



# CITY OF EVERETT CLIMATE ACTION PLAN

JANUARY 2020

ADOPTED BY CITY COUNCIL

# Acknowledgments

## EVERETT PLANNING COMMISSION

*Recommended for City Council adoption  
(December 3, 2019)*

Kathryn Beck, Chair

Christine Lavra, Vice Chair

Adam Yanasak, Commissioner

Carly McGinn, Commissioner

Chris Holland, Commissioner

Greg Tisdell, Commissioner

Michael Zelinski, Commissioner

Alex Lark, Alternate

Michael Finch, Alternate

## CITY OF EVERETT STAFF

Karen Stewart, Environmental Planner

Bob Bolerjack, Executive Director

## EVERETT MAYOR

Cassie Franklin

## EVERETT CITY COUNCIL

*Adopted by City Council (January 29, 2020)*

Judy Tuohy, Council President

Scott Bader, Council Member

Jeff Moore, Council Member

Scott Murphy, Council Member

Paul Roberts, Council Member

Brenda Stonecipher, Council Member

Liz Vogeli, Council Member

## PREPARED BY

Cascadia Consulting Group



# Table of Contents

**Acknowledgments .....2**

**List of Figures and Tables.....4**

**Acronyms .....4**

**The Plan at a Glance.....5**

**Introduction.....8**

**Climate Change and Everett.....13**

    Temperature ..... 13

    Sea Level Rise..... 14

    Precipitation..... 14

    Snowpack..... 14

    Streamflow and Stream Temperature ..... 15

    Flooding ..... 15

    Native Tree and Plant Habitats ..... 16

    Human Health Impacts ..... 17

    Economic Impacts ..... 18

    Everett’s Contribution to Climate Change ..... 19

**Mitigation Strategies and Actions .....21**

    How to Read the Strategies and Actions..... 22

    Governance..... 23

    Transportation ..... 24

    Electrification ..... 26

    Green Economy..... 28

    Compact, Multimodal Land Use ..... 33

**Implementation and Evaluation.....35**

    What You Can Do ..... 36

**Appendix A. Public Feedback.....37**

**Appendix B. Public Open House Boards .....40**

**Appendix C. Implementation & Evaluation Frameworks .....44**

**Appendix D. Multi-Criteria Analysis .....45**

**References.....53**

# List of Figures and Tables

Figure 1. Everett inundation risk and flood depth from a 100-year flooding event. .... 16

Table 1. Potential economic impacts in Washington State under a BAU approach to climate change ..... 18

Figure 2. Everett greenhouse gas inventory, 2014 ..... 19

Figure 3. Greenhouse gas emissions reduction goals for the Everett community..... 20

# Acronyms

| Acronym              | Full Name                                |
|----------------------|--|
| CO <sub>2</sub>      | Carbon dioxide                           |
| CO <sub>2</sub> e    | Carbon dioxide equivalent                |
| KT                   | Kilotons, thousand metric tons           |
| MT CO <sub>2</sub> e | Metric tons of carbon dioxide equivalent |
| GHG                  | Greenhouse gas                           |
| EV                   | Electric vehicle                         |
| VMT                  | Vehicle miles traveled                   |
| CAP                  | Climate Action Plan                      |



# The Plan at a Glance

Global greenhouse gas (GHG) emissions are changing the climate in ways that threaten the vitality, livability, and prosperity of the Everett community. The City of Everett is projected to encounter changes in temperature, rain and snowfall, sea level, and flooding frequency. The City is committed to reducing local GHG emissions to help stabilize the global climate. This community-level Climate Action Plan (CAP) is the first of its kind for the City of Everett. It provides a long-term vision and strategic roadmap for reducing GHG emissions and preparing for climate change in the City. This CAP represents the first phase of an ongoing and evolving process.



## VISION FOR THE FUTURE

The City of Everett is a leader in climate action and the green economy.

We partner with communities and businesses to work toward carbon neutrality; sustain healthy, resilient, and livable communities; preserve the natural environment and a robust local economy; and enhance quality of life for all residents for generations to come.

## OUR TARGETS

The goal of the Everett Climate Action Plan is to reduce Everett’s greenhouse gas (GHG) emissions. The emissions reductions targets proposed for the City of Everett reaffirm the 2050 target set in 2014 and are consistent with targets set by cities around the Puget Sound Region.

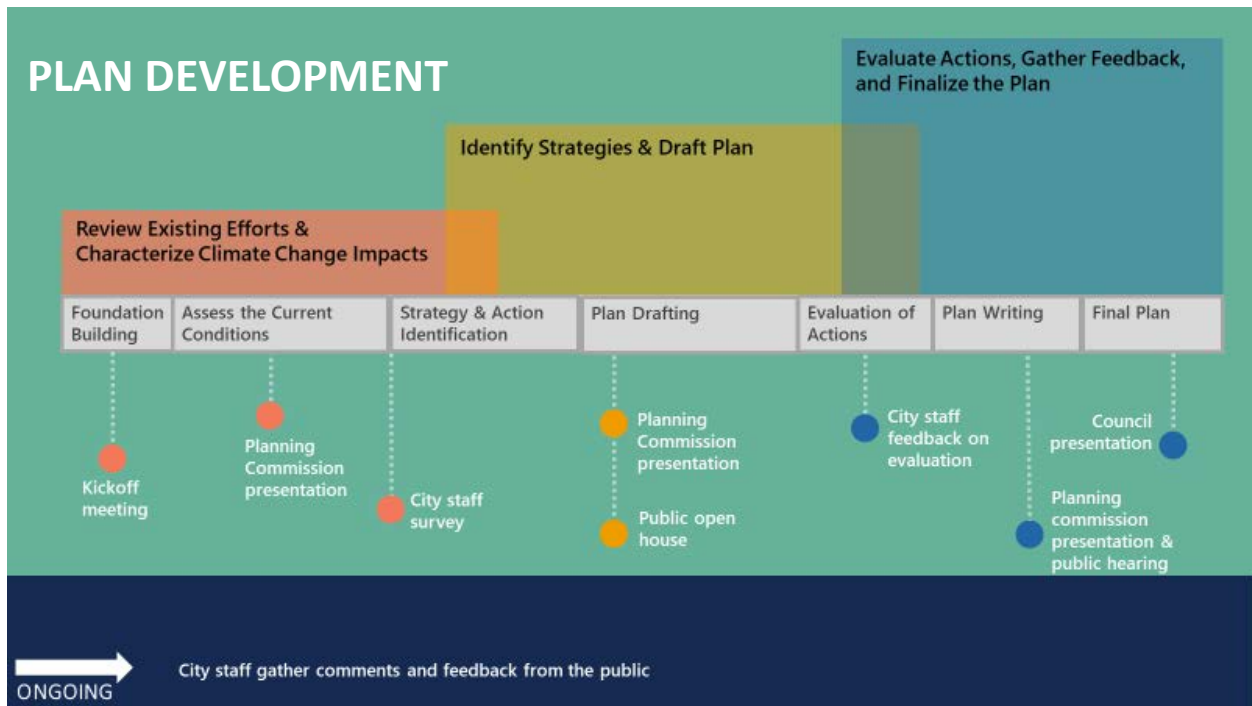
### COMMUNITY TARGET

Reduce Everett community **GHG emissions 50% by 2030 and 80% by 2050**, compared to the 2014 baseline.



### MUNICIPAL OPERATIONS TARGET

Reduce municipal **GHG emissions 50% by 2030** and achieve **carbon neutrality by 2050**.



## CLIMATE IMPACTS

The impacts of climate change—including heat waves, changing precipitation patterns, and sea level rise—are occurring now. To reduce these potential impacts, substantial reductions in GHG emissions are needed.

Climate change has already affected and will continue to affect Everett. Climate change is expected to increase the frequency and severity of heat stress, respiratory disease, and vector-borne diseases. City disaster and relief costs will likely increase as climate-related natural disasters become more frequent and intense. Disaster response and relief costs are anticipated to increase as flooding, storms, droughts, wildfires and smoke, and other climate-related natural disasters become more common.

Climate change is anticipated to affect buildings, stormwater infrastructure, transportation infrastructure, community services, and land-use planning and development.

## IMPLEMENTATION

The City of Everett will lead implementation of the Climate Action Plan. One of the priority actions set forth in this CAP includes the creation of a sustainability coordinator who can plan for and conduct implementation, reporting, and evaluation of the CAP based on an established framework. This framework will identify who will lead and partner on each action, a timeframe, key performance indicators to measure progress, funding strategies, and other key factors necessary for successful implementation. The CAP is only the beginning of an ongoing process that will require flexibility and adaptive management in the coming years.

## GOALS, STRATEGIES, AND ACTIONS

The CAP presents goals, strategies, and actions in these five focus areas. The table below summarizes goals and strategies; actions are presented in the *Mitigation Strategies and Actions* chapter beginning on page 21.



### Governance (GO)

Provide overall leadership and capacity-building



### Transportation (T)

Promote more biking, walking, transit, and clean, energy-efficient vehicles



### Electrification (E)

Transition away from natural gas heat and deploy electric vehicle infrastructure



### Green Economy (GE)

Build a sustainable local economy with green jobs for residents



### Compact, Multimodal Land Use (LU)

Concentrate homes and workplaces together, with easy access to transit and amenities

|  |
|--|
| <b>Goal GO-1: Strengthen capacity to support climate action.</b>   |
| Strategy GO-1.1: Improve City staff knowledge of and capacity for their role in climate action.  |
| <b>Goal T-1: Embrace non-car travel.</b>   |
| Strategy T-1.1: Prioritize, incentivize, and promote transportation by biking, walking, and transit.   |
| Strategy T-1.2: Reduce commute trips.  |
| <b>Goal T-2: Transition to the use of clean, energy-efficient vehicles.</b>  |
| Strategy T-2.1: Transition to electric vehicles (EVs).   |
| <b>Goal E-1: Eliminate natural gas from new and existing buildings.</b>  |
| Strategy E-1.1: Mandate all-electric construction.   |
| <b>Goal E-2: Electrify the transportation system through infrastructure development.</b>   |
| Strategy E-2.1: Create a robust electric vehicle (EV) charging station network.  |
| <b>Goal GE-1: Position Everett as a green economy hub of the future.</b>   |
| Strategy GE-1.1: Incentivize green infrastructure.   |
| Strategy GE-1.2: Recruit and support green business and industry.  |
| <b>Goal GE-2: Prepare Everett residents for jobs in the green economy.</b>   |
| Strategy GE-2.1: Increase education, workforce training, and local recruitment in green jobs and fields.   |
| <b>Goal GE-3: Promote the local, circular economy.</b>   |
| Strategy GE-3.1: Incentivize local and green purchasing for city government and the community.   |
| Strategy GE-3.2: Catalyze a sharing and reuse economy.   |
| Strategy GE-3.3: Support local agriculture and small businesses.   |
| <b>Goal LU-1: Create centralized activity centers with a dense and diverse mix of services, amenities, jobs, and housing types in areas well-served by public transit.</b> |
| Strategy LU-1.1: Support intentional high-density development.   |
| <b>Goal LU-2: Develop vibrant, healthy, and livable neighborhoods.</b>   |
| Strategy LU-2.1: Improve neighborhood walkability.   |
| Strategy LU-2.2: Increase, protect, and restore green spaces and natural areas within the community.   |

# Introduction

## WHY A CLIMATE ACTION PLAN?

Global greenhouse gas (GHG) emissions are changing the climate in ways that threaten the vitality, livability, and prosperity of the Everett community. The City of Everett is projected to encounter changes in temperature, precipitation, rain and snowfall, sea level, and flooding frequency. These changes will exacerbate existing concerns and introduce new challenges to Everett's natural resources, economy, infrastructure, and quality of life.

The City of Everett is committed to reducing local GHG emissions to stabilize the global climate. This Climate Action Plan (CAP) builds on the City's past successes and strengths in other planning and implementation efforts and sets new targets—a 50% reduction in GHG emissions by 2030 and an 80% reduction by 2050—to protect the wellbeing of its residents for decades to come. As one of the fastest-growing cities in the Puget Sound region, the City of Everett will face particular challenges in attempting to curb GHG emissions. However, the cost of inaction is too high—and the benefits of climate action are too large—not to act now.

This community-level CAP is the first of its kind for the City of Everett. It provides a long-term vision and strategic roadmap for reducing GHG emissions and preparing for climate change in the community. This CAP represents the first phase of an ongoing and evolving process. It was written for the community—building on knowledge of projected local climate changes, sources of GHG emissions, and community vulnerabilities, priorities, ideas, and concerns. It focuses on foundational activities that set up Everett for future successes, along with those that achieve the greatest emissions reductions and create transformational change in a cost-effective and equitable manner. The entire community—Everett businesses, residents, and visitors—has a role in both implementing the CAP and enjoying its benefits.

## VISION FOR THE FUTURE

The City of Everett is a leader in climate action and the green economy.

We partner with communities and businesses to work toward carbon neutrality; sustain healthy, resilient, and livable communities; preserve the natural environment and a robust local economy; and enhance quality of life for all residents for generations to come.

Everett's greatest impact on emissions reductions will likely be through creating and promoting a **safe, healthy, and sustainable community** with buildings, transit, freight movement, and cars powered by **clean, renewable energy** that fuels our **thriving, local green economy**. This green economy creates plentiful local green jobs that will employ the community and promotes low-carbon and low-waste goods. Through this plan, the City of Everett can demonstrate successful carbon reduction and help inform other communities.

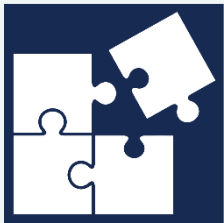


## PLAN OVERVIEW

### Plan Organization

The goals, strategies, and actions in this CAP—which together build the strategic roadmap for reducing GHG emissions—are organized into five focus areas. The first, **Governance**, is aimed at laying the groundwork for future implementation success and ensuring government and community resources are in place to support actions in the other focus areas. The other four focus areas—**Transportation**, **Electrification**, **Green Economy**, and **Compact, Multimodal Land Use**—represent the community sectors identified in the City’s prior work to have the greatest opportunity for GHG emissions reductions.

Adapting to climate change impacts is not an explicit focus of this foundational CAP effort, as many of the City’s existing plans and work already support climate adaptation. However, actions within this CAP are evaluated and prioritized based on their potential to increase community resilience to the impacts of climate change, among other key factors.



