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- The public is encouraged to comment via email to pced@cityofanacortes.org, via written comment addressed to PCED, P.O. Box 547, Anacortes, WA 98221. Public comments received prior to 3:00 p.m. the day of the meeting will become part of the record for the meeting, just as if presented in person.
- Complete guidelines for virtual participation in Anacortes Planning Commission meetings are available [here](#) (page 2). View the quick video example for connecting to the meeting [here](#).

Anacortes Planning Commission
Municipal Building - Council Chambers
904 6th Street

March 26, 2025
6:00 PM

PRELIMINARY AGENDA
[Packet Materials](#) / [Watch Meeting](#)

1. **Roll Call**
2. **Pledge of Allegiance**
3. **Minutes**
4. **Public Comment**
 - a. Written Comments Received Prior to Publication of Packet
5. **Public Hearings**
6. **Other Business**
 - a. 2025 Comprehensive Plan Update - Climate Element Introduction
 - b. Planning Commission Rules of Procedure discussion
7. **Planning Department Update**
8. **Adjournment**

**Citizens wishing to comment on items not on the agenda may do so under Public Comment. Citizens wishing to comment during a public hearing may do so as those items are considered by the Planning Commission during the course of the meeting.*

The City of Anacortes is committed to making public meetings available and accessible to all members of the community. For assistance with special needs, please contact the City Clerk at 360-299-1960 in advance of the meeting.

Libby Grage

From: Tim Marquez <timothyjmarquez@gmail.com>
Sent: Monday, March 17, 2025 2:03 PM
To: CityClerk; pced
Subject: ADU growth

**** This email is from outside the City of Anacortes network. Please use caution when clicking on links, opening attachments, or replying. ****

City Council and Planning Department,

My name is Tim Marquez. I am a resident of Anacortes as well as a builder. I am writing to propose an initiative that I believe could greatly benefit our city, specifically, the establishment of pre-approved plans for Accessory Dwelling Units (ADUs).

As you know, ADUs have emerged as an invaluable solution to our housing challenges, providing affordable living options while maximizing the potential of existing properties. However, many potential homeowners face significant startup costs, lengthy permitting processes, and uncertainty about compliance with regulations, which can deter them from pursuing the construction of ADUs. Simply put, the average Anacortes resident does not know where to start with pursuing the construction of an ADU.

To address these challenges, I propose that the City of Anacortes collaborate with local architects, drafters, and engineers to develop a set of pre-engineered, pre-approved ADU plans. By having standardized designs that meet all local zoning and building codes, we could significantly streamline the permitting process. This initiative would not only speed up approvals but also lower the associated costs, making ADUs a more accessible option for many residents.

Here are a few key benefits of implementing pre-approved ADU plans:

1. **Cost Savings:** By providing standardized plans, we can reduce design and engineering costs for homeowners, encouraging more individuals to invest in ADU construction.
2. **Faster Permitting:** Pre-approved plans would expedite the review process, allowing homeowners to begin construction sooner and contribute to resolving our housing shortage more effectively.
3. **Quality Assurance:** Collaborating with professional architects and engineers ensures that the designs are not only aesthetically pleasing but also structurally sound.

I believe that by prioritizing this initiative, we can make significant strides in addressing the housing needs of our city while supporting local professionals and builders. I urge the City Council and Planning Department to consider this proposal seriously and initiate discussions with local architects and engineers to bring this vision to fruition.

Libby Grage

From: William Turner <bill.h.turner@gmail.com>
Sent: Friday, March 14, 2025 3:58 PM
To: Libby Grage
Cc: CityClerk
Subject: Fwd: THE CITY MUST HAVE MORE PUBLIC PARTICIPATION!

***** This email is from outside the City of Anacortes network. Please use caution when clicking on links, opening attachments, or replying. *****

Libby,
Please place this letter in packet for Planning Commission for consideration.
Thank you
Bill Turner
Sent from my iPad

Begin forwarded message:

From: James Matson <jmatson@goanacortes.com>
Date: January 29, 2025 at 1:23:26 PM PST
To: William Turner <bill.h.turner@gmail.com>
Subject: Re: THE CITY MUST HAVE MORE PUBLIC PARTICIPATION!

Received, I put the letter into our system.

From: William Turner <bill.h.turner@gmail.com>
Sent: Friday, January 17, 2025 12:02 PM
To: James Matson <jmatson@goanacortes.com>
Subject: THE CITY MUST HAVE MORE PUBLIC PARTICIPATION!

CAUTION, this email originated from outside the organization.

Dear James,
Please put my letter in the next edition.

Dear Editor,

When the 2016 Comprehensive plan was completed, the City Council had eliminated the use of PUDs, Public Unit Development, a valuable planning tool for the City and developers. This was a big mistake.

This tool allows for any landowner to use "conditions" as a part of a development to offset difficulties on that property, or to satisfy City requirements that benefit the City and its citizens. For example, a property that has wetlands or other environmental issues, could protect the ecologically sensitive areas by asking for increased density in the buildable area that would average the allowed density over all the property. Thus allowing the developer the same number of homes.

Before 2016, this use of a PUD created many great housing developments in Anacortes such as the "Orchards" which traded space for Ace of Hearts Creek and riparian buffer, for increased

density of homes. The PUD also allows the public to lobby for things such as parks, trails and open space. This applies to any size of property.

After Council eliminated PUDs, under the guise of eliminating “conditions” in order to streamline permitting, we are left with trying to establish rules that work in every instance. This simply will never work. Anacortes and Fidalgo Island have a large variety of land types, steep to flat, with views or not, wooded or not, waterfront and everything in between. No single set of rules will ever meet the needs of our ecology, neighborhood character, and citizen needs. The Council has been trying to do that since 2016 and are trying now to create a 2025 Comp plan that “one size fits all”. As a past developer, builder and City Council member, I don’t think this will produce the best outcomes for us.

The Planning Commission (PC) was designed to do the very thing we need now, a place for the neighborhoods and citizens to speak to what they need. If conditions are allowed then the PC can sort through public comment and pass on their recommendations to Council, who have final say, for their vote. If these conditions don’t pass muster for our rules, they won’t make it. That is what I experienced.

This kind of thinking creates better developments and outcomes for our citizens, but it takes more work from staff etc. and more public participation. I think it’s worth it. Let’s take the time to involve the public. What we have now in Anacortes took many years and a lot of participation. Look at what we have, it’s beautiful, and the community is invested, in its protection. It takes a village to decide what the village needs.

Bill Turner
2012 I Ave.
Anacortes
360-202-6287

Sent from my iPad
Sent from my iPad



Planning Commission Agenda Bill

Meeting Date: March 26, 2025

Agenda Item: 6.a.

Subject: 2025 Comprehensive Plan Update - Climate Element Introduction

Staff Contact: Libby Grage, John Coleman

Approved for Submittal to Commission by

Libby Grage
John Coleman

Action Type

Presentation

Summary Statement: The consultant for the City's Climate Element will present a detailed introduction to the statutory requirements and work completed so far for the new Climate Element of the Anacortes Comprehensive Plan.

Background: See attached memo.

Previous Action: None.

Competing Viewpoints Considered: Public comment opportunities will be provided during future written comment periods and public hearing(s). Dates will be published once scheduled.

Recommended Motion: None - presentation and discussion only.

Alternative Actions: N/A

Attachments (listed in order presented):

1. Climate Element Intro Memo
2. Greenhouse Gas Emissions Inventory Report
3. Climate Vulnerability and Risk Assessment
4. Tentative PC Meeting Schedule
5. Public Comment: 20250319-Martin
6. Public Comment: 20240321-Munce
7. Public Comment: 20250324-Turner
8. Presentation Slides
9. Public Comment: 20250326-Mu

Anacortes Comprehensive Plan Update

Climate Element Introduction

TO: John Coleman, City of Anacortes
Libby Grage, City of Anacortes

FROM: Makers Architecture and Urban Design
Katy Saunders
Markus Johnson

DATE: March 20, 2025

Background

The Growth Management Act (GMA) requirements have been modified since the last Periodic Comprehensive Plan update in 2016. The modifications to the GMA related to climate change come from [House Bill 1181](#) (2023), which requires jurisdictions to plan for climate change as part of their Comprehensive Plan process. Jurisdictions like Anacortes are required to meet what RCW [36.70A.070\(9\)](#) describes as:

“A climate change and resiliency element that is designed to result in reductions in overall greenhouse gas emissions and that must enhance resiliency to and avoid the adverse impacts of climate change, which must include efforts to reduce localized greenhouse gas emissions and avoid creating or worsening localized climate impacts to vulnerable populations and overburdened communities.”

In order to meet new state requirements, staff have worked with consultants to develop the Climate Element and new goals and policies. The GMA requires that the City’s Climate Element include both a Greenhouse Gas (GHG) Emission Reduction and a Resilience sub-element. The GHG Emissions Reduction Sub-Element measures local emissions and highlights actions that can be taken to reduce or eliminate GHG emissions. The Climate Resilience Sub-Element measures climate vulnerability and highlights actions that can be taken to improve local resilience to changing weather and extreme events.

All Climate Element work done to date has been reviewed by the “Climate Team,” a volunteer advisory group of local stakeholders advising on the development of the Anacortes Climate Element.

Below are requirements for each of the Sub-Elements:

GHG Emissions Reduction Sub-Element Minimum Requirements:

- Result in reductions in overall greenhouse gas emissions generated by transportation and land use within the jurisdiction but without increasing emissions elsewhere in Washington;
- Result in reductions in per capita vehicle miles traveled within the jurisdiction but without increasing greenhouse gas emissions elsewhere in Washington; and
- Prioritize reductions that benefit overburdened communities in order to maximize the co-benefits of reduced air pollution and environmental justice.

Climate Resilience Sub-Element Minimum Requirements:

- Address natural hazards created or aggravated by climate change, including sea level rise, landslides, flooding, drought, heat, smoke, wildfire, and other effects of changes to temperature and precipitation patterns;
- Identify, protect, and enhance natural areas to foster climate resilience, as well as areas of vital habitat for safe species migration; and
- Identify, protect, and enhance community resilience to climate impacts, including social, economic, and built-environment factors, which support adaptation to climate impacts consistent with environmental justice.

