Transformation Act. Regional actions include VISION 2050’s Regional Growth Strategy (RGS) and the Regional Transportation Plan.

REGIONAL GHG EMISSIONS REDUCTION TARGET

This Plan uses the regional GHG emissions reduction target in VISION 2050 as adopted by the PSCAA’s board in 2017 for the four-county central Puget Sound region:

- By 2030, reduce overall greenhouse gas emissions in the region to 50% below 1990 levels.
- By 2050, reduce overall greenhouse gas emissions in the region to 80% below 1990 levels.

The policy framework in the CRE and other elements continue efforts toward meaningful reductions in GHG emissions. Periodic GHG emissions inventories will help assess progress toward meeting the regional target.

GHG Emissions Reduction GOAL, OBJECTIVES, POLICIES

[PLACEHOLDER SECTION, SEE SEPARATE LIST OF DRAFT POLICIES]



RESILIENCY SUBELEMENT

As expressed in Snohomish County’s Vision Statement, resilience and planning for the impacts of climate change are important so that all residents can achieve their greatest potential. The Resiliency subelement provides a strong foundation to achieve this vision so that by 2044, “Communities are resilient to the changing climate. Special efforts continue to support our most vulnerable populations...The County is well-prepared to respond to natural disasters and emergency events to keep communities safe.”

The CRE utilizes VISION 2050’s definition of resiliency:

“The capacity of social, economic, and environmental systems to cope with a hazardous event or trend or disturbance, responding or reorganizing in ways that maintain their essential function, identity, and structure, while also maintaining the capacity for adaptation, learning, and transformation.”

Other elements of the Plan contribute to building climate resiliency through policies and/or programs. The Land Use, Parks and Recreation, Natural Environment, Housing, Economic Development, Capital Facilities and Utilities, and Subarea Plan Elements play key roles in responding, adapting, and preparing for climate change impacts.

The Land Use Element provides an equity subelement to ensure that currently and historically marginalized communities are part of the land use planning process, recognizing that past practices of discrimination have created inequities and mistrust that need to be addressed. Further, the Land Use Element promotes compact urban environments that contain community assets and services to support daily needs and promotes the protection of working lands, rural areas, and open space.

The Parks and Recreation Element maintains and enhances the regional and community parks, trails, waterfronts, and open space areas. The County’s tree canopy provides ecosystem and public health benefits that collectively contribute to the county’s climate resilience. Trees help mitigate extreme heat events and urban heat island and absorb floodwaters. Parks in general provide areas to recreate and experience nature which can have positive effects on public health.

The Natural Environment Element focuses on the protection of the natural environment that helps buffer and mitigate flooding, extreme heat events, and storm events. Improving air quality in the region is a priority of this element. Poor air quality can contribute to chronic health issues such as asthma and decreases the overall capacity of community members to withstand other climate change impacts.

The Economic Development Element promotes a diverse and resilient economy and encourages new technology and clean energy businesses. Preparing and adapting to the impacts of climate change is fundamental to maintaining a strong economy.

The Capital Facilities and Utilities Element has a core function to provide reliable and cost-effective public facilities, services, and utilities that support the adopted growth projections reflected in the Land Use Element. Ensuring utilities and services have minimal disruptions during storms or other events is vital to addressing public health and a resilient economy. Prolonged power outages can further exacerbate conditions for community members with existing chronic health issues. Efforts are underway to improve power storage and build redundancy.

The Urban Core Subarea Plan Element includes policies and strategies to respond and adapt to the changing climate and to increase the communities’ assets within the Urban Core Subarea. Policies speak to green building design standards to address urban heat island and promote healthy indoor living and working spaces. Increasing community assets such as parks, gathering spaces, community centers, urban farms, and libraries increase the social network and support systems that contribute to a community’s ability to weather the storm of climate change.

Building the county’s resilience is an interdisciplinary effort that calls for action from County departments, municipalities, public service providers, agencies, and the public. The U.S. Climate Resiliency Toolkit provides steps toward resiliency, which involve taking inventory of assets (community, environment, infrastructure); understanding the asset’s sensitivity, exposure, and vulnerability to the impacts of climate change; considering options; developing a plan; and taking action. Public engagement and adaptability are integral to the entire process. Table CRE-2 summarizes the steps of building resiliency from the U.S. Climate Resiliency Toolkit and provides local options to accomplish the step.