#### Governance

Provide overall leadership and capacity-building



#### Transportation

Promote more biking, walking, transit, and clean, energy-efficient vehicles



#### Electrification

Transition away from natural gas heat and deploy electric vehicle infrastructure



#### Green economy

Build a sustainable local economy with green jobs for residents



#### Compact, multimodal land use

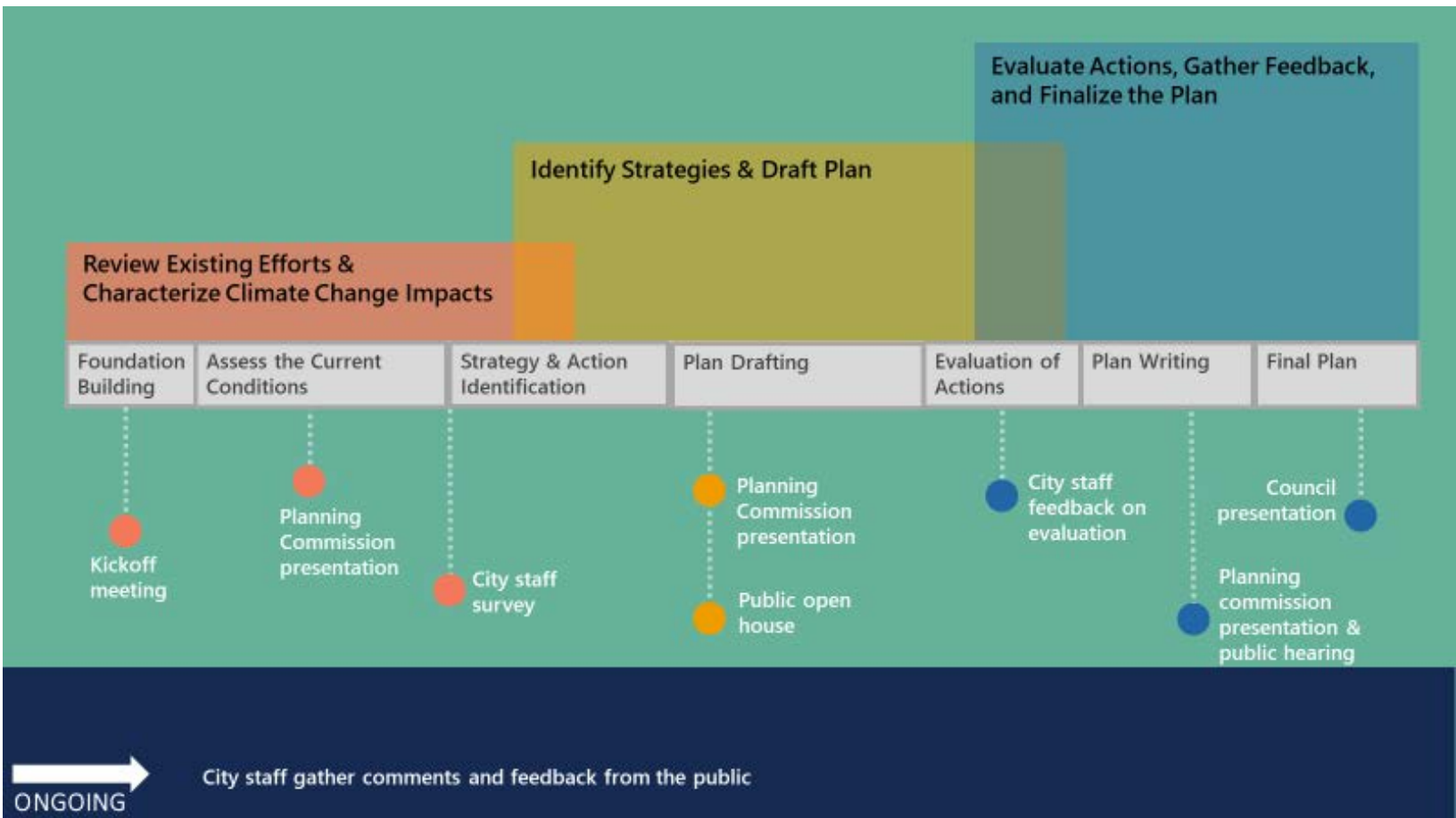
Concentrate homes and workplaces together, with easy access to transit and amenities



## Plan Development

This CAP is the product of a six-month public and stakeholder engagement process that included a community open house, City staff surveys, presentations at three Planning Commission meetings, engagement at community events, and collaboration with concurrent planning efforts. The CAP was not developed in a vacuum, but rather within an active community that is already working to improve quality of life through planning and projects. This CAP recognizes, connects to, and builds on these existing activities. Everett plans that informed this CAP include:

- ▶ Hazard Mitigation Plan (2018)
- ▶ Comprehensive Plan, Climate Change & Sustainability Element (2017)
- ▶ Climate Action Inventory (2018)
- ▶ Urban Carbon Reduction Strategies and Wedge Analysis (2016)
- ▶ Climate Action Plan for Municipal Operations (2011)
- ▶ Everett Transit Draft Long Range Plan (2018)
- ▶ Stormwater Management Program Plan (2019)



## TARGETS

This CAP will guide the City of Everett and its community in reducing GHG emissions, preparing for climate risks, and protecting the health and wellbeing of current and future residents. This plan reaffirms the GHG reduction targets set in 2014 and is consistent with targets set by cities around the Puget Sound region.

- ▶ **Everett’s communitywide target:** Reduce Everett community GHG emissions 50% by 2030 (50x30) and 80% by 2050 (80x50), compared to its 2014 baseline.
- ▶ **Everett’s municipal operations target:** Reduce municipal GHG emissions 50% by 2030 (50x30) and achieve carbon neutrality by 2050.

Numerous cities in Washington and around the United States have established emissions reduction targets, as noted in the table below. These peer cities and municipalities helped inform Everett’s emissions reduction goals. Everett contributes to global emissions reductions by reducing GHGs associated with its municipal, residential, commercial, and industrial activities.

| Communitywide Targets  | Municipal Operations Targets   |
|--|--|
| <p>Dozens of cities around the United States have established emissions reduction targets. Local community targets include the following:</p> <ul style="list-style-type: none"> <li>▶ 40% reduction by 2030                             <ul style="list-style-type: none"> <li>• Portland, Oregon (1990 baseline)</li> </ul> </li> <li>▶ 40% reduction by 2020 (1990 baseline)                             <ul style="list-style-type: none"> <li>• Tacoma</li> </ul> </li> <li>▶ 50% reduction by 2030                             <ul style="list-style-type: none"> <li>• King County, Redmond, Issaquah (2007 baseline)</li> </ul> </li> <li>▶ 80% reduction by 2050                             <ul style="list-style-type: none"> <li>• King County, Redmond, Issaquah, Shoreline (2007 baseline)</li> <li>• Portland, Oregon (1990 baseline)</li> </ul> </li> <li>▶ Zero net emissions by 2050                             <ul style="list-style-type: none"> <li>• Seattle</li> </ul> </li> </ul> | <p>Many cities with communitywide GHG emissions reduction targets also adopt targets for their municipal operations, which often have similar or more aggressive timelines than communitywide targets. Examples include:</p> <ul style="list-style-type: none"> <li>▶ 25% reduction by 2020                             <ul style="list-style-type: none"> <li>• King County</li> </ul> </li> <li>▶ 50% reduction by 2030                             <ul style="list-style-type: none"> <li>• King County</li> </ul> </li> <li>▶ 53% reduction by 2030                             <ul style="list-style-type: none"> <li>• Portland, Oregon (2006 baseline)</li> </ul> </li> <li>▶ 80% reduction by 2050                             <ul style="list-style-type: none"> <li>• Nashville, Tennessee</li> </ul> </li> <li>▶ Zero net emissions by 2050                             <ul style="list-style-type: none"> <li>• Seattle</li> <li>• Columbia, Missouri</li> </ul> </li> </ul> |

The reduction of 50% of GHG emissions by 2030 aligns with Everett’s previously established wedge analysis and is comparable to cities of similar size, population, and/or region. Generally, it is easier for cities to achieve more ambitious municipal targets compared to communitywide targets, which is why Everett’s 2050 target is greater for its municipal operations. Everett reaffirms this long-term target. Pursuing this target affirms the City’s commitment to advancing global goals for GHG neutrality by the second half of the century.

## BUILDING ON A FOUNDATION

Over the years, the City of Everett has taken actions to monitor and reduce GHG emissions while mitigating and adapting to the impacts of climate change. In 2007, for example, the City joined a network of local governments and began conducting GHG emissions inventories for municipal and community operations to inform its policies and programs. Highlights of Everett's plans, policies, and programs include the following:

- ▶ **Mayors Climate Protection Agreement (2006):** Mayor Stephanson signed the Climate Protection Agreement, joining with hundreds of U.S. cities in committing to meet or beat the Kyoto Protocol targets, urge federal and state governments to enact GHG reduction policies, and urge Congress to pass bipartisan legislation to reduce greenhouse gas emissions.
- ▶ **Climate Action Plan (2011):** Everett's Climate Action Plan identified programs and policies to reduce GHG emissions from municipal operations. A wide variety of measures were identified to decrease operational emissions by 40% by 2030, including HVAC and lighting retrofits, green purchasing, waste reduction, and hybrid vehicle purchasing.
- ▶ **Hazard Mitigation Plan (2018):** The Hazard Mitigation Plan took inventory of climate change impacts to the Everett area. The analysis identified a wide variety of impacts of climate change on property, critical infrastructure, public health, the environment, and the economy. The plan addressed mitigation measures the City could take to increase hazard resilience.
- ▶ **“Smart Move” Ride Share Program:** Provides incentives to encourage the use of public transit, carpooling, vanpooling, biking, and walking for commuting to work.
- ▶ **Compressed Work Week:** Approximately 360 full-time City employees work a compressed schedule, rather than the standard five-day week, resulting in a reduction in GHG emissions from employees commuting to and from work.
- ▶ **Department of Energy Grant:** In 2009, the City received a \$1.4 million grant for energy efficiency projects, including the Community Housing Improvement Program, HVAC replacement systems, and solar-powered trash compactors.





# Climate Change and Everett

The plants and animals on our planet generally are able to adapt to a climate that changes slowly over thousands of years. However, when the climate changes rapidly—as we are seeing today—drastic consequences, such as mass extinctions, can occur. This swift change in climate is being driven by decades of burning fossil fuels and other human activities that have released dangerous levels of heat-trapping gases into the atmosphere. These greenhouse gases—carbon dioxide, methane, nitrous oxides, and others—are changing our climate in ways that threaten to destabilize global weather patterns and ecosystems.

This section presents the context of climate change in the City of Everett, including an overview of anticipated climate changes and associated impacts, and an overview of the sources of greenhouse gas emissions produced by the Everett community.

## TEMPERATURE

**By mid-century, under the current emissions pathway, the average year in Washington is projected to be warmer than the hottest year of the 20<sup>th</sup> century.<sup>1</sup>**

- ▶ As compared to historical trends, the average year in Snohomish County during the mid-century is projected to be 4 to 5.5°F warmer.<sup>2</sup>
- ▶ Heat waves are projected to increase in intensity, while cold nights are projected to become less severe.<sup>3</sup>
- ▶ Increased likelihood of droughts and wildfires.
- ▶ Increased likelihood of heat stress and heat-related deaths. Heat events also trap air pollution and humidity, which affect daily health and generally decrease city labor productivity (refer to *Human Health Impacts* section on page 17 for additional details).



<sup>1</sup> Snover et al., 2019.

<sup>2</sup> NOAA, 2019.

<sup>3</sup> Mauger et al., 2015.

## SEA LEVEL RISE

**In Washington, the latest projections available indicate increases in sea level rise across all emissions scenarios by 2100.<sup>4</sup>**

- ▶ The rate at which sea level rises in Puget Sound depends on the rate of global absolute sea level rise and regional factors, such as ocean currents, wind patterns, location, and elevation.
- ▶ In areas where the land is sinking, the regional relative sea level rise will be greater than the absolute sea level rise, and in regions where the land is rising, relative sea level rise will be less than the absolute sea level rise.
- ▶ Relative sea level rise is projected to increase the Snohomish River levels between 4–14 inches by 2050.<sup>5</sup> Absolute sea level rise is projected to nearly triple under both the low and high GHG emissions scenarios between 2050 and 2100.
- ▶ Sea level rise will lead to greater storm surge impacts as a higher sea level translates to higher water levels during storm events. However, it is unclear how storm surge (independent of sea level rise) will change in the future.<sup>6</sup>
- ▶ Projected relative sea level rise by 2050 is estimated at 0.5–0.9 feet under the low GHG emissions scenario and increases to approximately 1.2–2.4 feet under the high GHG emissions scenario.<sup>7</sup>

## PRECIPITATION

**Precipitation variability is projected to continue to increase, causing greater seasonal extremes.**

- ▶ Washington is projected to see an increase in precipitation under all emissions scenarios (+3.7–4.6% higher on average in the 2050s as compared to 1970–1999).
- ▶ Wetter conditions are anticipated in spring, fall, and winter (+8.3–10.2% higher on average in the 2050s as compared to 1970–1999), while the summers are projected to get drier and warmer (-7 to -8.2% lower precipitation on average in the 2050s as compared to 1970–1999).<sup>8</sup>

## SNOWPACK

**Warmer winters have led to reductions in the snowpack that historically covered the region's mountains.<sup>9</sup>**

- ▶ In 2015, record winter warmth led to record-low snowpack in much of the Northwest's mountains, as winter precipitation fell as rain instead of snow, resulting in drought and water scarcity.<sup>10</sup>
- ▶ Less precipitation will arrive in the form of snow, reducing spring snowmelt and in-stream water flows during the summer months.
- ▶ The reliability of Everett's municipal water supply is anticipated to remain largely unaffected, meaning no water shortages are projected through the 2080s.<sup>11</sup>

<sup>4</sup> Miller et al., 2018.

<sup>5</sup> Mauger et al., 2018.

<sup>6</sup> Mauger, Lee, and Won, 2018.

<sup>7</sup> Vano et al., 2010.

<sup>8</sup> Mauger et al., 2015.

<sup>9</sup> Mote, Li et al., 2018.

<sup>10</sup> Mote, Rupp et al., 2016.

<sup>11</sup> Vano et al., 2010.

## STREAMFLOW AND STREAM TEMPERATURE

**While annual streamflow volumes are not projected to change significantly,<sup>12</sup> seasonal streamflow volume and timing are expected to shift based largely on the proportion of precipitation falling as snow and rain.**

- ▶ As snowpack declines, spring runoff is expected to shift earlier in the year.
- ▶ As summer grows warmer, summer streamflow is anticipated to decline significantly across Puget Sound watersheds, including the Snohomish River.
- ▶ Daily peak river flow is projected to increase in the Snohomish River over time, with the largest changes projected for the two-year events and smallest changes for 100-year events.<sup>13</sup>
- ▶ Stream temperatures are projected to increase between 4 to 4.5°F by the 2080s.<sup>14</sup>
- ▶ The duration of low-flow periods is expected to increase as well.<sup>15</sup>

## FLOODING

**Flood risk is projected to increase in the future, due to a combination of decreased snowpack and more intense heavy rains. Area flooded is projected to increase 19–69% by the 2080s, due to combination of high river flows and sea level rise.<sup>16</sup>**

- ▶ As the amount of winter precipitation falling as rain rather than snow increases, increased streamflow and flood risk is projected to occur in the Snohomish River.<sup>17</sup> However, some projections indicate a decrease in peak flows in the future.<sup>18</sup>
- ▶ Transient (mixed rain and snow) basins such as the lower Snohomish River are most at risk for flooding due to the expected increase in winter precipitation falling primarily as rain instead of snow.<sup>19</sup>
- ▶ Regional models suggest that heavy rainfall events in Western Washington may intensify by 22% by the 2080s and that these increases would likely lead to increases in streamflow and increased risk of flooding. Not only is it projected that these events increase in intensity, but they are anticipated to occur more often, occurring 7 days per year by the 2080s, compared to 2 days a year historically.<sup>20</sup>
- ▶ Coastal flooding can make it harder for river floodwaters to drain into Puget Sound. The area flooded during a 100-year event in the Snohomish River floodplain is expected to increase 23% by the 2080s due to the combined impact of coastal and inland flooding.<sup>21</sup>

---

<sup>12</sup> Hamlet et al., 2013.

<sup>13</sup> Mauger, Lee, and Won, 2018.

<sup>14</sup> Hamlet et al., 2013.

<sup>15</sup> Mauger et al., 2015.

<sup>16</sup> Mauger et al., 2014.

<sup>17</sup> Mauger et al., 2015.

<sup>18</sup> Mauger, Lee, and Won, 2018.

<sup>19</sup> Mauger et al., 2015.