Reports and Work Done to Date

Anacortes 2022 GHG Emissions Inventory Report

The [2022 Anacortes GHG Emissions Inventory](#) measures local emissions from emission sources like building energy, transportation energy, waste, refrigerants, and forestry to understand sources of GHG emissions and inform mitigation strategies. The inventory also measures imported emissions from goods and food, air travel, and fuel produced outside the city boundaries, as well as negative emissions, including forest sequestration. This inventory satisfies requirements under Washington HB 1181 and supports the GHG Emissions Reduction Sub-Element.

Climate Vulnerability Index and the Anacortes Climate Element Explorer Tool

The [Anacortes Climate Element Explorer](#) tool is an interactive tool that allows the public to engage with the results of the GHG Inventory Report and the Climate Vulnerability Index, geospatial mapping tool, in a web-based format. Interactive maps, videos, and images can be found in this tool, each with the ability to provide more details or an additive story.

Climate Vulnerability and Risk Assessment Report

The [2025 Climate Vulnerability and Risk Assessment Report](#) (Climate Vulnerability Report) uses the findings from the Climate Vulnerability Index to evaluate potential future impacts of climate change on the region and provides an assessment of future local climate risks, such as sea-level rise, extreme heat, wildfire, and increased precipitation. The consultants use findings from the Climate Vulnerability Index and the Climate Vulnerability and Risk Assessment to develop

the draft goals and policies of Climate Element and how the City should align with requirements to advance environmental justice.

Draft Goals and Policies

The project team has drafted goals and policies for the new Climate Element, which are designed to meet the requirements of both sub-elements, and result in reductions in overall greenhouse gas emissions and enhance resiliency to and avoid the adverse impacts of climate change.



Anacortes 2022 Greenhouse Gas Emissions Inventory Report

Prepared for
City of Anacortes



For Calendar Year 2022

September 2024

ParametriX
let's create tomorrow, together

Citation

Parametrix. 2024. Anacortes 2022 Greenhouse Gas Emissions Inventory Report. Prepared for City of Anacortes by Parametrix, Eugene, Oregon. September 2024.

Acknowledgements

Project Team

Libby Grage, Planning Manager, Planning, Community & Economic Development Department, City of Anacortes

John Coleman, Director of Planning, Community and Economic Development, City of Anacortes

Consulting Team

Parametrix, a sustainability consulting firm with offices across the western United States, conducted the analysis for the City of Anacortes. Beth Miller, Stephen Greenslade, Claudia Denton, and Maddie Cheek of Parametrix provided data gathering assistance to City staff and facilitated the use of the Parametrix Carbon Calculator for Communities (G3C – Community), a proprietary GHG inventory tool, to conduct analysis. They are the primary authors of this report.

Contents

1. Executive Summary.....	1
1.1 Summary of Findings	1
2. Introduction	3
3. What's Included?	4
4. Inventory Results.....	5
4.1 Local Emissions	5
4.2 Imported Emissions	7
4.3 Total Emissions	7
4.4 Inventory Highlights	9
Building Energy.....	9
Transportation	11
Refrigerants.....	12
Solid Waste and Wastewater	12
Agriculture, Forestry, and Land Use.....	13
Imported Emissions from Imported Goods and Food.....	13
5. Emissions Forecast.....	16

FIGURES

Figure 1. City of Anacortes's 2022 GHG Emissions.....	2
Figure 2. Comparison of per Capita Emissions.....	5
Figure 3. The Volume of One Metric Ton of Carbon Dioxide Equivalent (MT CO ₂ e)	5
Figure 4. 2022 Local Community Emissions Excluding Negative Emissions	6
Figure 5. 2022 Community Local and Imported Emissions.....	7
Figure 6. Anacortes's Emissions Sources and Sinks.....	8
Figure 7. Building Energy Usage by Type and Energy Source	9

Contents (*continued*)

Figure 8. Breakdown of Market-Based Electricity Emissions by Sector	10
Figure 9. Comparison of Emissions Factors for the Northwest Power Pool and Puget Sound Energy	10
Figure 10. Breakdown of Natural Gas Emissions by Sector	11
Figure 11. Transportation Emissions (Excluding Commercial Air Travel)	11
Figure 12. Breakdown of Solid Waste and Wastewater Treatment Emissions	12
Figure 13. Carbon Emissions and Sequestration from Anacortes's Urban Forests Result in net Carbon Savings.....	13
Figure 14. Full Breakdown of Emissions Categories	15
Figure 15. Anacortes's Unchecked Emissions Forecast	16

TABLES

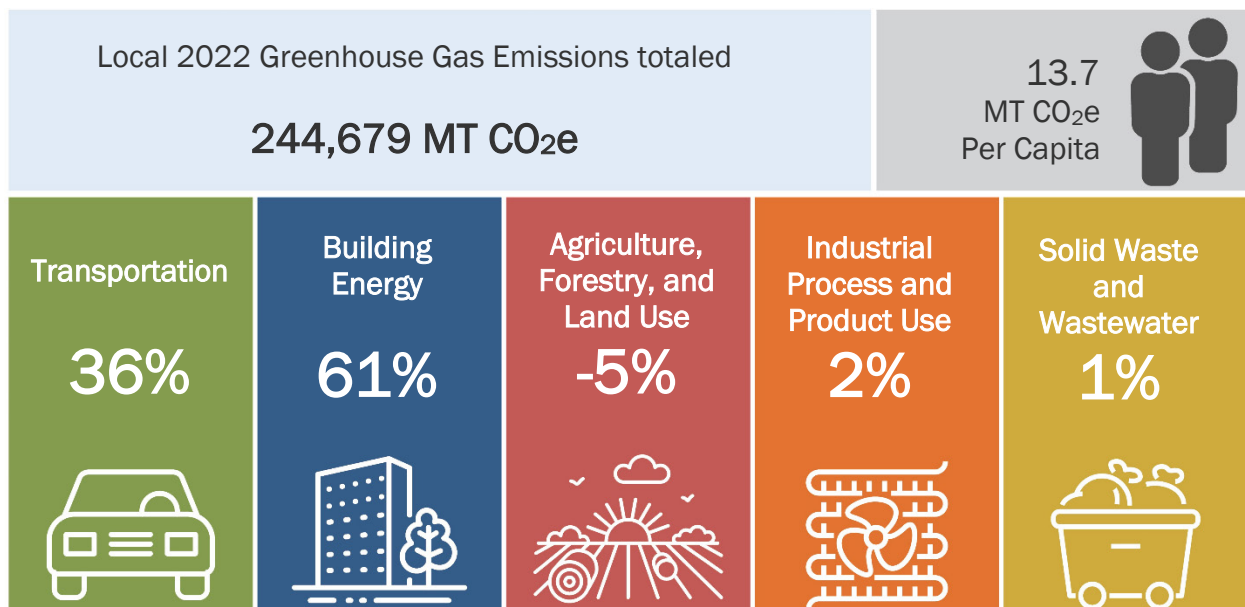
Table 1. Summary of Policies Impacting Local Emissions in Anacortes	17
Table B-1. Scope Descriptions	B-1
Table B-2. Emission and Scope Categories	B-2
Table B-3. Summary of Inventory Exclusions	B-4
Table C-1. Detailed Emissions Breakdown	C-1

APPENDICES

- A Glossary of Terms
- B Methodology and Protocols
- C Summary of Data and Emissions Factors

1. Executive Summary

The City of Anacortes completed a Community Greenhouse Gas (GHG) Inventory in accordance with HB 1181 to better understand sources of GHG emissions (i.e., climate pollution) and to inform the development of the mitigation actions required by the climate element for its 2026 comprehensive plan update. The inventory follows internationally recognized community GHG inventory protocols and accounts for all significant known sources of GHG emissions driven by activities taking place within the city's geographic boundary, referred to as *local emissions* in this report. The inventory also measures imported emissions from goods and food, air travel, and fuel produced outside the city boundaries, as well as negative emissions, including forest sequestration. This inventory satisfies requirements under Washington HB 1181, which requires local comprehensive plans to have a climate element with resilience and GHG emissions mitigation sub-elements.



1.1 Summary of Findings

- During 2022, with a population of **17,880**, all community emissions (local and imported emissions) totaled over **485,000 metric tons of carbon dioxide equivalents (MT CO₂e)** or an average of **27.2 MT CO₂e per resident**.
- Of this, **local emissions** totaled about **245,000 MT CO₂e**, or an average of just under **14 MT CO₂e per resident**.
 - The largest sources of local emissions were **buildings** (61%, primarily from electricity usage) and **transportation** (36%, primarily fuels used to operate waterborne vessels such as ferries and recreational boats as well as passenger cars).
 - Refrigerants and waste disposal accounted for **2%** of local emissions.

- **Residential natural gas use** and **commercial electricity use** were tied for the biggest drivers of building emissions. Each made up **23%** of building emissions and **14%** of local emissions.
- **Anacortes's urban forests saved 11,700 MT CO₂e** by absorbing carbon from the atmosphere.
- **Imported emissions** totaled nearly **241,000 MT CO₂e**, about 48% of all community emissions.
 - The largest source of imported emissions was the production of goods (such as furniture, textiles, and electronics).

Imported emissions also include the production of fuel (such as gasoline and natural gas) and food, and air travel.