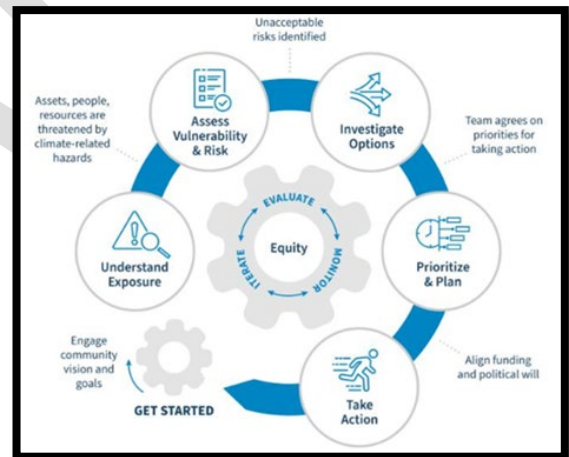


Figure CRE-5. Planning for Resilience from U.S. Climate Resiliency Toolkit

Table CRE-2. Steps to Building Resilience

Step	What this means	How to accomplish
Inventory Assets	Assets are the tangible and intangible things people or communities value. These could include people, resources, ecosystems, infrastructure, and the services they provide.	Data sets from the U.S. Census, County or cities, public service providers, and open-source data.

<u>Step</u>	<u>What this means</u>	<u>How to accomplish</u>												
<p><u>Explore Hazards</u></p>	<p><u>Climate change hazards include extreme heat, sea level rise, reduced snowpack, storms, wildfire risk, wildfire smoke, etc.</u></p> <p><u>Natural hazards exacerbated by climate change include landslides and flooding.</u></p>	<p><u>Survey communities for culturally and historically valued places.</u></p> <p><u>Data sets from the UW Climate Impacts Group (CIG), Federal Emergency Management Agency (FEMA), state Department of Natural Resources (DNR), and National Oceanic and Atmospheric Association. Coordinating efforts with Snohomish County Department of Emergency Management and hazard mitigation planning.</u></p>												
<p><u>Identify potential hazards for each of your exposed assets.</u></p>	<p><u>Next to each asset, list all the weather and climate-related events or situations that could damage it.</u></p> <p><u>Example:</u></p> <table border="1" data-bbox="537 953 1002 1354"> <thead> <tr> <th><u>Asset</u></th> <th><u>Hazard</u></th> </tr> </thead> <tbody> <tr> <td><u>Residents</u></td> <td><u>Extreme heat</u></td> </tr> <tr> <td><u>Roadways</u></td> <td><u>Flooding, landslide</u></td> </tr> <tr> <td><u>Winter Recreation</u></td> <td><u>Warming, early snow melt</u></td> </tr> <tr> <td><u>Residential Property</u></td> <td><u>Wildfire, flooding, landslides</u></td> </tr> <tr> <td><u>Parks</u></td> <td><u>Wildfire, storms, water shortage</u></td> </tr> </tbody> </table>	<u>Asset</u>	<u>Hazard</u>	<u>Residents</u>	<u>Extreme heat</u>	<u>Roadways</u>	<u>Flooding, landslide</u>	<u>Winter Recreation</u>	<u>Warming, early snow melt</u>	<u>Residential Property</u>	<u>Wildfire, flooding, landslides</u>	<u>Parks</u>	<u>Wildfire, storms, water shortage</u>	<p><u>Use a Vulnerability and Risk Assessment Tool with relevant data sources such as State Health Disparities Mapping, U.S. Census, UW CIG for:</u></p> <ul style="list-style-type: none"> ▪ <u>Wildfire</u> ▪ <u>Extreme Heat</u> ▪ <u>Flood</u> ▪ <u>Sea Level Rise</u> ▪ <u>Ozone/Particulate</u> ▪ <u>Urban Heat Island</u> ▪ <u>Reduced Snowpack</u>
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<p><u>Sensitivity</u></p>	<p><u>The degree to which a system, population, or resource is or might be affected by hazards.</u></p>	<p><u>Data sets such as health (diabetes, asthma, heart disease) age, housing stock, and housing data. Coordination with social service providers, and emergency management.</u></p>												
<p><u>Adaptive Capacity</u></p>	<p><u>The ability of people, assets, or systems to adjust to a hazard, take advantage of new opportunities, or cope with change.</u></p>	<p><u>Information regarding community resources, data including:</u></p> <ul style="list-style-type: none"> ▪ <u>Race/Ethnicity</u> ▪ <u>Income</u> ▪ <u>Level of Education</u> ▪ <u>Language Proficiency</u> ▪ <u>Household Size</u> 												