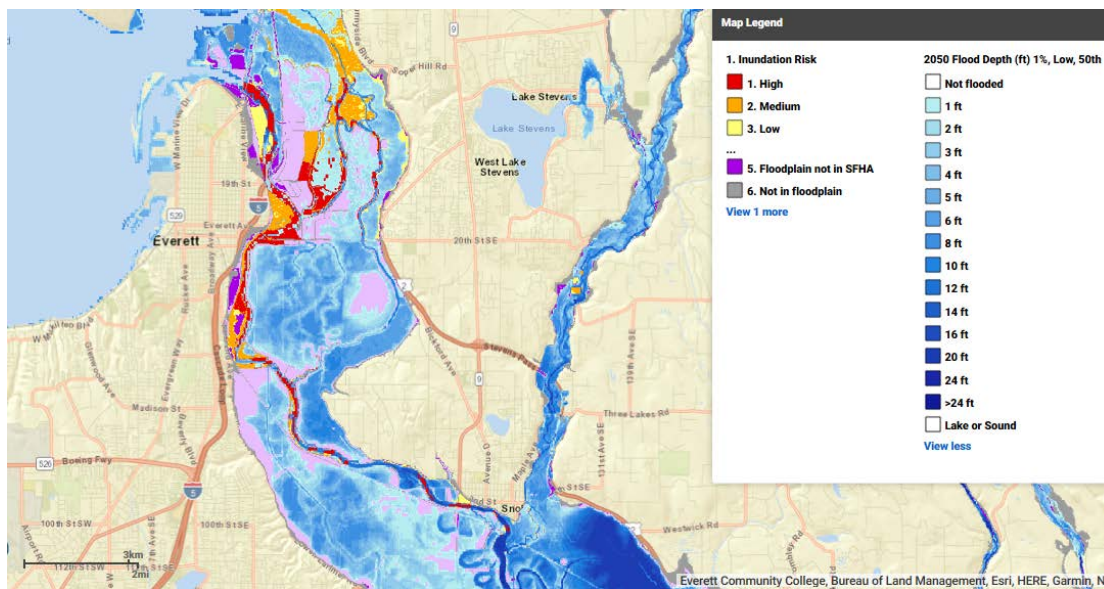
<sup>20</sup> Mauger et al., 2015.

<sup>21</sup> Petersen et al., 2015.

The area in Everett that could flood during regular high tides by the 2050s (as a result of a 100-year flooding event) is projected to increase. Figure 1 shows that the City of Everett has varying inundation risk, or risk of water covering normally dry land:

- ▶ Dark blue indicates deeper water; these areas may be affected even when the flow is not especially high.
- ▶ Light blue indicates shallower water; these areas may only be seriously flooded during the most extreme flooding events.
- ▶ Red indicates areas of high vulnerability to inundation.
- ▶ Orange indicates areas of medium vulnerability to inundation.
- ▶ Yellow represents areas with low vulnerability to inundation.

Figure 1. Everett inundation risk and flood depth from a 100-year flooding event. Projections are for the low emissions scenario by the 2050s.<sup>22</sup>



## NATIVE TREE AND PLANT HABITATS

Terrestrial ecosystems in Washington are projected to experience a continued shift in the distribution of species, changes in forest growth and health, increases in fire activity, and changes in risk from insects, diseases, and invasive species.<sup>23</sup>

- ▶ Carbon storage is projected to decline. The Cascades region is projected to lose up to 46% of ecosystem carbon stocks (1.2 billion metric tons of carbon dioxide equivalents) by the end of the century.<sup>24</sup>
- ▶ Local native plants and animals are at risk as temperatures rise. Scientists are reporting more species shifting to higher elevations or more northerly latitudes.<sup>25</sup>
- ▶ Increased flow and salinity of water resources would also seriously affect the food web and spawning conditions for fish like salmon that are of economic and recreational importance to residents.

<sup>22</sup> Mauger, Lee, and Won, 2018.

<sup>23</sup> Mauger et al., 2015.

<sup>24</sup> Rogers et al., 2011.

<sup>25</sup> Monleon et al., 2015.





## HUMAN HEALTH IMPACTS

In Snohomish County, annual heat-related mortality is projected to increase between 64 to 200 deaths by 2025, compared to 1980–2006, for people ages 65 and older.<sup>26</sup>

- ▶ Projected increases in the frequency and intensity of extreme heat events are expected to increase **hospitalizations due to heat stress**. Increased heat-stroke risks are of particular concern to vulnerable populations like the elderly, young, and those already sick as well as to people who work outdoors.
- ▶ Increasing **fire risk could affect human health through smoke exposure** and increased occupational hazards for emergency responders.<sup>27</sup>
- ▶ Increased **flooding can introduce biological and chemical agents to drinking, storm, and recreational waters** and promote favorable conditions for bacterial and mold growth.<sup>28</sup>
- ▶ Warming temperatures and increased precipitation can **accelerate the breeding of mosquitoes, thus spreading diseases for which mosquitoes are vectors**, such as West Nile virus. The Washington Department of Health’s vector surveillance program has observed an earlier onset of West Nile virus-carrying mosquitoes, likely associated with higher temperatures, and an increasing number of human infections, with some resulting in fatalities.<sup>29</sup> In the last several years, the region has also seen an increase in cases of Lyme disease, associated with rising temperatures and changing tick habitat.<sup>30</sup>
- ▶ Increased ozone levels and air pollution toxicity could potentially lead to **increased rates of asthma and other pulmonary diseases**.

<sup>26</sup> Jackson et al., 2010.

<sup>27</sup> Mauger et al., 2015.

<sup>28</sup> Dalton et al., 2013.

<sup>29</sup> WSDOH, 2018.

<sup>30</sup> Beard et al., 2016.

## ECONOMIC IMPACTS

The costs to the state of Washington of continuing a “business-as-usual” approach to climate change are estimated at \$6.5 billion annually by 2040. These costs include both the effects of climate change on people and ecosystems as well as the costs of inefficient energy use and coal-fired electricity generation.

- ▶ These costs are estimated to rise to \$12.9 billion by 2080.<sup>31</sup>
- ▶ Rising seas, heavy rains, river floods, and increasing temperatures are likely to cause **transportation closures, delays, or detours**, especially for facilities and transportation lines located in or near coastal and low-lying areas.
- ▶ Wastewater and stormwater collection systems are likely to experience more problems with **saltwater intrusion, corrosion, flooding, and inundation**, along with associated increases in maintenance costs.
- ▶ Port operations and infrastructure, including access to port facilities, are likely to be altered by sea level rise and increased coastal flooding, including **increased storm surge damage to port facilities and more saltwater corrosion in docks**.
- ▶ Increased wildfires could **interrupt or damage power generation facilities and energy transmission and distribution infrastructure**.<sup>32</sup>
- ▶ **People on the front lines of climate change are expected to experience impacts first and most severely.** Frontline communities include tribes, economically disadvantaged communities, and those dependent on natural resource economies.
- ▶ Washingtonians are also expected to incur costs as they engage in practices that contribute to climate change, such as consuming electricity generated by burning coal and continuing technologies and practices that waste energy (Table 1).

Table 1. Potential economic impacts in Washington State under a business-as-usual approach to climate change (\$/year).<sup>33</sup>

| Potential Costs   | 2020                 | 2040                 | 2080                  |
|---|----------------------|----------------------|-----------------------|
| Costs of Climate Change                                   | \$2.3 billion        | \$4.9 billion        | \$10.7 billion        |
| Increased energy-related costs                            | \$222 million        | \$623 million        | \$1.5 billion         |
| Reduced salmon populations                                | \$531 million        | \$1.4 billion        | \$3.0 billion         |
| Increased coastal and storm damage                        | \$72 million         | \$150 million        | \$352 million         |
| Reduced food production                                   | \$35 million         | \$64 million         | \$364 million         |
| Increased wildland fire costs                             | \$102 million        | \$208 million        | \$462 million         |
| Increased health-related costs                            | \$1.3 billion        | \$2.2 billion        | \$4.4 billion         |
| Lost recreation opportunities                             | \$75 million         | \$210 million        | \$612 million         |
| <b>Additional Costs from Business-As-Usual Activities</b> | <b>\$1.4 billion</b> | <b>\$1.6 billion</b> | <b>\$2.2 billion</b>  |
| Inefficient consumption of energy                         | \$1.4 billion        | \$1.6 billion        | \$2.2 billion         |
| Increased health costs from coal-fired emissions          | \$19 million         | \$23 million         | \$31 million          |
| <b>TOTAL</b>  | <b>\$3.8 billion</b> | <b>\$6.5 billion</b> | <b>\$12.9 billion</b> |
| <b>Average cost per household per year</b>                | <b>\$1,250</b>       | <b>\$1,800</b>       | <b>\$2,750</b>        |

<sup>31</sup> Niemi, 2009. Note that the figure for increased energy-related costs for 2080 reflects a correction in units from the original source document.

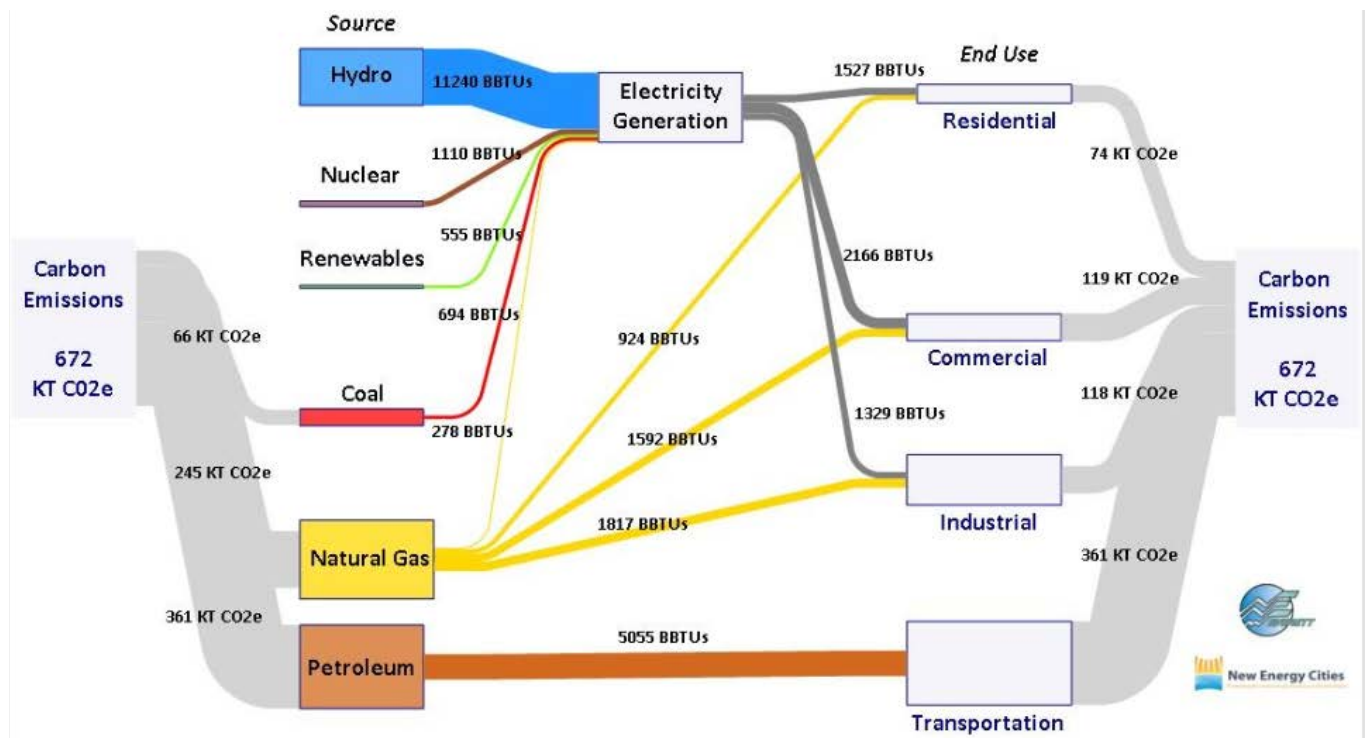
<sup>32</sup> Mauger et al., 2015.

<sup>33</sup> Niemi, 2009. The business-as-usual (BAU) approach assumes no efforts are completed to reduce or limit emissions. Estimated increased health costs from coal-fired emissions were limited to sulfur dioxide and nitrogen oxides in this study. Particulate matter, mercury, and other harmful pollutants were not included; thus these health costs are likely underestimated.

## EVERETT’S CONTRIBUTION TO CLIMATE CHANGE

In 2014, Everett’s GHG emissions totaled 672 kilotons of carbon dioxide equivalent (KT CO<sub>2</sub>e, thousand metric tons) and were primarily from transportation and natural gas consumption (see Figure 2). Transportation emissions account for almost half of Everett’s total GHG emissions (361 KT CO<sub>2</sub>e) and stem mainly from passenger vehicles, but also include municipal fleet trips and public transit. Natural gas consumption is the second largest contributor to Everett’s emissions (245 KT CO<sub>2</sub>e) and comes from residential, commercial, and industrial buildings as well as electricity generation. Little of Everett’s electricity comes from coal, making it the smallest source of the city’s emissions (66 KT CO<sub>2</sub>e).

Figure 2. Everett greenhouse gas inventory, 2014.<sup>34</sup>



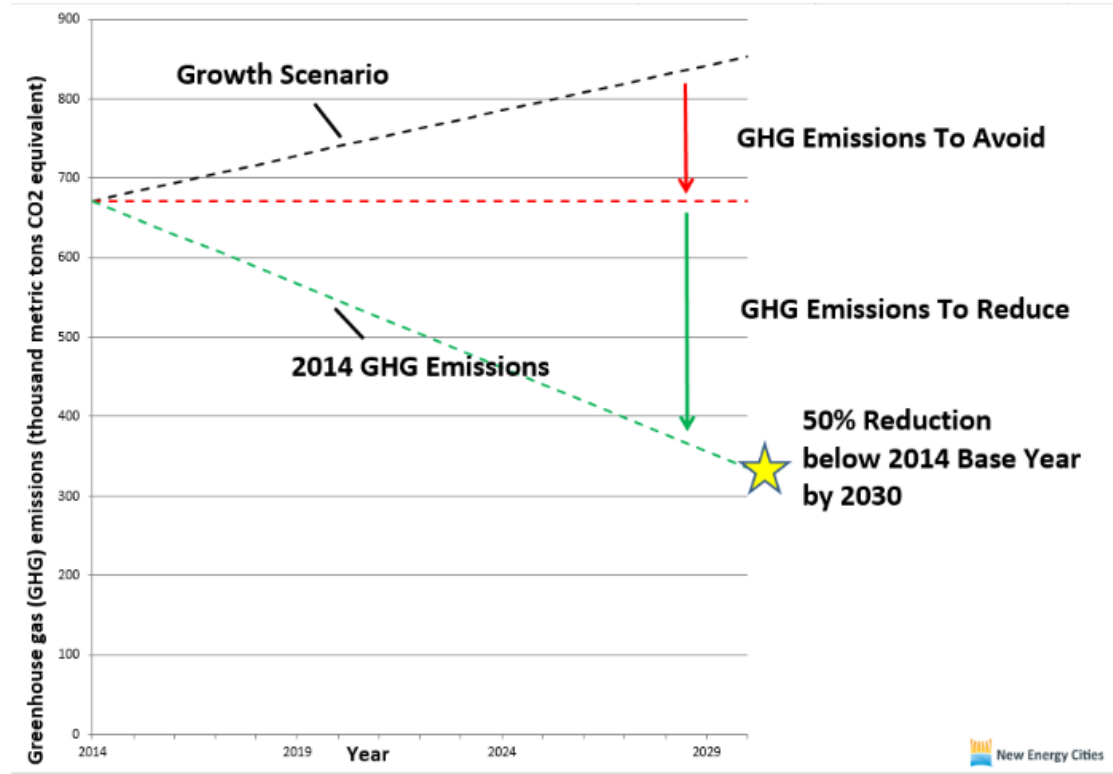
A forecast of Everett’s GHG emissions provides insight into how emissions may change over time (see Figure 3). The forecast includes projections for population growth, as well as reductions from state measures such as the State Clean Energy Standard, federal vehicle efficiency standards, and the State Energy Code.