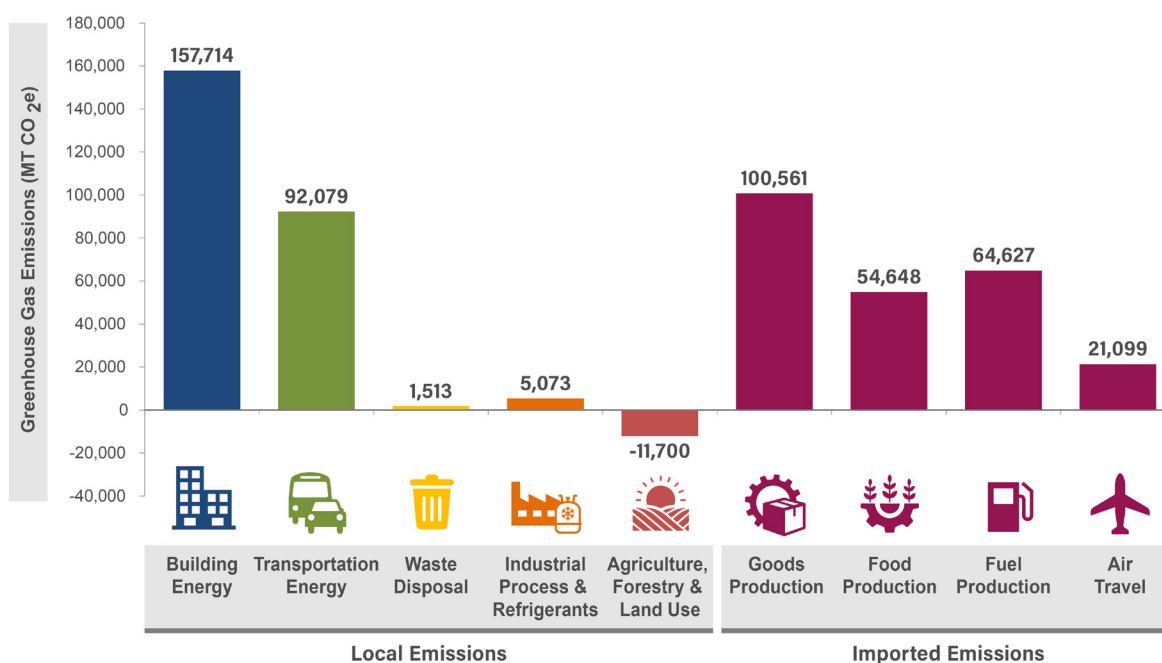


Figure 1. City of Anacortes's 2022 GHG Emissions

2. Introduction

Human activity, primarily consumption of fossil fuels, is driving planetary warming and changes in climate that have occurred over the past few decades and accelerated in recent years.¹ The best evidence indicates that human-caused greenhouse gas (GHG) emissions must be reduced significantly by 2030 to avoid “severe, pervasive and irreversible impacts for people and ecosystems.”¹ Physical changes to Washington’s climate—including hotter temperatures, drought, wildfire smoke, and less mountain snow,²—are already impacting communities across the state, including Anacortes. International climate goals broadly seek to limit global average temperature increases to well below 2 °C (3.6 °F) relative to temperatures at the start of the 1900s, and to strive for limiting temperature increases to 1.5 °C in alignment with the Paris Climate Accord. As of 2023, temperatures have already passed the halfway point; average temperatures have increased by more than 1 °C (1.8 °F) since the 1900s, and without strong action, it is likely that warming will exceed 1.5 °C (2.7 °F) by 2040.¹

It is with this understanding and urgency that the City of Anacortes (City) commissioned this community GHG inventory. This Anacortes 2022 Community GHG Inventory includes the following emissions sources:

- **Building Energy** use by residential, commercial, and industrial buildings and facilities represents a large source of community emissions. These emissions come from combustion of natural gas for building heat and hot water and from electricity generated from fossil fuels. Small quantities of combusted propane and other fuels are also included. Additionally, a fraction of natural gas is lost during local distribution, releasing methane, a potent GHG.
- **Transportation Energy** for ferries, recreational marine vehicles, and on-road vehicle transportation of passengers and freight also represents a large fraction of community emissions. As with building emissions, transportation emissions are generated by combustion of gasoline, diesel, other liquid and gas fuels, or from electricity generation for electric vehicles. Cross boundary transportation, such as ferries originating from Anacortes, are included as well; emissions associated with all departing trips were counted in accordance with GPC protocol³.
- **Waste** disposal in landfills and **wastewater** treatment produce methane; some leaks to the atmosphere and has a negative climate impact.

¹ Intergovernmental Panel on Climate (2023). Assessment Report 6 Synthesis Report: Climate Change 2023. <https://www.ipcc.ch/report/sixth-assessment-report-cycle/>.

² Raymond, C., M. Rogers, 2022. Climate Mapping for a Resilient Washington. Prepared by the Climate Impacts Group, University of Washington, Seattle and Research Data & Computing Services, University of Idaho, Moscow.

³ Greenhouse Gas Protocol – Global Protocol for Community-Scale Greenhouse Gas Inventories. <https://ghgprotocol.org/ghg-protocol-cities>.

- **Refrigerant** emissions are released from transportation and building cooling systems. Refrigerants are powerful global warming gases. Therefore, relatively small losses have a large climate impact. Known, significant industrial process emissions are also included here.
- **Agriculture, Forestry, and Land Use** can generate emissions from agricultural activity (e.g., animal waste and agricultural inputs) and community land use change (e.g., development of forest or grasslands). Intact forested lands can sequester carbon and reduce emissions.
- **Imported Emissions** are generated outside of the community during the production of goods, food, fuels, and service products consumed by residents. *Note: Imported emissions presented in this inventory are **estimated**, and therefore the results have a greater level of uncertainty compared to other sources of emissions.*

3. What's Included?

This community inventory followed the Greenhouse Gas Protocol Global Protocol for Community-Scale Greenhouse Gas Emission Inventories (GPC).⁴ The first step in any GHG inventory is setting the inventory boundary. The boundary includes defining the geographic area, time span, emissions sources and gases covered in the inventory. The GHG inventory presented in this report is based on calendar year 2022 data for the Anacortes geographic boundary. This inventory considers all seven recognized GHGs, but only five are relevant for Anacortes: carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbons (HFC) and sulfur hexafluoride (SF₆). All gases are reported in terms of carbon dioxide equivalent (CO₂e) or the amount of carbon dioxide it would take to create the same warming effect.

GHG emissions are often organized by sector (e.g., buildings, transportation, waste). Another way to organize them is by their origin, either within a community or from outside; these are referred to as *scopes*. Scope categories distinguish between those emissions that occur within the geographic boundaries (Scope 1) from those that occur outside the boundaries, but that are driven by activity from within (Scope 2 and Scope 3). Appendix B includes a more detailed description of the inventory methodology and what emissions sources are included.

⁴ GPC has become the recommended or required standard for international reporting to CDP's Cities Survey and the Global Covenant of Mayors for Climate & Energy. The GPC may be downloaded at <https://ghgprotocol.org/greenhouse-gas-protocol-accounting-reporting-standard-cities>.

4. Inventory Results

4.1 Local Emissions

The Anacortes community generated nearly **245,000 metric tons of carbon dioxide equivalents (MT CO₂e)** of local emissions—about **13.7 MT CO₂e per resident**. This is greater than the Washington State average of 13.5 MT CO₂e per person (Figure 2) and considerably greater than the global average of 4.3 MT CO₂e per person.⁵ GHG emissions accounting protocols, such as GPC and the Washington State Department of Ecology requirements, refer to local emissions as sector-based emissions. Those emissions are generated close to home and are most often under the community's direct control.

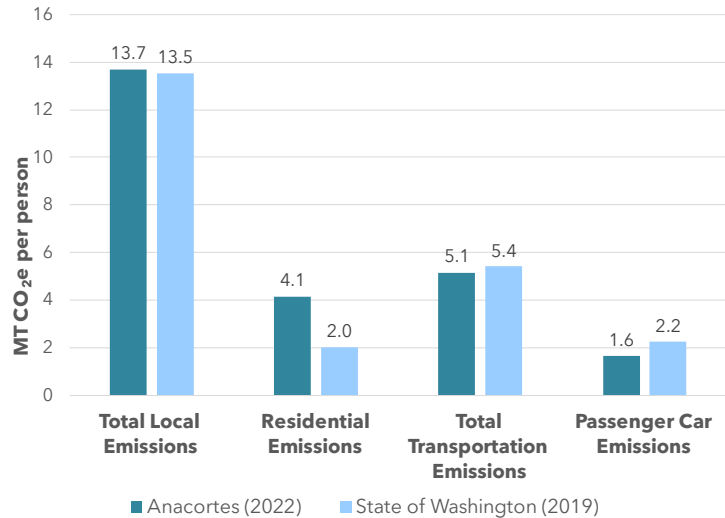


Figure 2. Comparison of per Capita Emissions

Definition: MT CO₂e

Since some gases are more potent in warming the atmosphere than carbon dioxide, all gases are calculated and combined into a carbon dioxide equivalent (CO₂e), typically measured in metric tons (MT).

Metric tons of carbon dioxide equivalent (MT CO₂e) is a unit of measure used to make apples-to-apples emissions comparisons between GHGs of different potencies.

See Figure 3 for an illustration.

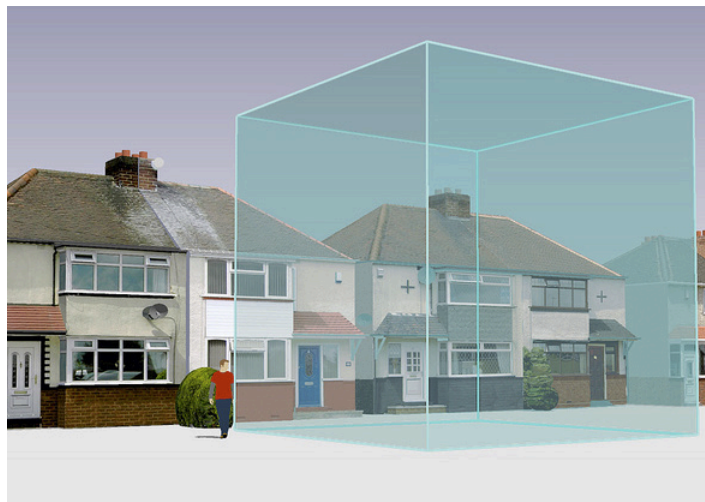


Figure 3. The Volume of One Metric Ton of Carbon Dioxide Equivalent (MT CO₂e)

⁵ Data from World Bank. For details visit <https://data.worldbank.org/indicator/EN.ATM.CO2E.PC>.