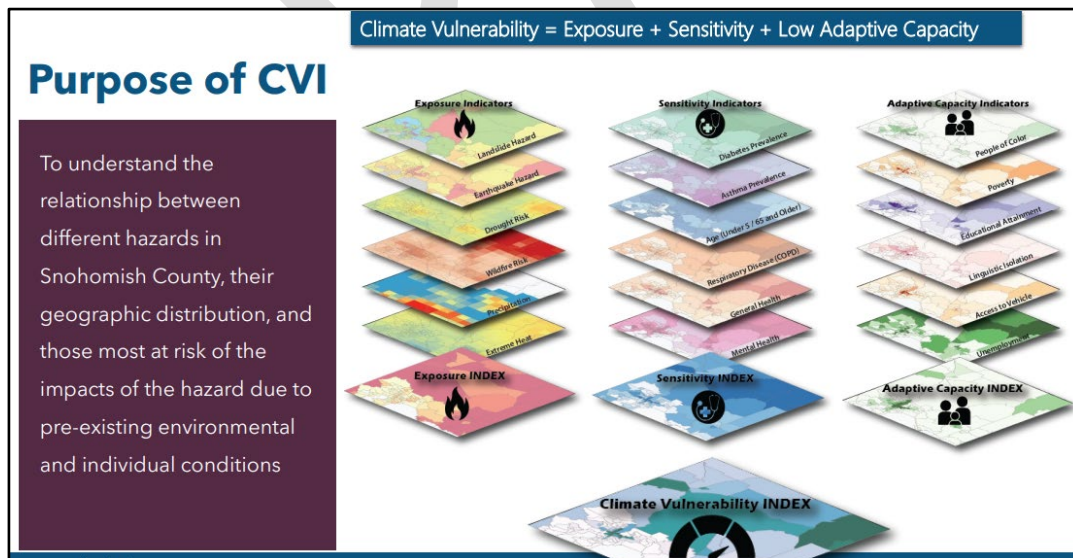
Step	What this means	How to accomplish
<u>Assessing vulnerability</u>	<p>The propensity or predisposition of people, assets, or systems to be adversely affected by hazards. Vulnerability encompasses exposure, sensitivity, potential impacts, and adaptive capacity.</p>	<ul style="list-style-type: none"> ▪ <u>Housing Cost Burden</u> ▪ <u>Housing Condition.</u> <p>A program or geo-spatial tool to consolidate data and information, such as a climate change vulnerability and risk assessment tool.</p>
<u>Understanding Risk</u>	<p>The potential for negative consequences where something of value is at stake. In the context of the assessment of climate impacts, the term risk is often used to refer to the potential for adverse consequences of a climate-related hazard. Risk can be assessed by multiplying the probability of a hazard by the magnitude of the negative consequence or loss.</p>	<p>A program or geo-spatial tool to consolidate data and information, such as a climate change vulnerability and risk assessment tool.</p>
<u>Investigate Options</u>	<p>List of strategies that could reduce risk.</p>	<p>Working from existing policies, programs, and projects identify any gap areas, particularly for areas that are at high risk of the impacts of climate change.</p>
<u>Prioritize and Plan</u>	<p>Develop an adaptive resiliency action plan with a schedule and funding sources that involves input from a variety of interested parties and the public.</p>	<p>Through interdepartmental committee, community groups, and interested parties, and public input. Coordinating efforts with Hazard Mitigation Plans.</p> <p>Funding opportunities include grants, loans, and third-party partnerships.</p>
<u>Take Action</u>	<p>Proceed with communitywide resiliency plan with progress reports and opportunities to reassess and make any adjustments.</p>	<p>Update and reporting on the County’s Hazard Mitigation Plan. Development of a communitywide resiliency plan with County Council support and review. Work through corresponding County committees and with municipalities, tribal governments, and historically and currently marginalized</p>