Figure 3 presents the GHG emissions reductions that are possible if the City pursues bold climate strategies and actions, such as those presented in this CAP. Everett’s projected emissions with no action—also known as business as usual (BAU)—are represented by the top dashed black line. Projected emissions with state and federal actions are represented by the dashed red line. The impact from state and federal policies are enough to avoid additional emissions associated with growth; however, existing laws are not enough to achieve the goal of **50% reduction by 2030**. Achieving 50x30 requires bold action and planning at a local level using a carbon reduction lens.

<sup>34</sup> New Energy Cities and Stockholm Environment Institute, 2016.

By reducing transportation emissions, electrifying the natural gas system, and further transitioning to renewable energy sources, Everett can reduce its GHG emissions 50% below the 2014 baseline by 2030. These reductions represent significant progress toward the city’s long-term goal of 80% by 2050 and demonstrate the powerful impact that local climate action and leadership can have.

Figure 3. Greenhouse gas emissions reduction goals for the Everett community.<sup>35</sup>



<sup>35</sup> New Energy Cities and Stockholm Environment Institute, 2016.



# Mitigation Strategies and Actions

The five focus areas of the Everett CAP—**Governance, Transportation, Electrification, Green Economy, and Compact, Multimodal Land Use**—collectively focus the City of Everett’s efforts on the greatest opportunities to reduce GHG emissions by 80% communitywide and reach carbon neutrality in city operations by 2050.

To reach these targets, Everett will need to transition toward compact development patterns with easy, affordable access to bike, walk, ride transit, and when needed, drive an electric or hybrid vehicle. Along the way, natural gas will need to be largely eliminated from buildings and homes, and residents may begin to reuse and repair goods such as clothing and furniture more often than they buy new. As part of this transition, Everett aims to position itself as a green economy hub of the future, with many local jobs contributing to cleaner energy, lower-carbon materials and transportation, and green manufacturing.

This chapter describes the proposed strategies and actions for attaining these targets and realizing Everett’s vision for the future.



## HOW TO READ THE STRATEGIES AND ACTIONS

Each focus area section (**Governance, Transportation, Electrification, Green Economy, and Compact, Multimodal Land Use**) begins with an overview of the topic and its importance and relevance to the CAP.

Goals are briefly stated, followed by a detailed table of supporting strategies and actions, as explained below.

| ID  | Action                  | City Lead   | Benefits                                 | Community/Municipal  |
|---|-------------------------|---|--|--|
| <b>Strategy number and name</b>                                 |                         |   |  |  |
| Action ID   | Action name/description | The department within the City responsible for implementation | Potential benefits of action (see below) | Whether the action focuses on government operations or the community (see below) |
| Yellow highlighted cells indicate the highest priority actions. |                         |   |  |  |



### Municipal

This icon indicates that the action is focused on City government operations.



### Community

This icon indicates that the action is focused on the broader Everett community.



### Municipal/Community

This icon indicates that the action is focused on both government and the community.

## Benefits



### GHG Emission Reduction Potential

This icon indicates that the action could have a higher GHG reduction potential because the action targets a large source of emissions or is very direct.



### Public Health

This icon indicates that the action could have a higher positive impact on public health.



### Equity

This icon indicates that the action could have a higher positive impact on equity within the community.



### Cost/Affordability

This icon indicates that the action could be more cost-effective for the City and community, and/or funding for the action is already available.



### Feasibility

This icon indicates that the action could be highly feasible technically, politically, and socially under current conditions.



### Resilience

This icon indicates that the action could have a higher positive impact on community resilience to climate change.



### Economic Growth

This icon indicates that the action could have a higher positive impact on economic growth in the community.



### Leadership

This icon indicates that the action could have a high potential for Everett to be innovative and demonstrate its leadership in climate action.



# Governance (GO)

Capacity to support climate action at both the municipal and community level will be needed to implement the CAP successfully. Strategies that support foundational collaboration, capacity-building, and institutionalization of climate action include learning from others acting on climate change, staff training and resources, regular reporting, and centralized coordination of climate and sustainability activities.

## Goal GO-1: Strengthen capacity to support climate action.

| ID   | Action   | City Lead      | Benefits | Com/<br>Mun |
|--|--|----------------|----------|-------------|
| <b>Strategy GO-1.1: Improve City staff knowledge of and capacity for their role in climate action.</b> |  |                |          |             |
| GO-1.1.1   | Create a centralized City climate/ sustainability coordinator to support CAP monitoring and implementation.  | Administration |          | <b>M</b>    |
| GO-1.1.2   | Create a management and reporting system for key metrics of activities related to CAP goals. This could include the use of an online dashboard to report on the progress of actions that have been initiated, implementation schedule, community and municipal GHG emissions, and equity impacts of actions implemented. | Administration |          | <b>M</b>    |
| GO-1.1.3   | Educate all City staff members about the CAP.  | Administration |          | <b>M</b>    |
| GO-1.1.4   | Evaluate the differential impact of climate change on neighborhoods and communities.   | Planning       |          | <b>C</b>    |
| GO-1.1.5   | Develop and incorporate equity metrics in the evaluation of CAP activities.  | Planning       |          | <b>C</b>    |

GHG Reduction

Public Health

Equity

Cost

Feasibility

Resilience

Economic Growth

Leadership



# Transportation (T)

Most Everett residents and commuters drive alone for work, recreation, and errands in gasoline-powered vehicles. These strategies incentivize other modes of transportation and the transition to cleaner, more energy-efficient vehicles such as electric and hybrid vehicles. Success in the transportation sector relies on compact, multimodal land use, and vice versa. Importantly, mixed used development is already promoted in transportation policy; incentives for market response are needed to push these two sets of strategies forward.

## Goal T-1: Embrace non-car travel.

| ID  | Action   | City Lead      | Benefits | Com/Mun |
|---|--|----------------|----------|---------|
| <b>Strategy T-1.1: Prioritize, incentivize, and promote transportation by biking, walking, and transit.</b> |  |                |          |         |
| T-1.1.1   | Incentivize transit use by promoting benefits such as pre-tax transit passes and rebates to employees who give up use of employer parking facilities.  | Administration |          |         |
| T-1.1.2   | Advocate for regional congestion pricing authority, with flexibility to dedicate revenues to projects and services that would serve a variety of different transportation modes and options.   | Administration |          |         |
| T-1.1.3   | Accelerate the implementation of the “Complete Streets” policy by mandating all new transportation and land use projects to incorporate infrastructure for bicycles, pedestrians, and mass transit service unless a reasonable exemption is determined by the City Engineer. | Public Works   |          |         |
| T-1.1.4   | Partner with the school district and Safe Routes to Schools to expand educational programs and events to encourage and promote walking and biking, including a Bike to School Day, walking school bus, and sidewalk painting for safe routes.                                | Public Works   |          |         |

GHG Reduction    
 Public Health    
 Equity    
 Cost    
 Feasibility    
 Resilience    
 Economic Growth    
 Leadership



MITIGATION STRATEGIES AND ACTIONS

| ID   | Action  | City Lead      | Benefits | Com/Mun  |
|--|---|----------------|----------|----------|
| <b>Strategy T-1.2: Reduce commute trips.</b> |   |                |          |          |
| T-1.2.1                                      | Work with third-party programs and businesses to increase the availability, accessibility, and convenience of shared mobility options (e.g., bike share, scooter share, car share).   | Administration |          | <b>C</b> |
| T-1.2.2                                      | Educate local employers on the options for and benefits of compressed work weeks, telecommuting, and other schedule adjustments that reduce commute trips. Share case studies and learnings from the City’s internal implementation of these programs and from local businesses with innovative flexible work policies. | Administration |          | <b>C</b> |
| T-1.2.3                                      | Continue to promote and support carpooling, vanpooling, and telecommuting amongst City employees to reduce drive alone commute trips.   | Administration |          | <b>M</b> |

**Goal T-2: Transition to the use of clean, energy-efficient vehicles.**

| ID  | Action   | City Lead       | Benefits | Com/Mun  |
|---|--|-----------------|----------|----------|
| <b>Strategy T-2.1: Transition to electric vehicles (EVs).</b> |  |                 |          |          |
| T-2.1.1   | Continue to invest in transitioning the Everett Transit fleet to an all-EV bus fleet.                          | Everett Transit |          | <b>M</b> |
| T-2.1.2   | Introduce a policy to replace City fleet vehicles with electric and hybrid options at the time of replacement. | Motor Vehicles  |          | <b>M</b> |









|               |               |        |      |             |            |                 |            |
|---------------|---------------|--------|------|-------------|------------|-----------------|------------|
|               |               |        |      |             |            |                 |            |
| GHG Reduction | Public Health | Equity | Cost | Feasibility | Resilience | Economic Growth | Leadership |







# Electrification (E)






Since most of Everett’s electricity comes from hydroelectric power, the greatest source of emissions from buildings and homes is from natural gas heating. Electrification strategies focus on eliminating natural gas from buildings and homes through both incentives and mandates and capitalizing on electricity from hydropower to roll out electric vehicle charging infrastructure in Everett.


## Goal E-1: Eliminate natural gas from new and existing buildings.

| ID  | Action   | City Lead             | Benefits  | Com/Mun   |
|---|--|-----------------------|---|---|
| <b>Strategy E-1.1: Mandate all-electric construction.</b> |  |                       |   |   |
| E-1.1.1   | Partner regionally and with Washington state to revise building codes to disincentivize natural gas for heating in buildings.  | Administration        |       |    |
| E-1.1.2   | Study the benefits and economic tradeoffs of regulations that require all-electric buildings and disincentivize natural gas for new construction and major renovations/ redevelopment. Options such as city mandates, building code updates, or ordinances should be explored as tools for transitioning new construction to all-electric for heating. Ideally, these regulations would cover both new construction and major renovations of existing buildings, including accessory dwelling units. | Planning and Building |   |  |
| E-1.1.3   | Work with regional energy partnerships to develop and implement an Electrification Action Plan for all City facilities. In new and existing buildings, incorporate strategies to address electricity storage, and focus on highlighting any hurdles or solutions that would be applicable to the broader community.  | Facilities            |    |  |


 GHG Reduction
  Public Health
  Equity
  Cost
  Feasibility
  Resilience
  Economic Growth
  Leadership

**Goal E-2: Electrify the transportation system through infrastructure development.**


| ID   | Action   | City Lead                 | Benefits   | Com/Mun |
|--|--|---------------------------|--|---------|
| <b>Strategy E-2.1: Create a robust electric vehicle (EV) charging station network.</b> |  |                           |  |         |
| E-2.1.1  | <p>Create an Electric Vehicle (EV) Charging Station Action Plan that:</p> <ul style="list-style-type: none"> <li>• Addresses ways to increase public access to chargers</li> <li>• Identifies locations for chargers in commercial areas</li> <li>• Considers installing charging infrastructure integrated into streetlights</li> <li>• Considers smart cable technology</li> <li>• Addresses barriers to charging for garage-free homes and rental properties</li> <li>• Assesses the potential to partner with third-party EV charging station providers to lower program and construction costs</li> </ul> | Planning and Public Works |    | C       |
| E-2.1.2  | <p>Adopt an EV charging planning code amendment that would increase the charging requirements for new construction and renovations.</p>  | Planning                  |    | C       |




GHG Reduction




Public Health




Equity




Cost




Feasibility



Resilience



Economic Growth



Leadership



# Green Economy (GE)

A green economy in Everett means local, living-wage green jobs, many in cutting-edge sectors; widespread sustainable business practices; and a robust local, circular economy. Everett’s robust industrial and manufacturing sectors stand to benefit from the transition to a green economy, provided the education, workforce training, and business assistance are in place to facilitate the transition. By using resources more efficiently and promoting reuse and repair over buying new, crucial reductions in the emissions associated with new construction and consumption of goods and services can be achieved. These green economy strategies complement and rely upon the other strategies in the CAP, especially the green building policies in the land use focus area.

## Goal GE-1: Position Everett as a green economy hub of the future.

| ID  | Action  | City Lead             | Benefits | Com/Mun |
|---|---|-----------------------|----------|---------|
| <b>Strategy GE-1.1: Incentivize green infrastructure.</b> |   |                       |          |         |
| GE-1.1.1  | Develop municipal standards for green building design, construction, and capital projects, working with a multi-disciplinary team. King County’s sustainable infrastructure scorecard is a potential evaluation model for internal standards. | Planning and Building |          |         |
| GE-1.1.2  | Encourage the use of green roofs, green walls, cool roofs, cool pavement, and additional landscaping tolerant to a range of climate conditions, especially in areas where urban heat island effects will be greatest.                         | Planning              |          |         |
| GE-1.1.3  | Conduct a feasibility study on using treated greywater and rainwater harvesting for non-potable water needs at city facilities.   | Public Works          |          |         |

GHG Reduction

Public Health

Equity

Cost

Feasibility


























Resilience

Economic Growth

Leadership



MITIGATION STRATEGIES AND ACTIONS

| ID   | Action   | City Lead            | Benefits  | Com/Mun   |
|--|--|----------------------|---|---|
| GE-1.1.4   | Adopt new stormwater development regulations (codes and standards) specified in the Permit and the new Ecology Stormwater Management Manual, including vesting requirements and new Low Impact Development (LID) Best Management Practices (BMPs). Implement new plan review, inspection, and escalating enforcement processes and procedures necessary to implement the program in accordance with Permit conditions. | Public Works         |     |    |
| <b>Strategy GE-1.2: Recruit and support green business and industry.</b>   |  |                      |   |   |
| GE-1.2.1   | Work with partners in higher education and elsewhere to inventory and evaluate green economy innovations to determine which are aligned with the city’s vision, goals, and capacity. These may include research centers for clean energy, water, manufacturing, and technology, as well as other endeavors.  | Administration       |       |   |
| GE-1.2.2   | With community stakeholders and partners, conduct a study and host a community conversation to identify threats to current industries, opportunities for new green businesses and industries, and areas that need support.   | Administration       |    |  |
| GE-1.2.3   | Focus some business development efforts on businesses that have fewer impacts on natural resources.  | Economic Development |     |  |
| GE-1.2.4   | Encourage local recycling businesses in appropriate locations with appropriate standards.  | Economic Development |     |  |
|  GHG Reduction  Public Health  Equity  Cost  Feasibility  Resilience  Economic Growth  Leadership |  |                      |   |   |

MITIGATION STRATEGIES AND ACTIONS

























| ID       | Action  | City Lead            | Benefits | Com/Mun |
|----------|---|----------------------|----------|---------|
| GE-1.2.5 | <p>Work with regional partners to support business and non-governmental organizational efforts to participate in the green economy. This may include:</p> <ul style="list-style-type: none"> <li>• Roundtables focused on green economy strategies</li> <li>• Business continuity planning and exercises, especially transitions to greener practices and industries</li> <li>• A “green economy guide” and other education campaigns focused on the opportunities a circular economy provides</li> <li>• Recognition program for green economy innovation</li> </ul> | Economic Development |          |         |