Anacortes’s local emissions are shown in Figure 4 and come primarily from building energy—such as electricity use and natural gas combustion (**blue segments**)—and transportation sources: mainly gasoline and diesel combustion in land-based and waterborne vehicles (**green segments**). Emissions from industrial processes and refrigerants include federally reported special industrial emissions and refrigerant gas loss from buildings and vehicles (**orange**). In Anacortes, there are emissions from refrigerants, but there are no known emissions from industrial processes. Waste emissions include landfill disposal of community solid waste and wastewater treatment (**yellow**). Anacortes’s large, forested areas result in negative emissions (or *sequestration*) of **agriculture, forestry, and land use** emissions.

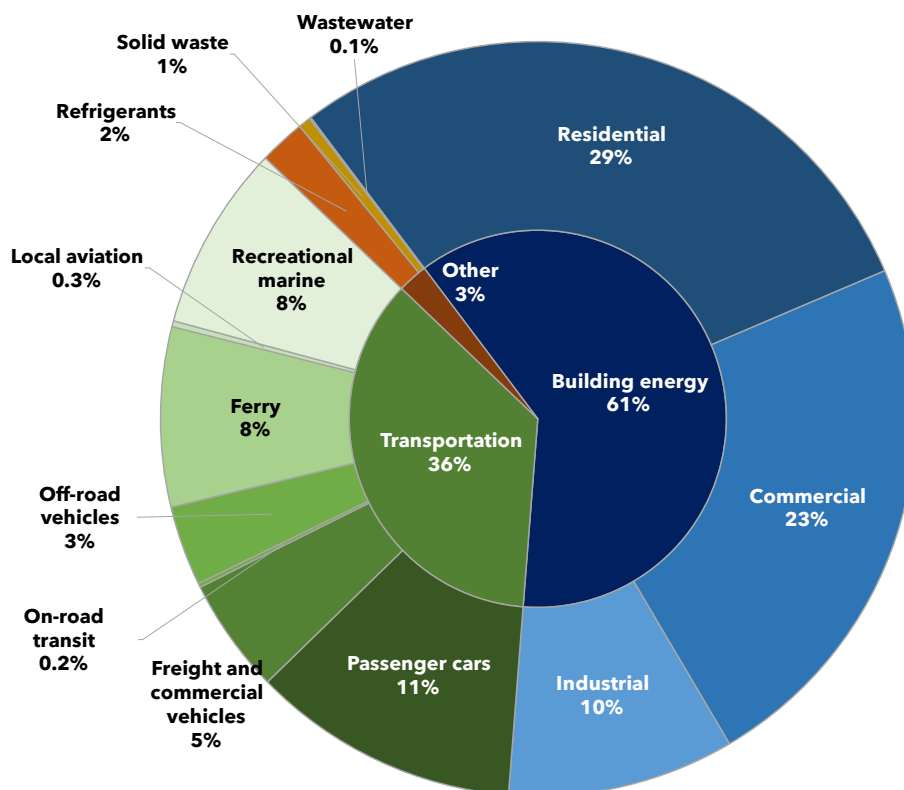


Figure 4. 2022 Local Community Emissions Excluding Negative Emissions

Note: All figures present market-based accounting for electricity unless otherwise noted.

Note that all emissions from **buildings** and **transportation** are from fossil fuels (98% of total); **waste** and **industrial process and refrigerants** are non-fossil-fuel emissions. Although all building energy emissions are from fossil fuels, that does not mean that all building electricity is from fossil fuel sources. Electricity generated through zero carbon sources such as hydropower, wind, or solar energy does not contribute to the city’s total emissions.

4.2 Imported Emissions

In addition to accounting for local emissions, the inventory also estimates **imported (consumption-based) emissions**, which are generated outside of Anacortes to produce and provide the imported **goods, food, services, air travel, and production and transport of fuels** consumed by local households. Imported emissions total just under nearly **241,000 MT CO₂e** in addition to sources of local emissions.

Figure 5 compares the scale of local, sector-based emissions to imported emissions from household consumption. Within **goods**, the largest purchasing categories include vehicles and parts, construction materials, furniture, and clothing. Within **food**, the largest emissions are from the production of meats, particularly products from cows and sheep.

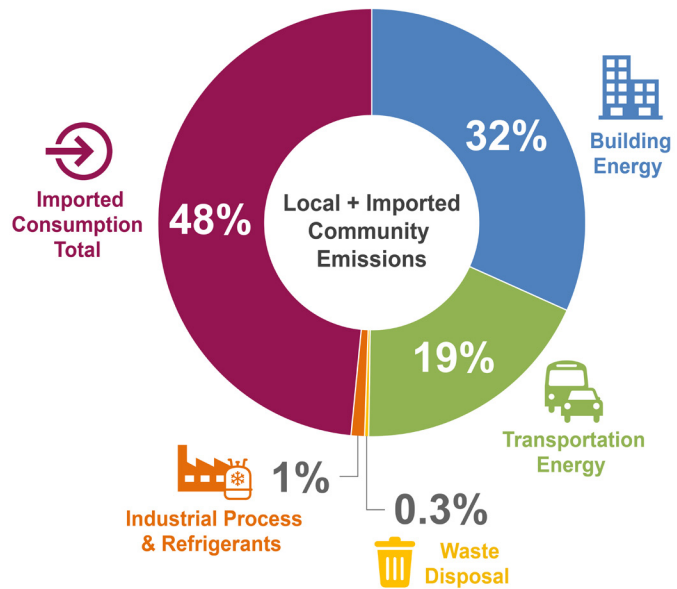


Figure 5. 2022 Community Local and Imported Emissions

Upstream emissions from **fuel production** (gasoline, diesel, electricity, and natural gas) and **air travel** from flights taken by residents (regardless of airport location) are also significant sources of imported emissions. For more details on these emissions, see Figure 14.

4.3 Total Emissions

Local and imported emissions combined total over **485,000 MT CO₂e**, or **27.2 MT CO₂e per resident** (see Figure 6). Note that the benefit from Puget Sound Energy (PSE) customers' purchase of renewable energy credits (RECs) is already accounted for in the building energy sector (market-based accounting). REC purchases reduced emissions by just under **2,500 MT CO₂e**, or **2.7%** of Anacortes's electricity emissions.

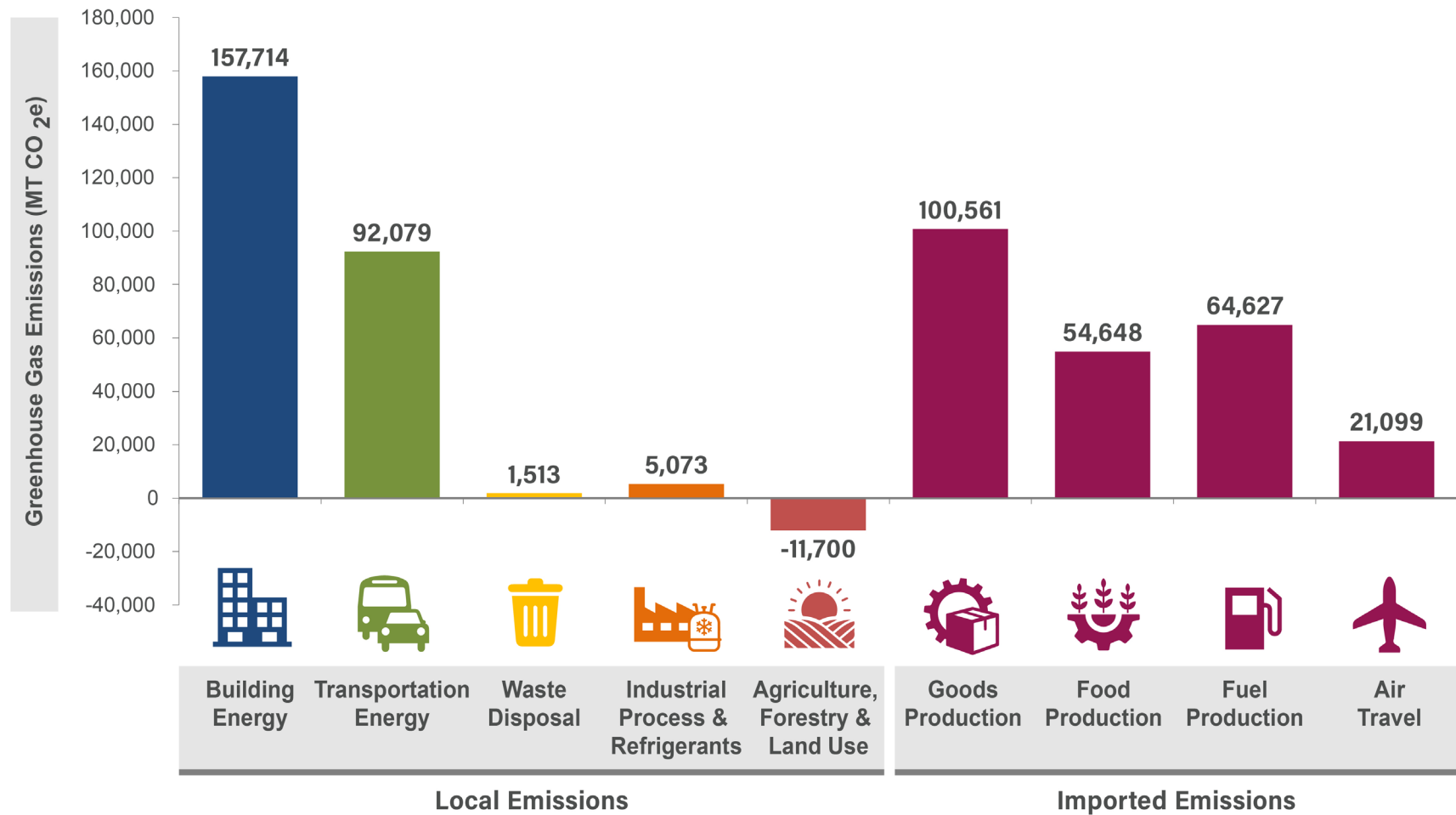


Figure 6. Anacortes's Emissions Sources and Sinks

4.4 Inventory Highlights

Building Energy

Energy used in buildings is Anacortes's largest source of local GHG emissions accounting for **61%** of local emissions. These emissions come from a mix of electricity use and natural gas, propane, and other fuels used for heat and power; emissions total nearly **158,000 MT CO₂e**. See Appendix C, Summary of Data and Emissions Factors for more information on building energy data sources and reporting accuracy.