Step	What this means	How to accomplish
		<u>groups and other community interest groups.</u>

Snohomish County received a grant from Commerce to produce a climate change vulnerability and risk assessment. This funding was part of Commerce’s assistance to integrate climate change and resilience into comprehensive planning. The County utilized consultants for the climate change vulnerability and risk assessment tool (“CVI tool”), which was completed in March 2023.

The CVI tool is a mapping tool that organizes several data sets into three main indexes (Exposure, Sensitivity, and Adaptive Capacity) to produce a “Climate Vulnerability Index (CVI)” for areas in the county that range from low (16) to high (73). The CVI mapping tool is based on best available climate science, drawing largely from the University of Washington Climate Impacts Group (UW CIG) and data from state and federal agencies including the Health Disparities Mapping from the Washington State Department of Health, demographic information from the American Community Surveys, and flood data from the Federal Emergency Management Agency (FEMA). The CVI tool will help educate the public and assist the County to identify, prioritize, and manage climate risks to our communities, environment, economy, and infrastructure. The indexes were developed countywide; however, the risk assessment was only produced for unincorporated portions of the county.

Figure CRE-6. Climate Vulnerability Index (CVI) Tool Indexes

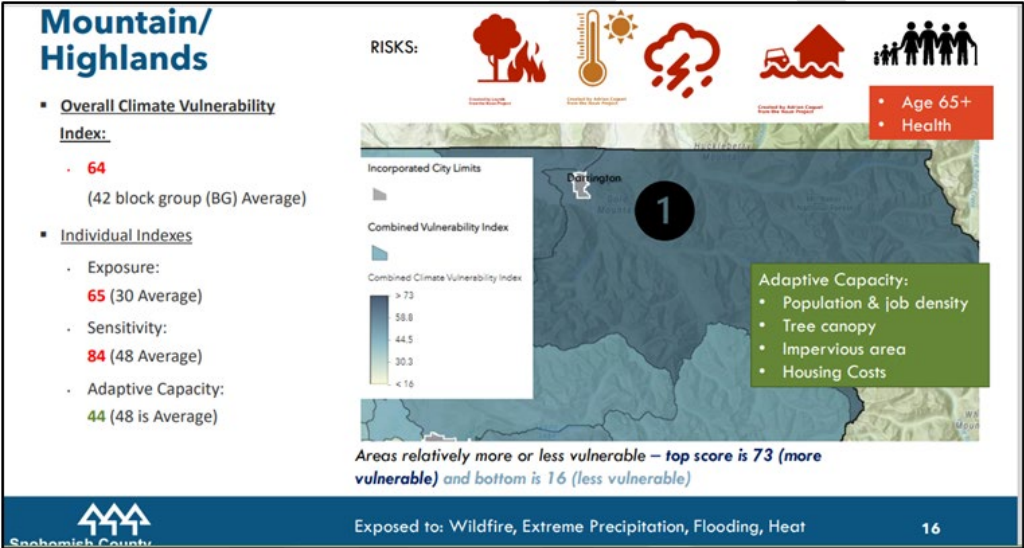


The CVI tool groups the unincorporated portion of the county into four geographic areas that have similar attributes:

- Highlands to Mountains
- Coastal
- Unincorporated Urban
- Estuaries/Agricultural/Flatlands

Results from the CVI tool reveal that several areas of unincorporated Snohomish County are at high risk for climate hazards. As indicated in Figure CRE-7, the Mountain/Highland area near Darrington for example, is an area that is more vulnerable relative to other parts of the county to climate impacts including extreme heat, flooding, and wildfire risk.