**Goal GE-2: Prepare Everett residents for jobs in the green economy.**

| ID   | Action   | City Lead            | Benefits | Com/Mun |
|--|--|----------------------|----------|---------|
| <b>Strategy GE-2.1: Increase education, workforce training, and local recruitment in green jobs and fields that address climate impacts.</b> |  |                      |          |         |
| GE-2.1.1   | Explore the potential of small green commercial hubs—or clusters of sustainable local business—in neighborhoods that will promote the local green economy and compact, walkable communities. | Economic Development |          |         |
| GE-2.1.2   | Explore ways to establish a local hiring preference for green jobs and jobs that reduce climate risks in Everett.  | TBD                  |          |         |
| GE-2.1.3   | Work with local and regional partners to develop and promote internship and apprenticeship programs in the green economy.  | Administration       |          |         |

GHG Reduction  
 Public Health  
 Equity  
 Cost  
 Feasibility  
 Resilience  
 Economic Growth  
 Leadership

**Goal GE-3: Promote the local, circular economy.**

| ID  | Action  | City Lead   | Benefits  | Com/Mun   |   |   |   |
|---|---|---|---|---|---|---|---|
| <b>Strategy GE-3.1: Incentivize local and green purchasing for city government and the community.</b> |   |   |   |   |   |   |   |
| GE-3.1.1  | Promote local purchasing for businesses and residents to support local vendors, services, and stores and to reduce GHG emissions from commerce-related transportation and food production and distribution.                   | Administration  |       |    |   |   |   |
| GE-3.1.2  | Develop a city-wide environmentally preferable purchasing policy (EPP). Consider life-cycle costing as one of the decision-making tools in the process.   | Purchasing  |    |    |   |   |   |
| GE-3.1.3  | Replace all non-Energy Star office equipment and appliances at the end of their life cycle with Energy Star-rated models. Require energy and water efficiency as a primary consideration for all future purchasing decisions. | Purchasing  |    |    |   |   |   |
| GE-3.1.4  | Develop and disseminate tools for writing green specifications, RFPs, and bids.   | Purchasing  |    |  |   |   |   |
| <b>Strategy GE-3.2: Catalyze a sharing and reuse economy.</b>   |   |   |   |   |   |   |   |
| GE-3.2.1  | Work with regional partners to promote eco-industrial development in the area, in which a waste stream from one firm becomes the raw material for another, thus minimizing the use of raw materials.                          | Economic Development  |    |  |   |   |   |
| GE-3.2.2  | Continue to support neighborhood events such as garage sales that extend the useful life of items, and clean-ups that result in recycling of appliances, metals, yard waste, etc.   | Community Development   |   |  |   |   |   |
| GE-3.2.3  | Support “collaborative consumption” community projects like tool libraries and repair cafes through mini-grant programs.  | Community Development   |    |  |   |   |   |
|                    |    |  |    |   |  |  |  |
| GHG Reduction   | Public Health   | Equity  | Cost  | Feasibility   | Resilience  | Economic Growth   | Leadership  |

MITIGATION STRATEGIES AND ACTIONS

| ID  | Action   | City Lead | Benefits | Com/Mun |
|---|--|-----------|----------|---------|
| GE-3.2.4  | Work with local and regional partners to conduct a public education and outreach campaign around local options for tool-lending libraries, car share, swap events, service websites, and exchange websites like Snohomish County’s Reusable Materials Exchange (2good2toss.com) and Facebook’s Buy Nothing groups. | TBD       |          |         |
| <b>Strategy GE-3.3: Support local agriculture and small businesses.</b> |  |           |          |         |
| GE-3.3.1  | Expand and encourage community gardens, urban agriculture, community supported agriculture (CSA), and farmers markets that sell locally produced food.   | TBD       |          |         |

GHG Reduction    
 Public Health    
 Equity    
 Cost    
 Feasibility    
 Resilience    
 Economic Growth    
 Leadership





# Compact, Multimodal Land Use (LU)

Mixed use development is already promoted in Everett’s land use policy; incentives for market response are needed to support continued compact, multimodal development. Success in the land use sector also relies on multimodal transportation including public transit, and vice versa. These strategies locate businesses, services, governmental offices, and schools that generate many trips near the permanent transit network and prioritize vibrant, healthy, and livable neighborhoods for current and future residents.

## Goal LU-1: Create centralized activity centers with a dense and diverse mix of services, amenities, jobs, and housing types in areas well-served by public transit.

| ID  | Action   | City Lead | Benefits | Com/Mun |
|---|--|-----------|----------|---------|
| <b>Strategy LU-1.1: Support intentional high-density development.</b> |  |           |          |         |
| LU-1.1.1  | Incentivize infill and mixed-use development (e.g., through alternative code compliance, fee waivers, density bonuses, investment prioritization, development impact fees, tax benefits).  | Planning  |          |         |
| LU-1.1.2  | Evaluate the effectiveness of zoning codes for and identify incentives to encourage Accessory Dwelling Units (i.e., mother-in-law units).  | Planning  |          |         |
| LU-1.1.3  | Adopt a Transit Communities Policy and create a Transit Communities Development Authority to implement transit-oriented development (TOD), including actions to: <ul style="list-style-type: none"> <li>• Reduce cost and prolonged project review processes in Transit Communities</li> <li>• Use zoning and permitting methods to concentrate new growth in proximity to services and transit</li> <li>• Implement capital improvements in priority Transit Community corridors</li> </ul> | Planning  |          |         |

GHG Reduction

Public Health

Equity

Cost































Feasibility

Resilience

Economic Growth

Leadership

**Goal LU-2: Develop vibrant, healthy, and livable neighborhoods.**

| ID   | Action   | City Lead                      | Benefits  | Com/Mun   |
|--|--|--------------------------------|---|---|
| <b>Strategy LU-2.1: Improve neighborhood walkability.</b>  |  |                                |   |   |
| LU-2.1.1   | Require new development to provide pedestrian connections between retail, living, and working places; transit connections and facilities; traffic calming and other safety-related improvements; sidewalks and trails; and pedestrian and bicycle amenities, as feasible or appropriate. | Planning, Public Works         |      |    |
| LU-2.1.2   | Continue to implement the Bicycle Master Plan.   | Public Works                   |     |    |
| LU-2.1.3   | Create a sidewalk, curb ramp, and crosswalk inventory to determine high-need areas. Seek additional funding to build sidewalks, crosswalks, and other walking infrastructure in high-need areas and fill connectivity gaps.  | Planning, Public Works         |     |    |
| <b>Strategy LU-2.2: Increase, protect, and restore green spaces and natural areas within the community.</b>  |  |                                |   |   |
| LU-2.2.1   | Support increasing the City’s tree canopy through continued implementation of the City of Everett Tree Policy. Continue planting trees on publicly owned lands through on-going efforts such as the Green Everett Partnership in conjunction with Forterra.                              | Parks                          |      |  |
| LU-2.2.2   | Continue to plan and develop a system of parks, open spaces, and trails throughout Everett.  | Parks                          |     |  |
| LU-2.2.3   | Create more usable green space in Everett’s activity centers and work to incorporate a higher volume of smaller parks and urban public spaces.   | Parks, Planning, Cultural Arts |     |  |
|         |  |                                |   |   |
| <p>GHG Reduction    Public Health    Equity    Cost    Feasibility    Resilience    Economic Growth    Leadership</p>  |  |                                |   |   |

# Implementation and Evaluation

This CAP lays the groundwork for a transformation that will dramatically reduce Everett’s contribution to climate change. The CAP focuses first on the foundational **Governance** actions that must take place to ensure implementation of the plan is both possible and successful. The CAP then focuses on the four high-impact sectors for reducing GHG emissions in the City of Everett and those with the most promising opportunities and benefits: **Transportation, Electrification, Green Economy, and Compact, Multimodal Land Use**. Although this CAP builds on many of the actions the City and community are already taking, continuing progress on these goals will require Everett’s government and community to work together and commit dedicated time and resources.

The City of Everett will lead implementation of the CAP. One of the priority actions set forth in this CAP includes the creation of a sustainability coordinator who can plan for and conduct the implementation, reporting, and evaluation of the CAP based on an established framework (see Appendix C. Implementation & Evaluation Frameworks). This framework will identify who will lead and partner on each action, a timeframe, key performance indicators to measure progress, funding strategies, and other key factors necessary for successful implementation. The CAP is only the beginning of an ongoing process that will require flexibility and adaptive management over the years.



## WHAT YOU CAN DO

Addressing climate change is going to take more than the actions the City of Everett itself can control. Individuals and community groups all have an important role to play in reaching the City's climate action goals. When taken together, small changes can make a huge impact! Through collective, committed, and caring actions from all, Everett can achieve its emissions reduction targets and become a healthy, resilient, and carbon-neutral community for both present and future generations.

### Electrification

- Install energy-saving appliances and fixtures, such as Energy Star Appliances and LED Lightbulbs.
- Reduce natural gas use. Install electric heat pumps for space and water heating, electric dryers, electric stoves, etc. to transition to cleaner electricity.
- Install low-flow showerheads and aerated faucets to reduce the amount of hot water you use.
- Replace gas-powered yard equipment with electric alternatives.
- Visit [www.snopud.com/business/rebatesincentives.aspx?p=2051](http://www.snopud.com/business/rebatesincentives.aspx?p=2051) to enroll in Snohomish PUD's lightbulb rebate program and check out their other rebates and incentives.

### Transportation

- Avoid driving alone where possible. Ride transit, carpool, walk, and/or bike.
- Use a bike or scooter for shorter-distance commutes and other trips, rather than a car.
- When you decide to make your next vehicle purchase, consider buying or leasing an all-electric vehicle.
- Consider nonstop flights when travelling, and purchase carbon credits when you do fly.

### Green Economy

- Reduce your meat and dairy consumption—even one day less a week makes a difference!
- Eat more low-carbon foods like unprocessed foods, seasonal fruits and vegetables, and grains.
- Avoid unnecessary food waste: plan meals, right-size your grocery and restaurant purchases, and bring reusable containers when you shop or eat out.
- Bring your reusable water bottle or mug when you leave the house.
- Avoid single-use plastic food wraps, utensils, or bags. Try using reusable storage containers, jars, beeswax, shower caps, or plates to cover your bowls, and use metal straws and utensils when going out.

### Get Informed and Involved

- Participate in local community groups working to reduce greenhouse gas pollution and make the community more resilient to climate impacts.
- Volunteer at local events including trash cleanups, tree plantings, and outreach events.



# Appendix A. Public Feedback

As detailed in the Plan Development section, the process to develop Everett's Climate Action Plan included three Planning Commission meetings with public hearings and one public open house. Members of the public suggested the ideas presented below during these opportunities for public input. The list has been lightly edited for grammar and clarity.

## GOVERNANCE

- ▶ Public education—effect on children's future
- ▶ Resident environmental commissions
- ▶ Resident advisory board—adopt one for Everett around climate change
- ▶ Integrate climate change into Food Policy Council
- ▶ City climate adaptation policies
- ▶ Adopt a Climate Action Plan

## TRANSPORTATION

- ▶ More rapid transit and light rail
- ▶ Zero emissions City vehicles
- ▶ Roundabouts and emission-free zones
- ▶ Increase bike safety
- ▶ Bicycle Master Plan
- ▶ Sidewalk Plan—incremental progress
- ▶ Gondolas over highways
- ▶ Encourage/reward public transit for large employers
- ▶ Transition quickly to electric buses
- ▶ Put in electric car charging stations, coordinating with County and State funding sources
- ▶ Monitor air quality esp. around Paine Field and industrial (Snohomish River & waterfront) areas
- ▶ Encourage public transit and anti-idling behaviors
- ▶ Read about ways to increase gas/energy efficiency
- ▶ Use of biking, walking, bicycling maps
- ▶ Inflating tires for better mileage
- ▶ Encourage carpooling with neighbors and attending neighborhood meetings
- ▶ Make it easier to get to Boeing Field by bus or bike
- ▶ Change roads to be more pedestrian friendly
  - Focus on major obstacles
  - Continuity of bike/pedestrian routes
  - Locate large employers in Everett
  - Common Network so people can learn from each other's programs
- ▶ Mobility without planning and obstacles

- ▶ Improve vehicle efficiency
- ▶ Electric vehicle infrastructure
- ▶ Legalize electric golf carts on city streets

## ENERGY

- ▶ Non-hydro powered renewable energy—rooftop solar and/or localized wind generation
- ▶ Biogas generator for grass/yard clippings
- ▶ Renewable energy ordinance
- ▶ Gas furnace buy-outs/incentives
- ▶ Low income subsidies for solar
- ▶ Alternatives to rooftop solar
- ▶ SnoPud to continue with loans for insulating and reducing heat loss
- ▶ Incentivize solar energy
- ▶ Decrease/ban natural gas usage
- ▶ Energy efficient buildings
- ▶ Incentivize switching from natural gas to electricity
- ▶ LED lighting

## GREEN ECONOMY

- ▶ Increase biodegradable products
- ▶ Cross-laminated timber and other carbon neutral materials
- ▶ Increase green economic opportunities

## LAND USE

- ▶ Encourage new housing near transportation
- ▶ Encourage high-density development
- ▶ Building codes

## NATURAL AREAS

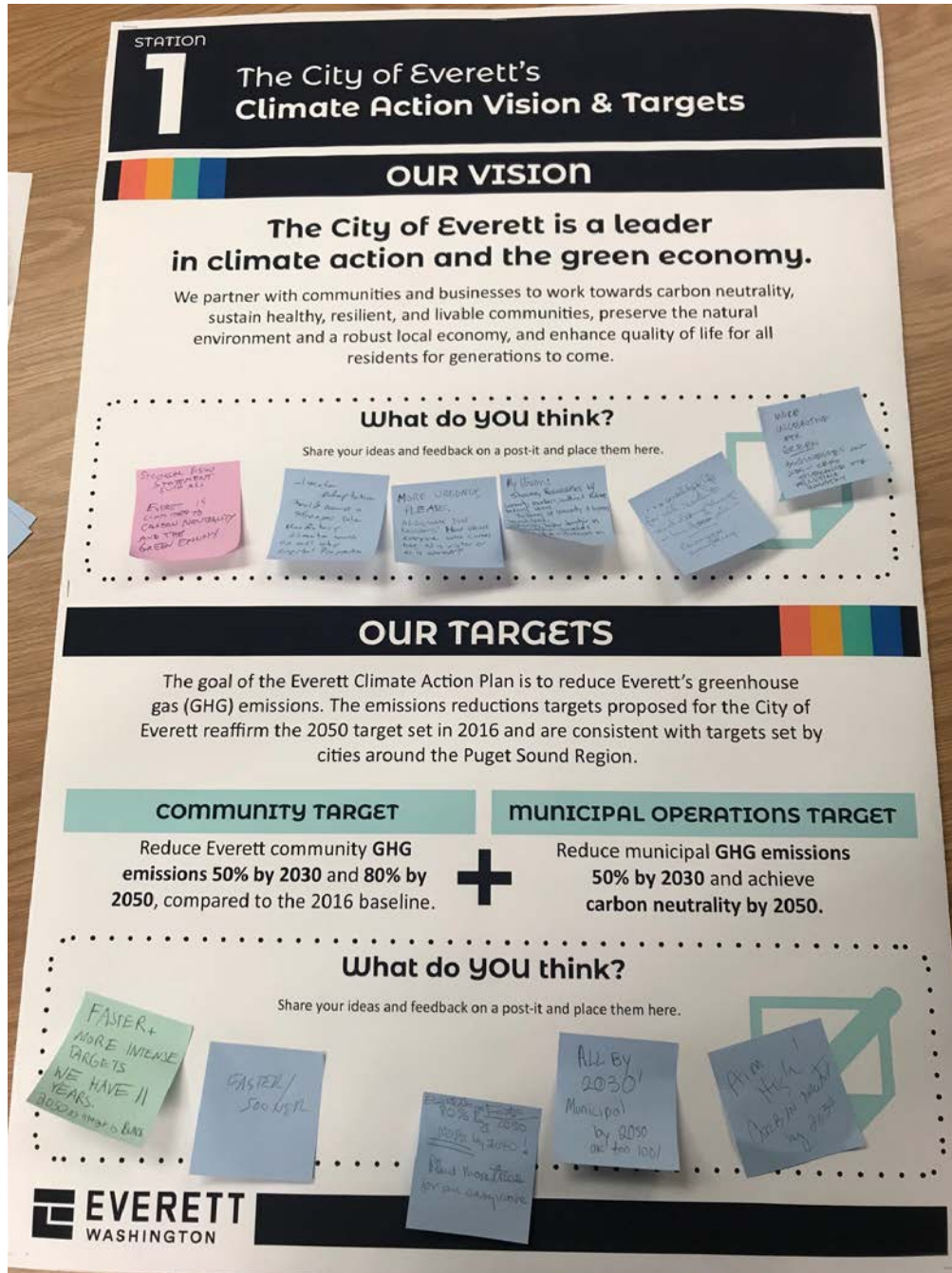
- ▶ Break up “concrete deserts” – trees on Madison, Evergreen Way, Broadway
- ▶ Parks, trees, open spaces to play
- ▶ Encourage fewer lawns, which use too much water and fertilizers
- ▶ Support tree maintenance
- ▶ Maintain and increase green space
- ▶ Plant more shrubs to provide bird habitat, food for bees, flowering and fruiting beauty, and utility
- ▶ Avoid pesticides
- ▶ Decrease grass landscaping and replace with native plants
- ▶ Tree canopy