Commercial uses (just under **59,000 MT CO₂e**) account for **42%** of Anacortes's building emissions, followed by residential uses (**41%** and just under **74,000 MT CO₂e**) and **16%** from industrial uses (**25,000 MT CO₂e**). By energy type, electricity had the largest impact (**55%** of total building emissions), followed by natural gas (**42%**), and other fuels (**3%**). Figure 7 shows emissions by subsector and energy type.

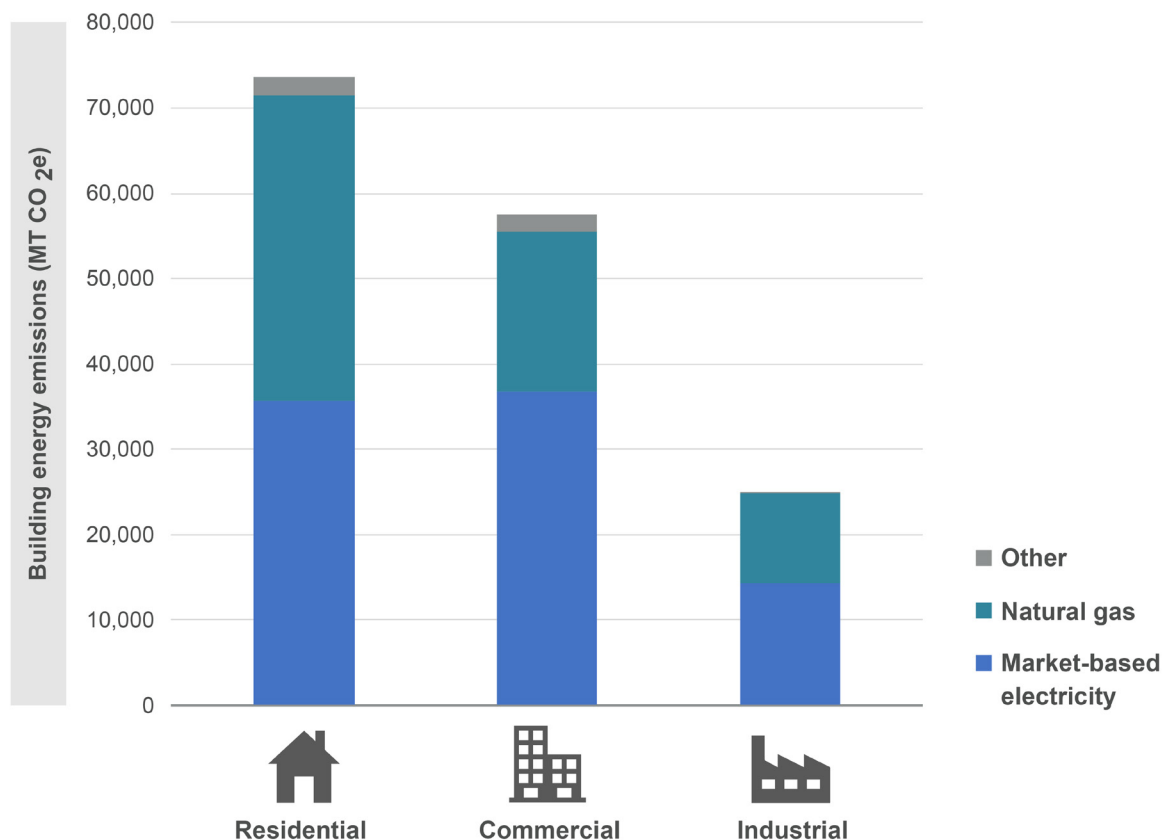


Figure 7. Building Energy Usage by Type and Energy Source

PSE supplies electricity to the Anacortes community. Electricity emissions by sector are shown in Figure 8.

Each electric utility has its own specific emissions factor (MT CO₂e emitted per kilowatt-hour [kWh] of electricity produced) which is dependent on the utility's power generation supply contracts. In 2022, PSE's electricity emissions factor was **0.39 MT CO₂e per megawatt-hour**,⁶ which is higher than the regional average from the Northwest Power Pool (**0.27 MT CO₂e per megawatt-hour**)⁷ (Figure 9).

The market-based electricity accounting method uses utility-specific factors and accounts for voluntary community participation in utility-sponsored green power programs such as PSE's Green Power program. In 2022, PSE's residential and commercial customers in Anacortes purchased **6,410,938 kWh** of renewable energy in the form of Renewable Energy Credits (RECs), equal to about **3%** of electricity demand. This decreased market-based electricity emissions by **2,476 MT CO₂e**.

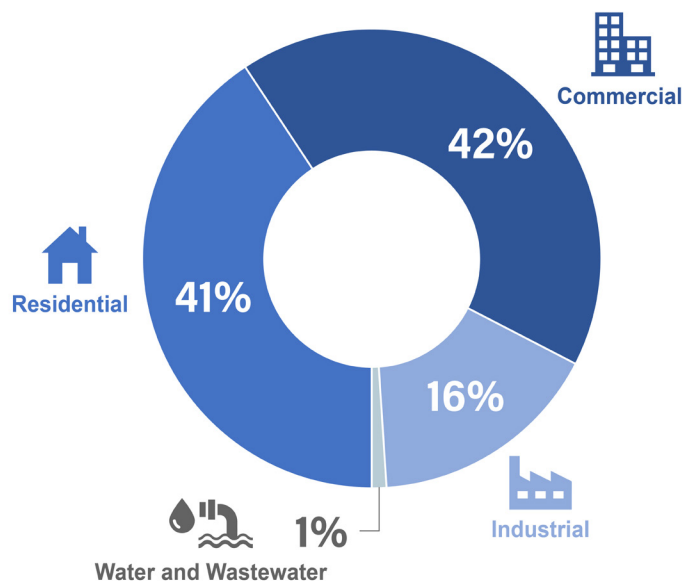


Figure 8. Breakdown of Market-Based Electricity Emissions by Sector

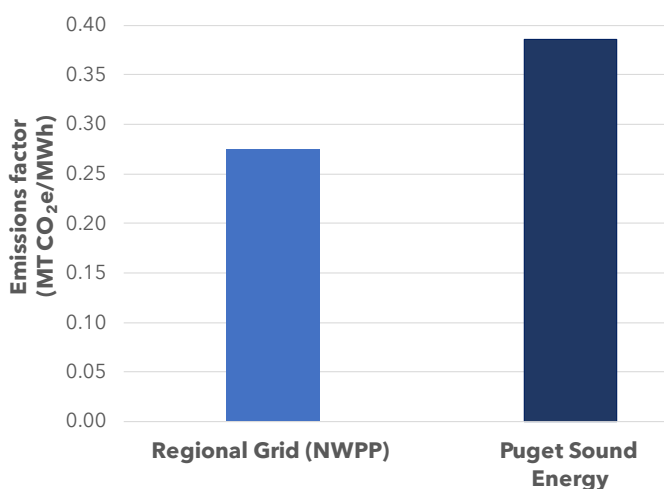


Figure 9. Comparison of Emissions Factors for the Northwest Power Pool and Puget Sound Energy

⁶ Washington State Department of Ecology – Utility-Specific Carbon Intensity of Electricity: Clean Fuel Standard program utility-specific electricity for 2024 (based on 2022 data)

⁷ EPA – Emissions & Generation Resource Integrated Database (eGRID) – Summary Tables 2022

Cascade Natural Gas supplies natural gas to the Anacortes community. Natural gas emissions come from both the transport of natural gas through pipelines (called *fugitive natural gas emissions*) and the end-use combustion of natural gas to create energy in buildings.

Natural gas emissions by sector are shown in Figure 10.

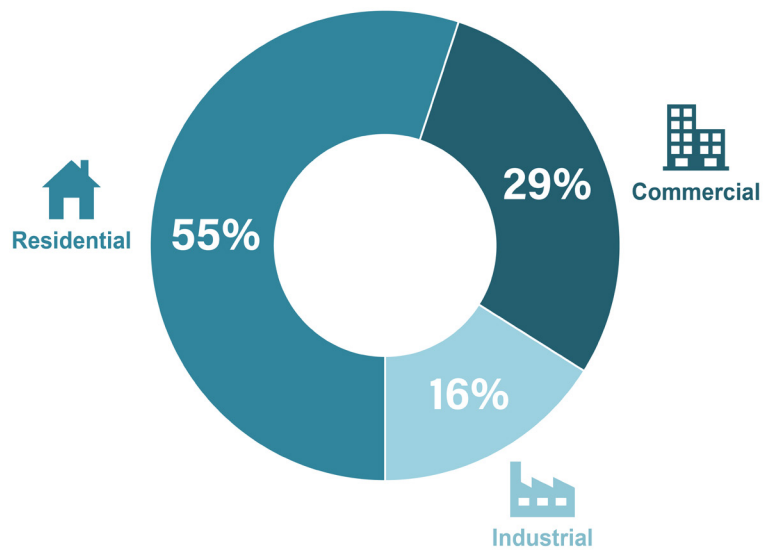


Figure 10. Breakdown of Natural Gas Emissions by Sector

Transportation

Transportation emissions are the second-largest source of local emissions for Anacortes, totaling just over **92,000 MT CO₂e**. See Appendix C, Summary of Data and Emissions Factors, for more information on transportation emissions data sources and reporting accuracy.

Anacortes's top three sources of transportation emissions (excluding air travel) are passenger cars (32% and 29,400 MT CO₂e), recreational marine watercraft (22% and 20,400 MT CO₂e), and ferry operations (21% and 19,700 MT CO₂e). See Figure 11.