Figure CRE-7 Example of Overall Climate Vulnerability in the Mountain/Highlands Region



The CVI tool accomplishes several steps in Table CRE-2 to build the county’s climate resilience. Using the CVI tool, the County can assess risks to climate hazards. The next steps in the table are to investigate options, prepare a resiliency plan, and implement plans and policies. The County will continue its efforts to address climate change and increase its resiliency including updates to its Hazard Mitigation Plan (HMP) led by the Department of Emergency Management (DEM) and the development of a Communitywide Resiliency Action Plan facilitated by the Office of Energy and Sustainability (OES) of the Department of Conservation and Natural Resources (DCNR).

The policy framework in this Resiliency subelement responds to the information from the CVI tool as illustrated in Table CRE-3, and includes existing County projects and programs that address climate change. Policies and programs in other elements of the Plan contribute greatly to building the county’s resiliency. The implementation of resiliency policies and programs is

spread across various County departments and external agencies. The DCNR, for example, oversees the maintenance and acquisition of parks and open space. The OES provides residential weatherization programs and energy upgrades and is leading a community wide resiliency plan. The DEM coordinates with the county’s municipalities, special purpose districts, and other agencies on emergency response and preparedness for natural and human caused hazards. The County’s Human Services Department connects individuals in need with public services and emergency housing.

The GMA (RCW 36.70A.130(9)(a)) requires the County to provide Commerce an implementation progress report detailing the progress it has achieved in implementing its comprehensive plan five years after the December 2024 review and revision of the comprehensive plan. This implementation progress report presents an opportunity for the County and others to assess progress on this Element, adjust to changing needs, and incorporate new information.

Table CRE-3. Example of how Resiliency policies of this subelement help the County respond to risks identified through the CVI tool

<u>Public Health and Heat Exposure:</u> Snohomish County will be exposed to extreme heat including warmer summers and an increase in 90-degree days humidex (heat and humidity). <u>The UW CIG’s change in projected days with a maximum humidex above 90 shows an increase of 12.9 days median across the county, but the greatest increase of 20 or more of days is in the west side of the county and west-east along SR 530 and US 2. (Model and period: RCP 8.5, 2030 – 2059 vs 1980 – 2009)</u>		
<u>Risk</u>	<u>Resiliency Strategies</u>	<u>Resiliency Subelement Policies</u>
<ul style="list-style-type: none"> <u>Areas of the county most at risk include Unincorporated Urban areas which have a combination of higher impervious surfaces and urban heat islands, higher shares of persons of color, and a greater share of families with young children.</u> <u>Coastal areas have a medium risk overall; the region has higher heat exposure and an older population greater than 64 years old, and a greater incidence of diabetes</u> 	<ul style="list-style-type: none"> <u>Expanding tree canopy, parkland, shade structures, and green infrastructure, especially within urban areas to mitigate urban heat island. Opportunities to improve shade structures and tree canopy include parking lots, overhangs, parks, bus stops, rights of way/sidewalks, and new development.</u> <u>Provide information or incentives to property owners to ensure buildings are retrofitted or built to provide for cooling (passive cooling, air conditioning).</u> 	<p><u>Policies under Objectives CR 3.B and 3.C</u></p>

<p><u>but a medium amount of impervious area.</u></p> <ul style="list-style-type: none"> • <u>Estuaries/agricultural areas have a medium overall risk. While it has higher heat exposure, and more persons with adverse heart conditions, it has moderately low impervious areas and low population density.</u> • <u>Highlands to Mountains areas have a medium to low risk with a higher heat exposure (e.g., along SR 530 and US2) high respiratory and heart disease, but lower impervious area and higher tree canopy.</u> 	<ul style="list-style-type: none"> • <u>Identify resilience hubs at County and city facilities like community centers, libraries, schools, or offices.</u> • <u>Provide advance emergency notifications for extreme heat events that are translatable in languages prevalent in the county.</u> • <u>Provide information about outdoor work protocols to reduce potential adverse health effects.</u> 	
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Resiliency GOALS, OBJECTIVES, POLICIES
[PLACEHOLDER SECTION, SEE SEPARATE LIST OF DRAFT POLICIES]