## GENERAL SUSTAINABILITY TOPICS


- ▶ Decrease water consumption
- ▶ Stormwater runoff
- ▶ Work with utilities on rain barrels, water conservation ideas, and wise plantings in ecological plant communities of similar water needs
- ▶ Work with Master Gardeners, Great Plant Picks, and similar groups to provide public education workshops
- ▶ Make recycling requirements consistent and clear
- ▶ Encourage better nutrition (less red meat, more fresh veggies & fruits, using the farmers markets and local farms, growing your own, starting with healthy, organic soil)
- ▶ Share excess produce with local food banks and neighbors.
- ▶ Refrigerant substitutes and safe removal
- ▶ Read Drawdown
- ▶ Research the impact of sea level rise on sewer systems
- ▶ Provide smoke shelters for relief from wildfire smoke
- ▶ Green roofs
- ▶ Prepare for the impacts of climate change
- ▶ Ban/reuse Styrofoam
- ▶ Ban disposable water bottles
- ▶ Implement Dark Sky protocols
- ▶ Only use sprinkler systems at night
- ▶ More recycling bins in public spaces
- ▶ Public health

# Appendix B. Public Open House Boards

A public open house was held to solicit public feedback on the draft vision, targets, goals, and strategies in Everett’s Climate Action Plan. The public open house took place the evening of October 15<sup>th</sup>, 2019. Participants were given the opportunity to suggest ideas and provide feedback on the proposed vision and targets using post-it notes. They were also asked to perform a dot voting exercise for the strategies within each focus area, where participants placed dots on their preferred strategies and actions. The outcomes of these exercises are presented below.



STATION **2** **TRANSPORTATION**  
GOALS, STRATEGIES & ACTIONS



**WHAT ARE OUR GOALS?**

**T-1:** Embrace non-car travel.  
**T-2:** Transition to the use of clean, energy-efficient vehicles.

**HOW CAN WE GET THERE?**

Most Everett residents and commuters drive alone for work, recreation, and errands in gasoline-powered vehicles. These strategies incentivize other modes of transportation and the transition to cleaner, more energy-efficient vehicles such as electric and hybrid vehicles.

**T-1.1: Prioritize, incentivize, and promote transportation by biking, walking, and transit.**

**Potential actions include:**

- Incentivize transit use by promoting benefits such as pre-tax transit passes and rebates to employees who give up use of employer parking facilities.
- Advocate for a regional congestion pricing authority.
- Accelerate the implementation of the "Complete Streets" policy by mandating all new transportation and land use projects to incorporate infrastructure for bicycles, pedestrians, and mass transit service.

**T-1.2: Reduce commute trips.**

**Potential actions include:**

- Work with third-party programs and businesses to increase the availability, accessibility, and convenience of shared mobility options (e.g., bike share, scooter share, car share).
- Educate local employers on the options for and benefits of compressed work weeks, telecommuting, and other schedule adjustments that reduce commute trips.

**T-2.1: Improve vehicle fuel efficiency.**

**Potential actions include:**

- Host continuing education trainings on "green driving" and "green fleet" practices.
- Utilize GIS-based route optimization software such as ArcLogistics to plan the most efficient routes for City vehicles with regular routes.
- Implement street design that improves road and vehicle efficiency.

**T-2.2: Switch to cleaner fuel alternatives.**


**Potential actions include:**

- Advocate for a statewide clean fuels standard and a state zero-emissions vehicle (ZEV) mandate.
- Work with existing gas stations to provide alternative fuels.
- Require emissions standards, testing, and biofuel preference for combustion vehicles remaining in the City's fleet.


**T-2.3: Transition to electric vehicles (EVs).**

**Potential actions include:**

- Partner with car dealerships, local employers, and Snohomish PUD to expand local electric vehicle purchasing options, incentives, and charging options.
- Continue to invest in transitioning the Everett Transit fleet to an all-EV bus fleet.
- Introduce a policy to replace City fleet vehicles with electric and hybrid options at the time of replacement.



STATION **3** **ELECTRIFICATION**  
GOALS, STRATEGIES & ACTIONS



**WHAT ARE OUR GOALS?**

**E-1:** Eliminate natural gas from new and existing buildings.  
**E-2:** Electrify the transportation system through infrastructure development.

**HOW CAN WE GET THERE?**

Since most of Everett's electricity is provided by hydroelectric power, the greatest source of emissions from buildings and homes is from natural gas heating. Electrification strategies therefore focus on eliminating natural gas from buildings and homes through both incentives and mandates, and capitalizing on electricity from hydropower to roll out electric vehicle charging infrastructure in Everett.

**E-1.1: Mandate all-electric construction**

**Potential actions include:**

- Partner regionally and with Washington state to revise building codes to disincentivize natural gas for heating in buildings.
- Adopt regulations that require all-electric buildings and disincentivize natural gas for new construction and major renovations/ redevelopment.
- Revise building code to allow for and encourage zero-energy and zero-energy-ready new construction.

**E-1.2: Electrify city and community facilities.**

**Potential actions include:**

- Work with regional energy partnerships to develop and implement an Electrification Action Plan for all City facilities.
- Work with regional energy partnerships to invest in electrification financing programs such as on-bill financing and metered energy efficiency.
- Encourage installation of distributed energy resources to provide an alternative to or an enhancement of the traditional electric power system.

**E-1.3: Educate the community on fuel switching needs, benefits, and methods.**

**Potential actions include:**

- Connect landlords with contractors, information, and resources for electrification.

**E-1.4: Incentivize fuel switching.**


**Potential actions include:**

- Pursue, and develop the legal authority to, increase the Utility User Tax for natural gas.
- Partner with Puget Sound Energy on a building retrofit program, with emphasis on building envelope and heating technology systems to reduce natural gas consumption.

**E-2.1: Create a robust electric vehicle (EV) charging station network.**

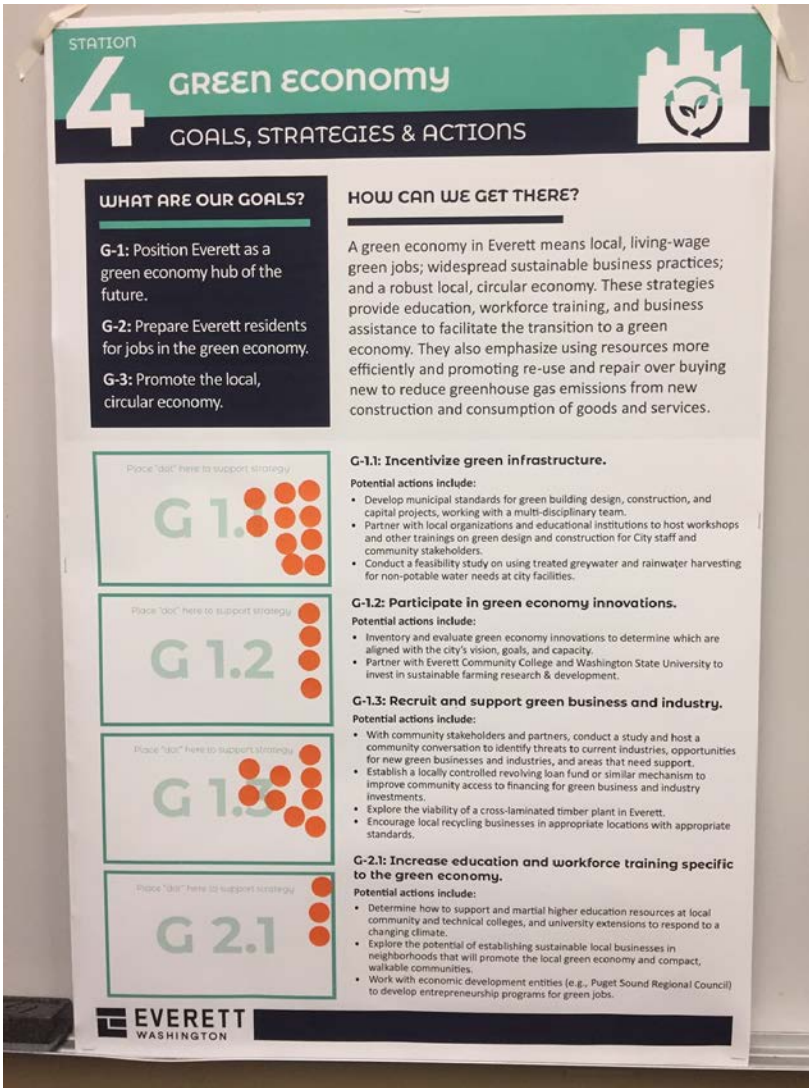
**Potential actions include:**

- Create an Electric Vehicle (EV) Charging Station Action Plan.
- Adopt an EV charging planning code amendment that would increase the charging requirements for new construction and renovations.





STATION  
**4** GREEN ECONOMY  
GOALS, STRATEGIES & ACTIONS



**WHAT ARE OUR GOALS?**

**G-1:** Position Everett as a green economy hub of the future.

**G-2:** Prepare Everett residents for jobs in the green economy.

**G-3:** Promote the local, circular economy.

**HOW CAN WE GET THERE?**

A green economy in Everett means local, living-wage green jobs; widespread sustainable business practices; and a robust local, circular economy. These strategies provide education, workforce training, and business assistance to facilitate the transition to a green economy. They also emphasize using resources more efficiently and promoting re-use and repair over buying new to reduce greenhouse gas emissions from new construction and consumption of goods and services.

**G-1.1: Incentivize green infrastructure.**  
Potential actions include:

- Develop municipal standards for green building design, construction, and capital projects, working with a multi-disciplinary team.
- Partner with local organizations and educational institutions to host workshops and other trainings on green design and construction for City staff and community stakeholders.
- Conduct a feasibility study on using treated greywater and rainwater harvesting for non-potable water needs at city facilities.

**G-1.2: Participate in green economy innovations.**  
Potential actions include:

- Inventory and evaluate green economy innovations to determine which are aligned with the city's vision, goals, and capacity.
- Partner with Everett Community College and Washington State University to invest in sustainable farming research & development.

**G-1.3: Recruit and support green business and industry.**  
Potential actions include:

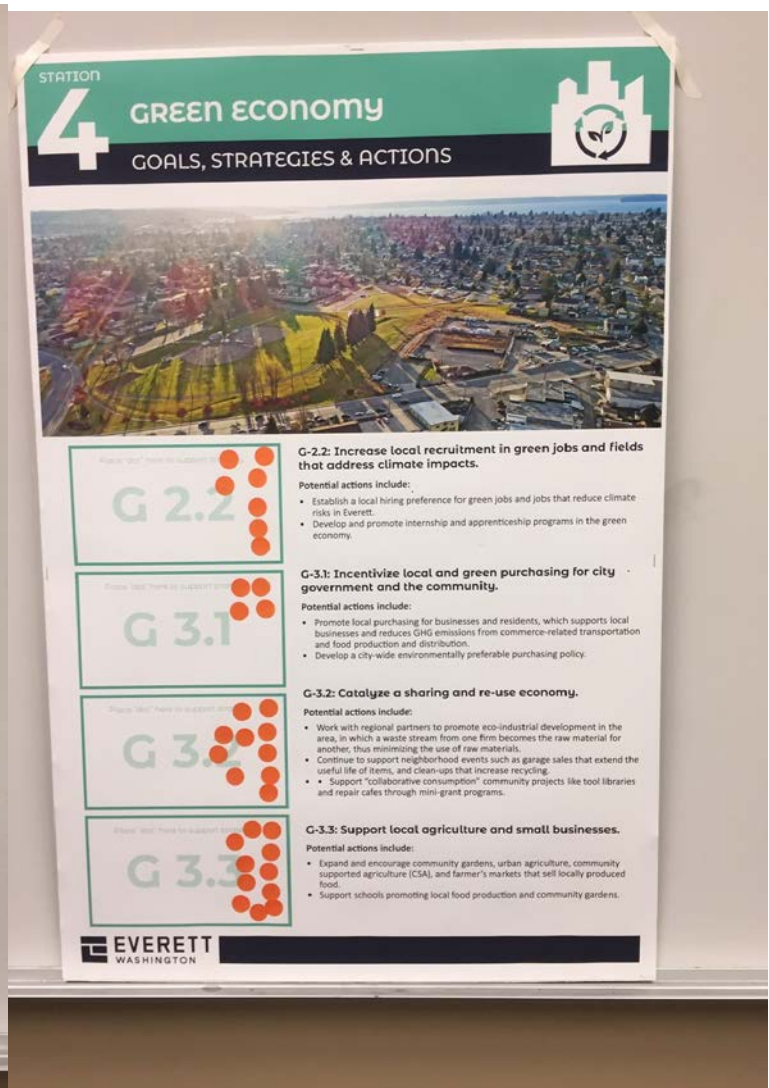
- With community stakeholders and partners, conduct a study and host a community conversation to identify threats to current industries, opportunities for new green businesses and industries, and areas that need support.
- Establish a locally controlled revolving loan fund or similar mechanism to improve community access to financing for green business and industry investments.
- Explore the viability of a cross-laminated timber plant in Everett.
- Encourage local recycling businesses in appropriate locations with appropriate standards.

**G-2.1: Increase education and workforce training specific to the green economy.**  
Potential actions include:

- Determine how to support and martial higher education resources at local community and technical colleges, and university extensions to respond to a changing climate.
- Explore the potential of establishing sustainable local businesses in neighborhoods that will promote the local green economy and compact, walkable communities.
- Work with economic development entities (e.g., Puget Sound Regional Council) to develop entrepreneurship programs for green jobs.