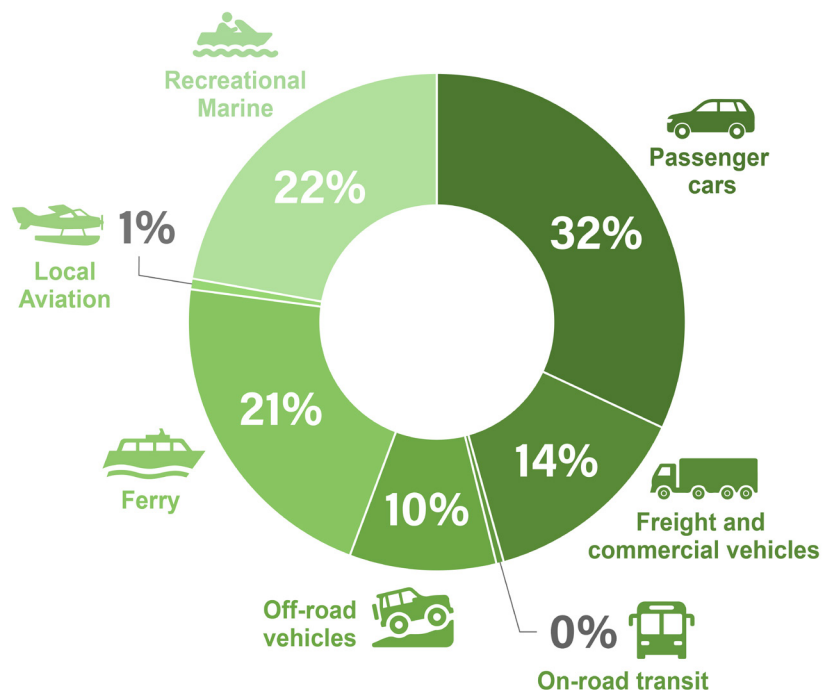


Figure 11. Transportation Emissions (Excluding Commercial Air Travel)

Anacortes is unusual in its transportation emissions profile because of the ferry terminals and the recreational marinas located within the city. For most cities of a comparable size, passenger car emissions dominate transportation emissions. Calculating the appropriate attribution for cross boundary transportation is always somewhat tricky, especially for waterborne navigation where a majority of the emissions are created away from any locality's boundaries. To ensure that all emissions are counted appropriately, GHG reporting protocol asks that all departing trips be included. For this inventory, that means all dispensed fuel at the marinas and half of the dispensed fuel at the ferry dock are included.

Passenger vehicle emissions were estimated using vehicle miles traveled (VMT) data provided by the Skagit County Council of Governments from their transportation study. This study included all the major roads (including the highways) in the city but excluded the smaller residential roads. The overall estimation of VMT is therefore likely to be an undercount of on-road passenger vehicle traffic.

Refrigerants

Refrigeration emissions are the third-largest source of local emissions, totaling about **5,000 MT CO₂e** (about **2%** of local emissions). These emissions are from specialized gases that leak during the use of refrigerators and air conditioners, and these specialized gases have extremely high global warming potential (GWP), up to 23,500 the strength of CO₂. Refrigeration and HVAC systems may periodically need to be “topped off” or “recharged.” This indicates the loss of high potency GHGs to the atmosphere, which have a disproportionate climate impact.

Solid Waste and Wastewater

Solid waste and wastewater emissions are the smallest source of local emissions, totaling just over **1,500 MT CO₂e** (less than **1%** of local emissions). Within this category, solid waste accounts for **89%** of emissions, while wastewater treatment accounts for **11%**. Anacortes waste haulers send waste to the Roosevelt Regional Landfill located in southwest Washington on the north shore of the Columbia River. Wastewater is processed by the City's treatment plant and is included in the analysis.

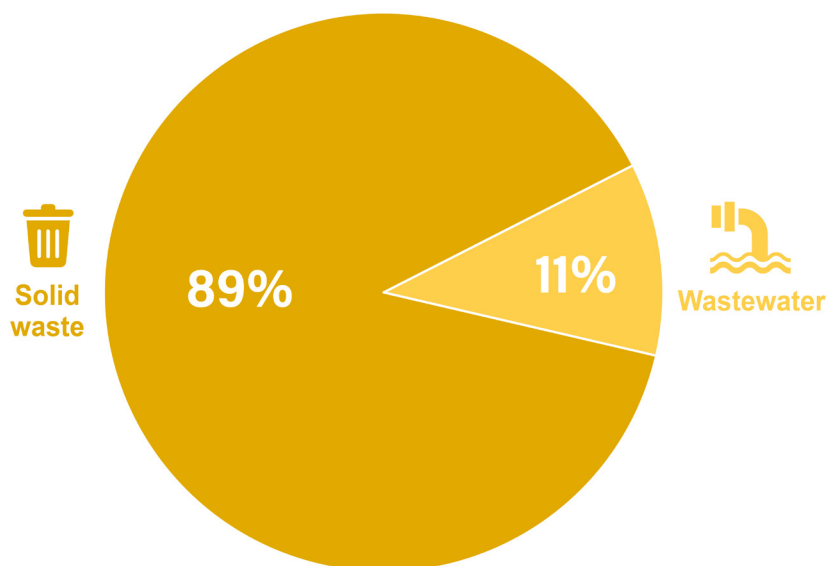


Figure 12. Breakdown of Solid Waste and Wastewater Treatment Emissions

Agriculture, Forestry, and Land Use

Trees in Anacortes emitted about **2,200 MT CO₂e**, but they sequestered about **14,000 MT CO₂e** in 2022 resulting in a net forest carbon sequestration of nearly **12,000 MT CO₂e** (Figure 13). Sequestration occurs as CO₂ is pulled from the atmosphere by trees as they grow; the CO₂ is stored in the wood and other tissues. This can help reduce the amount of CO₂ in the atmosphere and mitigate climate change. The large amount of carbon sequestration in Anacortes can be attributed to the city's large, forested areas. On the other hand, when trees die or are cut down, they stop sequestering carbon and can become a source of carbon emissions.



Figure 13. Carbon Emissions and Sequestration from Anacortes's Urban Forests Result in net Carbon Savings

Imported Emissions from Imported Goods and Food

The Anacortes inventory goes beyond GPC protocol requirements to highlight the known large sources of **imported emissions** from consumption activities. These emissions are considered “Other” Scope 3 in GPC protocol. This acknowledges that the community has less control over management of these emissions as compared to sources of local emissions. These imported emissions will be in another community's local accounting. That said, these emissions are included in the inventory because they are large, they are caused by local demand, and because opportunities exist to reduce these emissions locally by reducing consumption. These emissions were estimated at nearly **241,000 MT CO₂e** and make up **48%** of total emissions.

Consumption of imported **goods** is the largest source for Anacortes's imported emissions at **40%** of imported emissions. The largest contributors to this category include building materials, vehicle parts, furnishings, and clothing. The next largest category is **upstream fuel production** (**29%**), specifically gasoline and diesel production. **Food and beverage**

emissions (22%) are driven by meat, specifically cow and sheep products. **Air travel** (8%) also contributes to imported emissions. Note that these air travel emissions are from air travel trips taken by residents regardless of airport location and are not based on Anacortes airport fuel use alone. The following describe the categories in more detail.

- **Goods.** Emissions from the extraction, manufacture, and transportation of raw materials into final products such as building materials, automobiles, furniture, clothing, and other goods.
- **Food and Beverage.** Emissions from agriculture (energy for irrigation, production of fertilizers, methane emissions from livestock, etc.), transportation of raw materials, and finished products emissions. Categories include meat, dairy, produce, cereals, and other foods.
- **Upstream Fuel Production.** Process and energy emissions from the extraction and production of usable fuel products (e.g., electricity from household outlets, gasoline pumped into cars, natural gas combusted by furnaces). These upstream emissions are considered at the community scale for electricity, natural gas, gasoline, and diesel (not available for propane and fuel oil). These emissions are separate from those that are generated when the fuel is used in a car or house.
- **Air Travel.** Emissions associated with air travel by the community (regardless of the airport's location).

Figure 14 on the following page provides a full breakdown of all emissions.

See Appendix C, Summary of Data and Emissions Factors, for more information on sources and reporting accuracy for imported emissions, including for goods, food, services, and upstream fuel production.