EVERETT WASHINGTON

STATION  
**4** GREEN ECONOMY  
GOALS, STRATEGIES & ACTIONS



**G-2.2: Increase local recruitment in green jobs and fields that address climate impacts.**  
Potential actions include:

- Establish a local hiring preference for green jobs and jobs that reduce climate risks in Everett.
- Develop and promote internship and apprenticeship programs in the green economy.

**G-3.1: Incentivize local and green purchasing for city government and the community.**  
Potential actions include:

- Promote local purchasing for businesses and residents, which supports local businesses and reduces GHG emissions from commerce-related transportation and food production and distribution.
- Develop a city-wide environmentally preferable purchasing policy.

**G-3.2: Catalyze a sharing and re-use economy.**  
Potential actions include:

- Work with regional partners to promote eco-industrial development in the area, in which a waste stream from one firm becomes the raw material for another, thus minimizing the use of raw materials.
- Continue to support neighborhood events such as garage sales that extend the useful life of items, and clean-ups that increase recycling.
- Support "collaborative consumption" community projects like tool libraries and repair cafes through mini-grant programs.

**G-3.3: Support local agriculture and small businesses.**  
Potential actions include:

- Expand and encourage community gardens, urban agriculture, community supported agriculture (CSA), and farmer's markets that sell locally produced food.
- Support schools promoting local food production and community gardens.

EVERETT WASHINGTON

**STATION 5** **COMPACT, MULTI-MODAL LAND USE**  
GOALS, STRATEGIES & ACTIONS

**WHAT ARE OUR GOALS?**

**LU-1:** Create centralized activity centers with a dense and diverse mix of services, amenities, jobs, and housing types in areas well-served by public transit.

**LU-2:** Develop vibrant, healthy, and livable neighborhoods.

**HOW CAN WE GET THERE?**

Mixed used development is already promoted in Everett's land use policy; incentives for market response are needed to push compact, multi-modal land use forward.

These strategies locate businesses, services, governmental offices, and schools that generate many trips near the permanent transit network, and prioritize vibrant, healthy, and livable neighborhoods for current and future residents.

**LU-1.1: Support intentional high-density development.**  
Potential actions include:

- Incentivize infill and mixed-use development.
- Evaluate the effectiveness of zoning codes for and identify incentives to encourage Accessory Dwelling Units.

**LU-1.2: Locate development near transit and discourage car travel.**  
Potential actions include:

- Adopt a Transit Communities Policy and create a Transit Communities Development Authority to implement transit-oriented development (TOD).
- Where parking demand is high, and where legal authority exists, explore ways to disincentive parking such as on-street parking pricing and Parking Benefit Districts.

**LU-2.1: Improve neighborhood walkability.**  
Potential actions include:

- Require new development to provide pedestrian and transit connections between retail, living, and working places; and traffic calming and other safety-related improvements, as feasible and appropriate.
- Continue to implement the Bicycle Master Plan.

**LU-2.2: Increase, protect, and restore green spaces and natural areas within the community.**  
Potential actions include:

- Create a comprehensive Tree Master Plan that focuses on increasing urban canopy cover.
- Continue to plan and develop a connected system of parks, open spaces, and trails throughout Everett.
- Create more usable green space in Everett's activity centers and work to incorporate a higher volume of smaller parks and urban public spaces.

EVERETT WASHINGTON

**STATION 6** **GOVERNANCE**  
GOALS, STRATEGIES & ACTIONS

**WHAT ARE OUR GOALS?**

**Gov-1:** Strengthen City capacity to support climate action.

**Gov-2:** Strengthen community capacity to support climate action.

**HOW CAN WE GET THERE?**

Capacity to support climate action at both the municipal and community level will be needed to implement the CAP successfully. Strategies that support foundational collaboration, capacity-building, and institutionalization of climate action include learning from other entities acting on climate change, staff training and resources, regular reporting, and centralized coordination of climate and sustainability activities.

**Gov-1.1: Engage with other governments and organizations around climate change.**  
Potential actions include:

- Join regional groups such as the Puget Sound Climate Preparedness Collaborative to promote regional collaboration in climate action and preparedness.
- Work with grassroots organizations and partners to increase collaboration with community advocates.

**Gov-1.2: Improve City staff knowledge of and capacity for their role in climate action.**  
Potential actions include:

- Create a centralized City climate/sustainability coordinator to support CAP monitoring and implementation.
- Create a management and reporting system for CAP metrics.
- Conduct annual GHG emissions inventories and identify process improvements to further reduce emissions during implementation.
- Educate City departments and staff about the CAP.

**Gov-1.3: Secure structural capacity.**  
Potential actions include:

- Conduct climate risk assessments for the City's finances, insurance, and legal obligations, and identify approaches to reduce climate risks.
- Develop and secure specific funding source for CAP priorities and goals.
- Allocate cost savings from CAP implementation to future CAP actions.
- Consider climate change in all City Council policy, budgetary, or legislative decisions.

**Gov-2.1: Develop community leadership and involvement for climate action.**  
Potential actions include:

- Design and promote accessible, relevant CAP educational materials to ensure full engagement of community members.
- Establish a residential climate action committee to serve as local ambassadors for CAP goals, actions, and strategies.

**Gov-2.2: Promote equitable climate action.**  
Potential actions include:

- Create a report that identifies the differential impact of climate change on neighborhoods and communities.
- Develop and incorporate equity metrics into CAP evaluation.

EVERETT WASHINGTON

# Appendix C. Implementation & Evaluation Frameworks

As discussed in the Implementation and Evaluation section, these matrices provide the framework for Everett’s Climate Action Plan implementation and evaluation strategy. Before diving into the full implementation of the Climate Action Plan, the City of Everett staff will have to complete some of the foundational actions listed in the Governance focus area to increase City capacity for climate action work. Once those actions are taken, the matrices listed below will help the City staff member responsible for implementation to track progress, develop a timeline, identify funding opportunities, and create accountability.

## IMPLEMENTATION MATRIX

| #  | Action      | Lever  | Timeframe   | Lead Entity  | Potential Partners  | Cost                        | Potential Funding Strategies  | Metrics   | Unintended Consequences   | Key Next Steps  |
|--|-------------|--|---|--|---|-----------------------------|-------------------------------|---|---|---|
| <b>Strategy: Strategy within the CAP</b> |             |  |   |  |   |                             |                               |   |   |   |
| <b>Action ID</b>                         | Action name | Identified mechanism for affecting change (e.g., policy, capital improvement project, monetary instrument, information/ education, partnership/ collaboration, or management practice) | Timeline for implementation (e.g., short-term, long-term) | City department, community organization, or partnership responsible for implementation of action | Identification of partners that can support implementation elements | Cost of implementing action | How the action will be funded | Metrics for evaluating implementation of the action | Possible unintended consequences to consider during action implementation | Progress update on the status of ongoing implementation |

## EVALUATION MATRIX

| Key Performance Indicator  | Tracked?   | Baseline  | Current Value   | 2030 Target                        | 2050 Target                        | Trend  |
|--|--|---|---|------------------------------------|------------------------------------|--|
| <b>Goal: Goal within the CAP against which the KPI will assess progress.</b> |  |   |   |                                    |                                    |  |
| <b>Metric being tracked</b><br>(unit of the metric)                          | Whether the metric is currently tracked for an alternative program/project | Baseline value to which the goal is being compared (year of data) | Value of the metric within the current reporting year | Target value of the metric in 2030 | Target value of the metric in 2050 | Current observed trend in KPI (e.g., Needs Work, On Track, Exceeding Goal) |



# Appendix D. Multi-Criteria Analysis

This Climate Action Plan includes a qualitative assessment of the potential benefits associated with each action presented. To create this assessment, each action was qualitatively ranked high, medium, or low based on how well the action aligns with an established set of criteria. The full outcomes of these rankings are provided below.

| Overall Scores:   |  | Score Out of 5 | Impact | Equity | Cost/<br>Affordability | Feasibility | Co-Benefits |
|---|--|----------------|--------|--------|------------------------|-------------|-------------|
| A score of 5 is the highest possible score, indicating very high alignment with the criterion. A score of 1 is the lowest possible score, indicating very low alignment with the criterion. |  |                | 30%    | 20%    | 17%                    | 17%         | 17%         |
| ID  | Action   |                |        |        |                        |             |             |
| T-1.1.1   | Incentivize transit use by promoting benefits such as pre-tax transit passes and rebates to employees who give up use of employer parking facilities.  | 2.6            | 3.8    | 1.0    | 3.0                    | 3.0         | 1.4         |
| T-1.1.2   | Advocate for regional congestion pricing authority, with flexibility to dedicate revenues to projects and services that would serve a variety of different transportation modes and options.   | 2.6            | 3.8    | 1.0    | 3.5                    | 1.6         | 2.6         |
| T-1.1.3   | Accelerate the implementation of the “Complete Streets” policy by mandating all new transportation and land use projects to incorporate infrastructure for bicycles, pedestrians, and mass transit service unless a reasonable exemption is determined by the City Engineer. | 3.4            | 3.8    | 2.3    | 3.5                    | 4.4         | 3.0         |
| T-1.1.4   | Partner with the school district and Safe Routes to Schools to expand educational programs and events to encourage and promote walking and biking, including a Bike to School Day, walking school bus, and sidewalk painting for safe routes.                                | 2.6            | 1.0    | 2.3    | 4.5                    | 5.0         | 1.8         |
| T-1.2.1   | Work with third-party programs and businesses to increase the availability, accessibility, and convenience of shared mobility options (e.g., bike share, scooter share, car share).  | 3.1            | 3.0    | 1.7    | 5.0                    | 3.8         | 2.6         |

APPENDIX D. MULTI-CRITERIA ANALYSIS

| Overall Scores:<br><br>A score of 5 is the highest possible score, indicating very high alignment with the criterion. A score of 1 is the lowest possible score, indicating very low alignment with the criterion. |  | Score Out of 5 | Impact | Equity | Cost/<br>Affordability | Feasibility | Co-Benefits |
|--|--|----------------|--------|--------|------------------------|-------------|-------------|
|  |  |                | 30%    | 20%    | 17%                    | 17%         | 17%         |
| <b>T-1.2.2</b>   | Educate local employers on the options for and benefits of compressed work weeks, telecommuting, and other schedule adjustments that reduce commute trips. Share case studies and learnings from the City’s internal implementation of these programs and from local businesses with innovative flexible work policies.  | <b>2.7</b>     | 2.6    | 1.0    | 4.5                    | 4.4         | 1.4         |
| <b>T-1.2.3</b>   | Continue to promote and support carpooling, vanpooling, and telecommuting amongst City employees to reduce drive alone commute trips.  | <b>2.3</b>     | 1.0    | 1.0    | 4.5                    | 5.0         | 1.0         |
| <b>T-2.1.1</b>   | Continue to invest in transitioning the Everett Transit fleet to an all-EV bus fleet.  | <b>3.1</b>     | 3.8    | 2.3    | 2.5                    | 4.4         | 2.2         |
| <b>T-2.1.2</b>   | Introduce a policy to replace City fleet vehicles with electric and hybrid options at the time of replacement.   | <b>2.1</b>     | 1.0    | 1.0    | 3.5                    | 4.4         | 1.4         |
| <b>E-1.1.1</b>   | Partner regionally and with Washington state to revise building codes to disincentivize natural gas for heating in buildings.  | <b>2.8</b>     | 3.0    | 1.0    | 4.5                    | 4.4         | 1.4         |
| <b>E-1.1.2</b>   | Study the benefits and economic tradeoffs of regulations that require all-electric buildings and disincentivize natural gas for new construction and major renovations/ redevelopment. Options such as city mandates, building code updates, or ordinances should be explored as tools for transitioning new construction to all-electric for heating. Ideally, these regulations would cover both new construction and major renovations of existing buildings, including accessory dwelling units. | <b>2.8</b>     | 4.2    | 1.0    | 4.0                    | 2.4         | 1.8         |



APPENDIX D. MULTI-CRITERIA ANALYSIS

| Overall Scores:<br><br>A score of 5 is the highest possible score, indicating very high alignment with the criterion. A score of 1 is the lowest possible score, indicating very low alignment with the criterion. |   | Score Out of 5 | Impact | Equity | Cost/<br>Affordability | Feasibility | Co-Benefits |
|--|---|----------------|--------|--------|------------------------|-------------|-------------|
|  |   |                | 30%    | 20%    | 17%                    | 17%         | 17%         |
| <b>E-1.1.3</b>   | Work with regional energy partnerships to develop and implement an Electrification Action Plan for all City facilities. In new and existing buildings, incorporate strategies to address electricity storage, and focus on highlighting any hurdles or solutions that would be applicable to the broader community. | <b>1.8</b>     | 1.0    | 1.0    | 3.0                    | 2.8         | 1.8         |
| <b>E-2.1.1</b>   | Create an Electric Vehicle (EV) Charging Station Action Plan.   | <b>3.3</b>     | 5.0    | 1.7    | 3.5                    | 2.8         | 2.2         |
| <b>E-2.1.2</b>   | Adopt an EV charging planning code amendment that would increase the charging requirements for new construction and renovations.  | <b>3.0</b>     | 3.8    | 1.0    | 4.5                    | 4.2         | 1.4         |
| <b>GE-1.1.1</b>  | Develop municipal standards for green building design, construction, and capital projects, working with a multi-disciplinary team. King County’s sustainable infrastructure scorecard is a potential evaluation model for internal standards.   | <b>2.5</b>     | 1.0    | 1.0    | 4.5                    | 4.2         | 3.4         |
| <b>GE-1.1.2</b>  | Encourage the use of green roofs, green walls, cool roofs, cool pavement, and additional landscaping tolerant to a range of climate conditions, especially in areas where urban heat island effects will be greatest.   | <b>3.4</b>     | 1.8    | 4.3    | 5.0                    | 3.6         | 3.4         |
| <b>GE-1.1.3</b>  | Conduct a feasibility study on using treated greywater and rainwater harvesting for non-potable water needs at city facilities.   | <b>2.4</b>     | 1.0    | 1.0    | 4.0                    | 4.4         | 3.0         |

APPENDIX D. MULTI-CRITERIA ANALYSIS

| Overall Scores:<br><br>A score of 5 is the highest possible score, indicating very high alignment with the criterion. A score of 1 is the lowest possible score, indicating very low alignment with the criterion. |   | Score Out of 5  | Impact   | Equity | Cost/<br>Affordability | Feasibility | Co-Benefits |
|--|---|-----------------|--|--------|------------------------|-------------|-------------|
|  |   |                 | 30%  | 20%    | 17%                    | 17%         | 17%         |
|  |   | <b>GE-1.1.4</b> | Adopt new stormwater development regulations (codes and standards) specified in the Permit and the new Ecology Stormwater Management Manual, including vesting requirements and new Low Impact Development (LID) Best Management Practices (BMPs). Implement new plan review, inspection, and escalating enforcement processes and procedures necessary to implement the program in accordance with Permit conditions. | 2.6    | 1.0                    | 2.3         | 4.0         |
| <b>GE-1.2.1</b>  | Work with partners in higher education and elsewhere to inventory and evaluate green economy innovations to determine which are aligned with the city's vision, goals, and capacity. These may include research centers for clean energy, water, manufacturing, and technology, as well as other endeavors. | 3.1             | 3.0  | 1.6    | 3.5                    | 3.8         | 4.2         |
| <b>GE-1.2.2</b>  | With community stakeholders and partners, conduct a study and host a community conversation to identify threats to current industries, opportunities for new green businesses and industries, and areas that need support.  | 2.9             | 1.0  | 3.6    | 3.5                    | 5.0         | 3.0         |
| <b>GE-1.2.3</b>  | Focus some business development efforts on businesses that have fewer impacts on natural resources.   | 2.4             | 1.0  | 1.0    | 5.0                    | 4.4         | 2.2         |
| <b>GE-1.2.4</b>  | Encourage local recycling businesses in appropriate locations with appropriate standards.   | 2.7             | 1.8  | 1.0    | 5.0                    | 5.0         | 1.8         |
| <b>GE-1.2.5</b>  | Work with regional partners to support business and non-governmental organizational efforts to participate in the green economy.  | 2.6             | 1.8  | 1.7    | 3.5                    | 3.6         | 3.0         |

APPENDIX D. MULTI-CRITERIA ANALYSIS

| Overall Scores:<br><br>A score of 5 is the highest possible score, indicating very high alignment with the criterion. A score of 1 is the lowest possible score, indicating very low alignment with the criterion. |   | Score Out of 5  | Impact   | Equity | Cost/<br>Affordability | Feasibility | Co-Benefits |
|--|---|-----------------|--|--------|------------------------|-------------|-------------|
|  |   |                 | 30%  | 20%    | 17%                    | 17%         | 17%         |
|  |   | <b>GE-2.1.1</b> | Explore the potential of small green commercial hubs—or clusters of sustainable local business—in neighborhoods that will promote the local green economy and compact, walkable communities. | 2.7    | 1.8                    | 1.7         | 3.5         |
| <b>GE-2.1.2</b>  | Establish a local hiring preference for green jobs and jobs that reduce climate risks in Everett.   | 2.9             | 1.0  | 1.7    | 4.5                    | 5.0         | 4.2         |
| <b>GE-2.1.3</b>  | Work with local and regional partners to develop and promote internship and apprenticeship programs in the green economy.   | 2.7             | 1.8  | 1.7    | 3.5                    | 4.2         | 3.0         |
| <b>GE-3.1.1</b>  | Promote local purchasing for businesses and residents to support local vendors, services, and stores and to reduce GHG emissions from commerce-related transportation and food production and distribution.                   | 3.3             | 3.0  | 1.6    | 5.0                    | 5.0         | 2.2         |
| <b>GE-3.1.2</b>  | Develop a city-wide environmentally preferable purchasing policy (EPP). Consider life-cycle costing as one of the decision-making tools in the EPP process.   | 1.9             | 1.8  | 1.0    | 3.5                    | 2.4         | 1.0         |
| <b>GE-3.1.3</b>  | Replace all non-Energy Star office equipment and appliances at the end of their life cycle with Energy Star rated models. Require energy and water efficiency as a primary consideration for all future purchasing decisions. | 2.1             | 1.8  | 1.0    | 3.0                    | 4.4         | 1.0         |
| <b>GE-3.1.4</b>  | Develop and disseminate tools for writing green specifications, RFPs, and bids.   | 2.3             | 2.2  | 1.0    | 3.5                    | 3.6         | 1.4         |

APPENDIX D. MULTI-CRITERIA ANALYSIS

| Overall Scores:<br><br>A score of 5 is the highest possible score, indicating very high alignment with the criterion. A score of 1 is the lowest possible score, indicating very low alignment with the criterion. |  | Score Out of 5  | Impact   | Equity     | Cost/<br>Affordability | Feasibility | Co-Benefits |
|--|--|-----------------|--|------------|------------------------|-------------|-------------|
|  |  |                 | 30%  | 20%        | 17%                    | 17%         | 17%         |
|  |  | <b>GE-3.2.1</b> | Work with regional partners to promote eco-industrial development in the area, in which a waste stream from one firm becomes the raw material for another, thus minimizing the use of raw materials. | <b>2.3</b> | 1.8                    | 1.0         | 3.0         |
| <b>GE-3.2.2</b>  | Continue to support neighborhood events such as garage sales that extend the useful life of items, and clean-ups that result in recycling of appliances, metals, yard waste, etc.  | <b>2.8</b>      | 1.8  | 1.7        | 5.0                    | 5.0         | 1.4         |
| <b>GE-3.2.3</b>  | Support “collaborative consumption” community projects like tool libraries and repair cafes through mini-grant programs.   | <b>2.4</b>      | 1.0  | 1.7        | 3.5                    | 5.0         | 1.8         |
| <b>GE-3.2.4</b>  | Work with local and regional partners to conduct a public education and outreach campaign around local options for tool-lending libraries, car share, swap events, service websites, and exchange websites like Snohomish County’s Reusable Materials Exchange (2good2toss.com) and Facebook’s Buy Nothing groups. | <b>2.5</b>      | 1.8  | 1.7        | 3.5                    | 5.0         | 1.4         |
| <b>GE-3.3.1</b>  | Expand and encourage community gardens, urban agriculture, community supported agriculture (CSA), and farmer’s markets that sell locally produced food.  | <b>2.7</b>      | 1.0  | 2.3        | 4.0                    | 5.0         | 2.6         |
| <b>LU-1.1.1</b>  | Incentivize infill and mixed-use development (e.g., through alternative code compliance, fee waivers, density bonuses, investment prioritization, development impact fees, tax benefits).  | <b>3.1</b>      | 3.8  | 1.7        | 4.0                    | 3.8         | 2.2         |
| <b>LU-1.1.2</b>  | Evaluate the effectiveness of zoning codes for and identify incentives to encourage Accessory Dwelling Units (i.e., mother-in-law units).  | <b>2.6</b>      | 1.0  | 1.6        | 5.0                    | 5.0         | 1.8         |

APPENDIX D. MULTI-CRITERIA ANALYSIS

| Overall Scores:<br><br>A score of 5 is the highest possible score, indicating very high alignment with the criterion. A score of 1 is the lowest possible score, indicating very low alignment with the criterion. |  | Score Out of 5 | Impact | Equity | Cost/<br>Affordability | Feasibility | Co-Benefits |
|--|--|----------------|--------|--------|------------------------|-------------|-------------|
|  |  |                | 30%    | 20%    | 17%                    | 17%         | 17%         |
| <b>LU-1.1.3</b>  | Adopt a Transit Communities Policy and create a Transit Communities Development Authority to implement transit-oriented development (TOD).   | <b>3.9</b>     | 5.0    | 3.1    | 3.5                    | 4.4         | 2.6         |
| <b>LU-2.1.1</b>  | Require new development to provide pedestrian connections between retail, living, and working places; transit connections and facilities; traffic calming and other safety-related improvements; sidewalks and trails; and pedestrian and bicycle amenities, as feasible or appropriate. | <b>3.2</b>     | 2.2    | 3.0    | 4.5                    | 4.4         | 3.0         |
| <b>LU-2.1.2</b>  | Continue to implement the Bicycle Master Plan.   | <b>2.9</b>     | 2.2    | 1.7    | 4.5                    | 3.8         | 3.0         |
| <b>LU-2.1.3</b>  | Create a sidewalk, curb ramp, and crosswalk inventory to determine high-need areas. Seek additional funding to build sidewalks, crosswalks, and other walking infrastructure in high-need areas and fill connectivity gaps.  | <b>2.6</b>     | 1.0    | 3.7    | 3.5                    | 4.4         | 1.4         |
| <b>LU-2.2.1</b>  | Support increasing the City’s tree canopy through continued implementation of the City of Everett Tree Policy. Continue planting trees on publicly owned lands through on-going efforts such as the Green Everett Partnership in conjunction with Forterra.                              | <b>3.3</b>     | 2.2    | 3.0    | 5.0                    | 4.8         | 2.6         |
| <b>LU-2.2.2</b>  | Continue to plan and develop a system of parks, open spaces, and trails throughout Everett.  | <b>3.3</b>     | 2.2    | 3.0    | 4.5                    | 5.0         | 3.0         |
| <b>LU-2.2.3</b>  | Create more usable green space in Everett’s activity centers and work to incorporate a higher volume of smaller parks and urban public spaces.   | <b>2.9</b>     | 1.0    | 4.4    | 3.5                    | 3.8         | 3.0         |



APPENDIX D. MULTI-CRITERIA ANALYSIS

| Overall Scores:<br><br>A score of 5 is the highest possible score, indicating very high alignment with the criterion. A score of 1 is the lowest possible score, indicating very low alignment with the criterion. |  | Score Out of 5 | Impact | Equity | Cost/<br>Affordability | Feasibility | Co-Benefits |
|--|--|----------------|--------|--------|------------------------|-------------|-------------|
|  |  |                | 30%    | 20%    | 17%                    | 17%         | 17%         |
| <b>GO-1.1.1</b>  | Create a centralized City climate/sustainability coordinator to support CAP monitoring and implementation.   | <b>2.0</b>     | 1.0    | 1.0    | 3.0                    | 4.0         | 1.8         |
| <b>GO-1.1.2</b>  | Create a management and reporting system for key metrics of activities related to CAP goals. This could include the use of an online dashboard to report on the progress of actions that have been initiated, implementation schedule, community and municipal GHG emissions, and equity impacts of actions implemented. | <b>2.1</b>     | 1.0    | 1.0    | 4.5                    | 3.6         | 1.4         |
| <b>GO-1.1.3</b>  | Educate all City staff members about the CAP.  | <b>2.3</b>     | 1.0    | 1.0    | 4.5                    | 4.8         | 1.4         |
| <b>GO-1.1.4</b>  | Evaluate the differential impact of climate change on neighborhoods and communities.   | <b>2.6</b>     | 1.0    | 3.0    | 4.5                    | 3.6         | 1.8         |
| <b>GO-1.1.5</b>  | Develop and incorporate equity metrics in the evaluation of CAP activities.  | <b>2.8</b>     | 1.0    | 3.0    | 5.0                    | 4.4         | 1.8         |

## References

- Beard, C. B., Eisen, R., Barker, C., Garofalo, J., Hahn, M., Hayden, M., . . . Schramm, P. (2016). *The Impacts of Climate Change on Human Health in the United States: A Scientific Assessment*. Washington D.C.: U.S. Global Change Research Program.
- Bonauto, D., Anderson, R., Rauser, E., & Burke, B. (2007). Occupational Heat Illness in Washington State, 1995-2005. *American Journal of Industrial Medicine*, 940-950.
- Chiocchio, E. (2014). *Forest and Water Climate Adaptation: A Plan for the Santa Fe Watershed*. Santa Fe: Santa Fe Watershed Association. Retrieved September 18, 2019, from [www.santafewatershed.org/wp-content/uploads/2014/11/Santa-Fe-Watershed-Forest-Water-Climate-Adaptation-Plan-20141014web.compressed.pdf](http://www.santafewatershed.org/wp-content/uploads/2014/11/Santa-Fe-Watershed-Forest-Water-Climate-Adaptation-Plan-20141014web.compressed.pdf)
- Dalton, M. M., Mote, P. W., & Snover, A. K. (2013). *Climate Change in the Northwest: Implications for Our Landscapes, Waters, and Communities*. Washington D.C.: Island Press.
- Ecology, W. S. (2012). *Preparing for a Changing Climate: Washington State's Integrated Climate Response Strategy*.
- Hamlet, A. F., Elsner, M. M., Mauger, G. S., Lee, S.-Y., Tohver, I., & Norheim, R. A. (2013). *An Overview of the Columbia Basin Climate Change Scenarios Project: Approach, Methods, and Summary of Key Results*. Canadian Meteorological and Oceanographic Society.
- Isaksen, T., Yost, M., Hom, E., Ren, Y., Lyons, H., & Fenske, R. (2015). Increased Hospital Admissions Associated with Extreme-Heat Exposure in King County, Washington. *Reviews on Environmental Health*, 51-64.
- Jackson, E. J., Yost, M. G., Karr, C., Fitzpatrick, C., Lamb, B. K., Chung, H. S., . . . Fenske, R. A. (2010). Public Health Impacts of Climate Change in Washington State: Projected Mortality Risks Due to Heat Events and Air Pollution. *Climatic Change*, 159-186.
- Mauger, G. S., Casola, J. H., Morgan, H. A., Strauch, R. L., Jones, B., Curry, B., . . . Snover, A. K. (2015). *State of Knowledge: Climate Change in Puget Sound*. Seattle: Climate Impacts Group.
- Mauger, G., & Lee, S. (2014). Climate Change, Sea Level Rise, and Flooding in the Lower Snohomish River Basin. *The Nature Conservancy*.
- Mauger, G., Lee, S.-Y., & Won, J. (2018). *Mapping the Future of Flood Risk for the Stillaguamish and Snohomish Rivers*. Seattle: Climate Impacts Group.
- Miller, I., Morgan, H., Mauger, G., Newton, T., Weldon, R., Schmidt, D., . . . Grossman, E. (2018). *Projected Sea Level Rise for Washington State - A 2018 Assessment*. Seattle: University of Washington Climate Impacts Group.
- Monleon, V., & Lintz, H. (2015). Evidence of tree species' range shifts in complex landscape.
- Mote, P. W., Li, S., Lettenmaier, D. P., Xiao, M., & Engel, R. (2018). Dramatic Declines in Snowpack in the Western US. *Climate and Atmospheric Science*.

- Mote, P. W., Rupp, D. E., Li, S., Sharp, D. J., Otto, F., Uhe, P. F., . . . Allen, M. R. (2016). Perspective on the Causes of Exceptionally Low 2015 Snowpack in the Western United States. *Geophysical Research Letters*, 10,980-10,988.
- New Energy Cities and Stockholm Environment Institute. (2016). *Methodology for Goal and Scenarios for Everett Carbon Wedge Analysis*.
- Niemi, E. (2009). *An Overview of Potential Economic Costs to Washington of a Business-As-Usual Approach to Climate Change*. Eugene: The Program on Climate Economics, Climate Leadership Initiative, Institute for a Sustainable Environment, University of Oregon.
- NOAA's Climate Program Office. (n.d.). *U.S. Climate Resilience Toolkit - Everett, WA*, <https://crt-climate-explorer.nemac.org/location/?county=Snohomish+County&city=Everett,%20WA&fips=53061&lat=47.9789848&lon=-122.20207949999997>. (University of North Carolina Asheville) Retrieved November 15, 2019, from Climate Explorer.
- Petersen, S., Bell, J., Miller, I., Jayne, C., Dean, K., & Fougerate, M. (2015). *Climate Change Preparedness Plan For The Northern Olympic Peninsula*. North Olympic Peninsula Resource Conservation and Development Council.
- Riahi, K., Grubler, A., & Nakicenovic, N. (2007). Scenarios of long-term socio-economic and environmental development under climate stabilization. *Technol Forecast Soc Chang.*, 887-935.
- Rogeli, J., Meinshausen, M., & Knutti, R. (2007). Global warming under old and new scenarios using IPCC climate sensitivity range estimates. *Nature Climate Change*.
- Rogers, B. M., Neilson, R. P., Drapek, R., Lenihan, J. M., Wells, J. R., Bachelet, D., & Law, B. E. (2011). Impacts of Climate Change on Fire Regimes and Carbon Stocks of the U.S. Pacific Northwest. *Journal of Geophysical Research*.
- Snover, A., Raymond, C., Roop, H., & Morgan, H. (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*. Seattle: University of Washington Climate Impacts Group.
- Van Vuuren, et al. (2011). The representative concentration pathways: An overview. *Climate Change*, 5-31.
- Vano, J., Voisin, N., Cuo, L., Hamlet, A., Elsner, M., Palmer, R., . . . Lettenmaler, D. (2010). Climate Change Impacts on Water Management in the Puget Sound Region, Washington, USA. *102(1-2)*.
- WSDOH. (2018). *Washington Tracking Network: A Source for Environmental Public Health Data*. Washington State Department of Health.