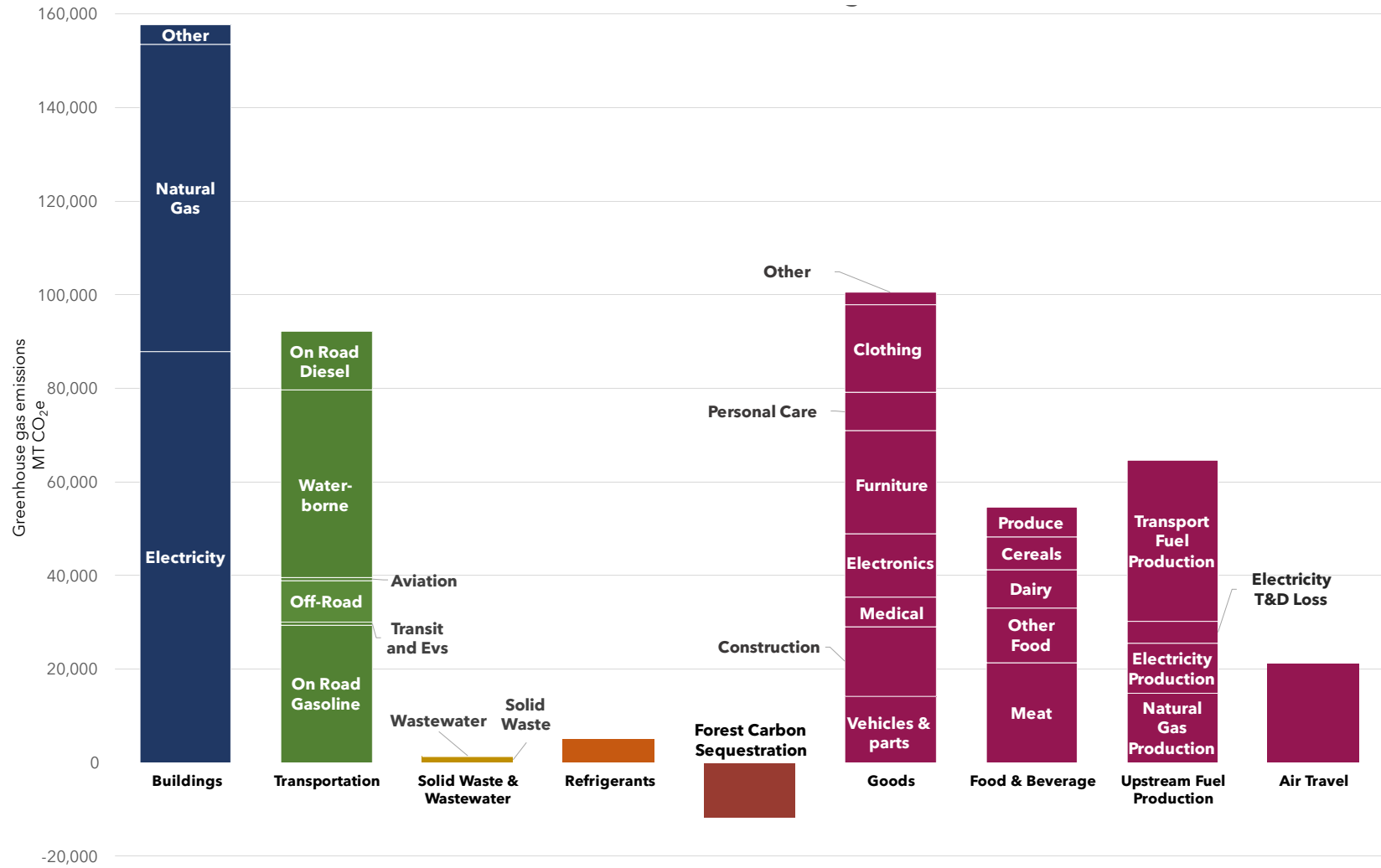


Figure 14. Full Breakdown of Emissions Categories

5. Emissions Forecast

Local emissions in Anacortes are expected to decrease over time thanks to strong action by the State of Washington in the stationary energy and transportation sectors.

While emissions are estimated to decrease by 51% in 2050 compared to 2022 without additional mitigation measures, that is still not enough to hit the target of 100% GHG emissions mitigation to limit global warming to 1.5°C.⁸

Additional goals and actions beyond current projections and legislation will be modeled as part of the climate element to help Anacortes meet its target. Figure 15 shows forecast emissions by sector (colored wedges) compared to forecast emissions growth based on population growth only (red line) and the Paris Accord 1.5°C warming goal of net zero emissions by 2050 (yellow dashed line).

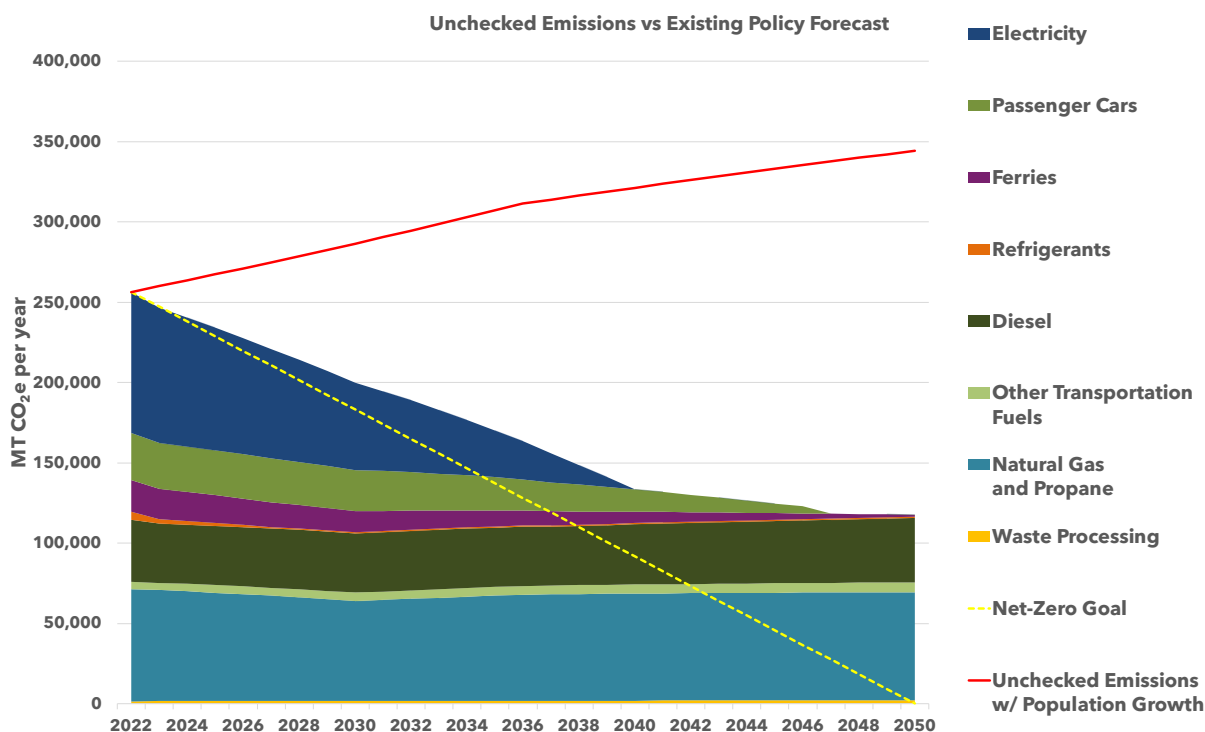


Figure 15. Anacortes's Unchecked Emissions Forecast

(red line, projections factor in population growth and no additional policy interventions) with forecasted emissions based on existing state and federal policy (colored wedges), and a net zero by 2050 trajectory (yellow dashed line).

⁸ This target stems from the [2015 Paris Climate Agreement](#) and the Intergovernmental Panel on Climate Change (IPCC)

Without implementing additional policies beyond those at the state and federal levels, Anacortes can expect about **125,000 MT CO₂e** of emissions to remain in 2050, primarily from natural gas and diesel.

Note that imported emissions are not included in this forecast. Imported emissions are estimated using household income and localized spending patterns; in general, they should be considered as an estimate and not a true inventory. Policies that regulate the production of goods, such as requirements to increase the proportion of post-consumer recycled paper, and regulations on agricultural practices are expected to bring down the emissions footprint of purchased goods and foods overall. The largest impact that consumers can have, however, is through their choices: decreasing food waste, increasing the proportion of plants in their diets, and increasing reuse of durable goods can have a sizable impact on an individual's emissions. At the community scale, policies that support these efforts can support reducing overall community emissions.

The Washington Clean Energy Transformation Act (CETA) and specific data from PSE and Cascade Natural Gas were reviewed to model stationary energy emissions reductions. The Clean Energy Targets are expected to eliminate emissions from electricity by 2045. Additionally, state and federal policies impacting transportation and refrigerant emissions are included in Table 1.

Table 1. Summary of Policies Impacting Local Emissions in Anacortes

Category	Policies
Building Energy	- Washington's Clean Energy Targets require electricity emissions go to zero by 2045.^a - Washington's Clean Buildings Act requires increase in building efficiency.
Transportation	- Washington's Clean Vehicles Program rule^b requires 100% of new passenger cars, light-duty trucks, and medium-duty vehicles to be zero emissions by 2035. - Washington's Clean Fuels Standards^c require transportation fuel emissions decrease by 20% below 2017 levels by 2034. - WSDOT's Ferry System Electrification project^d seeks to have an emissions-free fleet by 2050.
Refrigerants	State of Washington HFC rules^e require a phase-out of High Global Warming Potential refrigeration chemicals.
Not Modeled	- Federal Corporate Average Fuel Economy (CAFE) standards. As the internal combustion ban phases in, the remaining population of internal combustion engine cars will age and their gas mileage will decrease despite federal standards for new cars. The model assumes the average gas mileage of a passenger car is constant; a more detailed analysis is expected to have a minimal effect on the projected emissions. - Climate Commitment Act. The CCA is a mechanism to achieve the state's climate goals, not a mandate to decrease emissions. How companies comply with the caps is up to individual companies and the market. There are no directly CCA-regulated companies in Anacortes, and therefore the effect of this law is impossible to assign to any particular segment.

^a [Clean Energy Transformation Act](#)

^b [Zero Emission Vehicle Standards](#)

^c [Ecology Clean Fuel Standards](#)

^d [WSDOT Ferry System Electrification project](#)

^e [Washington Ecology – Hydrofluorocarbon transition rules](#)

Appendix A

Glossary of Terms

Appendix A: Glossary of Terms

GHG

Short for greenhouse gases (GHGs). GHG emissions are the cause of current climate change. An inventory of GHGs is measured in units of CO₂e. A GHG inventory is also known as a carbon footprint.

GHGP/GPC/Protocol

This type of inventory follows a set protocol, the GHG Protocol (GHGP) for cities and communities known as Global Protocol for Community-Scale Greenhouse Gas Emission Inventories (GPC). This protocol determines what is included within a set boundary and categorizes emissions by sector. See *Sector-Based Greenhouse Gas Inventory* for more information.

GWP

Short for global warming potential. The GWP refers to the potency of emissions to trap heat in the atmosphere. Carbon dioxide has a GWP of 1, and other GHGs are more potent and expressed as a multiple of carbon dioxide. For example, methane has a GWP of 28, meaning one molecule has 28 times the warming effect of one molecule of carbon dioxide (IPCC AR5 values).

Imported, Consumption-Based Emissions (Other Scope 3)

Emissions from consumption of imported goods and services, also known as Other Scope 3 Emissions per GPC protocol, include emissions from upstream fuel production and household consumption such as food, household goods, and air travel.

IPCC AR5, AR6

The United Nations Intergovernmental Panel on Climate Change (IPCC) releases Assessment Reports (AR) providing an overview of the state of knowledge concerning climate change science. The fifth report, AR5, was released in 2014. AR6 is the most recent version and was released in 2021.

kWh

Short for kilowatt hour. Kilowatt hours are a standard unit for electricity consumption and a measure of electrical energy equivalent to a power consumption of 1,000 watts for 1 hour.

Sector-Based Greenhouse Gas Inventory (Local Emissions)

This refers to preparing an inventory that is broken down by various sectors of the community that have common GHG characteristics. In this report, sector-based emissions are also known as **local emissions**. This type of inventory follows a set protocol (GPC) determining what is included in each sector. Mainly, sector-based emissions include emissions from building energy and vehicles along with local sources of GHGs from waste, uncontrolled loss of industrial and refrigerant gases, and agriculture. Note that emissions from household consumption of goods and services are not included in sector-based inventories. Standard sectors include the following:

- **Building Energy:** emissions from energy used or produced in a fixed location, e.g., electricity, natural gas, propane, and fuel oil. The GPC term is stationary energy.
- **Transportation:** emissions from vehicles and mobile equipment.
- **Waste:** landfilled waste emissions and wastewater treatment emissions.
- **Process Emissions and Product Use:** refrigerants and other fugitive gases from industrial processes.
- **Agriculture, Forestry and Land Use:** emissions from agriculture (e.g., animal waste and agricultural inputs) and community land use change (e.g., development of forest or grasslands).

Location-Based Electricity Emissions Accounting

Refers to GHG intensity of the regional electricity grid, representing the average impacts of electricity use and efficiency efforts across the region. Contrast with *market-based electricity emissions accounting*.

Market-Based Electricity Emissions Accounting

Refers to the GHG intensity of electricity contracts with local utilities. Contrast with *location-based electricity emissions accounting*.

MT

Short for Metric Ton (~2,200 lbs.). This is a common unit by international standards.

MT CO₂e

Metric tons of carbon dioxide equivalent, a unit of measure. Most greenhouse gases are more potent in warming the atmosphere than carbon dioxide. In order to calculate and compare emissions easily, all gases are calculated and combined into a carbon dioxide equivalent, typically measured in metric tons.

Scope (as in Scope 1, Scope 2, Scope 3)

Scopes are one method to define the source of emissions. Scope categories distinguish between emissions that occur within a geographic boundary (Scope 1), from electricity generation serving the community (Scope 2), and emissions that occur outside the boundary but that are driven by activity within the boundary (Scope 3).

Therm

Common reporting unit of natural gas that represents 100,000 British thermal units. A therm is roughly equivalent to 100 cubic feet of natural gas

Appendix B

Methodology and Protocols

Appendix B: Methodology and Protocols

Inventory Boundaries

The first step in any greenhouse gas (GHG) inventory is setting the inventory boundary. The boundary includes defining the geographic area, time span, emissions sources and gases covered in the inventory. The greenhouse gas inventory presented in this report is based on calendar year 2022 data for the Anacortes geographic boundary. This inventory considers all seven recognized greenhouse gases, but only five are relevant for Anacortes—carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbons (HFC), and sulfur hexafluoride (SF₆). All gases are reported in terms of carbon dioxide equivalent (CO₂e): the amount of carbon dioxide it would take to create the same warming effect.

Scopes

As described above, GHG emissions are often organized by sector (e.g., buildings, transportation, waste). Another way to organize them is by their origin location, either within a community or outside; these are referred to as *scopes*. Scope categories described in Table B-1 distinguish between those emissions that occur within the geographic boundaries (Scope 1) from those that occur outside the boundaries, but that are driven by activity from within (Scope 2 and Scope 3). Emissions sectors and subsectors included in the Global Protocol for Community-Scale Greenhouse Gas Emission Inventories (GPC) are shown in Table B-2. These are compared to emissions included in the 2022 community inventory by scope category.

Table B-1. Scope Descriptions

Scope	Description	Example
1	GHG emissions from sources located within the geographic boundary.	Burning of fossil fuels to heat homes or power cars.
2	GHG emissions occurring as a consequence of the use of grid-supplied electricity within the geographic boundary.	Emissions from coal and natural gas power plants to generate electricity.
3	All other GHG emissions that occur outside the boundary as a result of activities taking places within the boundary.	Production of fuels, goods, and food.

Table B-2. Emission and Scope Categories

Emissions Sector / Sub-Sector	Scope 1	Scope 2	Scope 3
Building Energy			
Residential Buildings	✓	✓	
Commercial Buildings	✓	✓	
Industrial Facilities	✓	✓	
Potable Water Treatment Energy	✓	✓	
Wastewater Treatment Energy	✓	✓	
Fugitive Emissions from Natural Gas Systems	✓		
Fugitive Sulfur Hexafluoride	✓		
Transportation			
On-Road Passenger Vehicles	✓	✓	
On-Road Heavy-Duty and Freight	✓	✓	
Transit Vehicles	✓		
Off-Road Vehicles and Equipment	✓		
Waterborne Navigation	✓		
Local Aviation	✓		
Solid Waste & Wastewater			
Landfill Waste			✓
Central Wastewater Treatment			✓
Septic Systems	✓		
Industrial Process & Product Use			
Refrigerants	✓		
Industrial Process Emissions	✓		
Agriculture, Forestry, & Land Use			
Land Use Emissions	✓		
Land Use Sequestration (annual growth)	✓		
Imported Emissions			
Household Consumption			✓
Air Travel			✓
Upstream Energy Production			✓
Negative Emissions			
Purchased carbon offsets	✓		
Emissions Sources not listed above do not occur or are included within other categories, see list of exclusions			

Protocols and Tools

This inventory follows [Global Protocol for Community-Scale Greenhouse Gas Emissions Inventories](#) by Greenhouse Gas Protocol (GHGP). This inventory also follows GHGP's [Scope 2 Guidance](#) for location-based and market-based electricity accounting emissions and ICLEI's [U.S. Community Protocol](#) for guidance on the calculation of imported emissions (i.e., other Scope 3 as defined by GPC).

The Parametrix carbon calculator tool G3C – *Community* was used for emissions calculations. Emissions are documented in the Inventory Audit Trail. G3C – Community is an Excel-based calculator that documents all activity data, emissions factors, and emissions calculations used in the inventory. The audit trail catalogs all data, calculation, and resource files used to complete the inventory. These resources are highly detailed and will allow for those conducting future inventories to fully understand and replicate the methods used in this inventory.

GHG emissions presented in this report are represented in metric tons of carbon dioxide equivalent (MT CO₂e). The gases considered in the analysis are consistent with protocol and include carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), chlorofluorocarbons (CFCs), and perfluorocarbons (PFCs) per the Kyoto Protocol. All GHG calculations use 100-year global warming potentials (GWP) as defined in the International Panel on Climate Change's 5th Assessment Report (IPCC AR5).

Data Collection

Parametrix worked with City of Anacortes staff to collect the data required to calculate emissions. City of Anacortes staff along with other local and regional government staff as well as private entities that serve the community graciously provided time, data, and expertise. Data and emissions factors are described in Appendix C.

Electricity

Activity data were collected from Puget Sound Energy. Data were collected directly from the utility, including percentage of RECs purchased.

The Community Inventory Protocol (GPC) requires that communities report electricity emissions using two accounting methods: location-based and market-based.⁹ **Market-based accounting** is based on the GHG intensity of electricity contracts with local utilities and is used in most of the figures presented in this report as the GPC-recommended methodology to track progress toward goals over time. **Location-based electricity accounting emissions**

⁹ For details visit http://www.ghgprotocol.org/scope_2_guidance.

are calculated using the regional electricity grid's (Northwest Power Pool) GHG intensity and represent the average impacts of electricity use and efficiency efforts.

- **Location-based method** (or regional grid) multiplies an organization's electricity use by the average emissions intensity of a specific regional electricity grid that is published by the Environmental Protection Agency (eGRID 2022). Note that over time, there may be differences in emissions results for inventory years due to the use of an updated eGRID emissions factor (typically released every 2 years). Location-based electricity accounting offers a means of assessing the average impacts of electricity use on the regional electricity grid.
- **Market-based method** (or utility-specific) represents emissions specific to the utility and takes into account community purchase of renewable energy certificates. Market-based electricity accounting is commonly used for target- and goal-tracking and is useful to assess and manage GHGs associated with electricity generation and supply. It also highlights benefits for energy efficiency actions, particularly in communities served by utilities with very low GHG electricity. That is, the less electricity used in the community, the more low-GHG electricity there is available for export to communities with more GHG-intensive electricity sources.

Exclusions

Table B-3 details which emissions sectors/subsectors were excluded from the inventory with the justification for their exclusion.

Table B-3. Summary of Inventory Exclusions

Emissions Sector/ Subsector	Justification for Exclusion
Stationary energy: Agriculture, Forestry, and Fishing	There is no substantial agricultural activity within the city boundaries, and the emissions associated with any local livestock (backyard chickens, small cattle farms) are expected to be much less than 0.01% of the overall emissions. There is a fishing industry and the associated seafood processing activity within the city, but the emissions associated with these activities are included in the marine transportation category or the industrial stationary emissions. There is no forestry (logging) activity within the city.
Stationary energy: Emissions from Coal Production	No activity identified within the city's geographic boundary.
Land use change	The emissions associated with land use change—the emissions from the development of green space for residential, commercial, or industrial purposes— are included in the Forest Carbon estimate in so far as that development included cutting down trees. Any development that occurred within the past 20 years that did not require the removal of trees is expected to have a minimal effect on emissions and is excluded here.
Agriculture, Forestry, and Land Use: Other agriculture	Application of Soil Amendments – Data were not identified to estimate emissions from the application of soil amendments in Anacortes. This would include fertilizer used on lawns or golf courses within the city boundaries. These effects are expected to represent less than 0.01% of the community's emissions.

Appendix C

Summary of Data and Emissions Factors

Appendix C: Summary of Data and Emissions Factors

Table C-1. Detailed Emissions Breakdown

Emissions Sector / Sub-Sector	2022 Emissions Market-based	Per capita
Stationary Energy	157,714	8.8
Residential Buildings		
Electricity	35,674	2.0
Natural Gas	35,868	2.0
Other Fuels	2,094	0.1
Commercial Buildings and Industrial Facilities		
Electricity	51,082	2.9
Natural Gas	29,265	1.6
Other Fuels	2,024	0.1
Fugitive Emissions from Natural Gas Systems	638	0.0
Potable Water Treatment Energy	165	0.0
Wastewater Treatment Energy	903	0.1
Transportation	92,079	5.1
On-Road Passenger Vehicles	29,425	1.6
On-Road Freight & Commercial Vehicles	12,622	0.7
On-Road Transit Vehicles	442	0.0
Off-Road Vehicles and Equipment	8,787	0.5
Local Aviation	641	0.0
Recreational Marine	20,434	1.1
Ferry	19,727	1.1
Waste	1,513	0.1
Solid Waste Landfill and Compost	1,344	0.1
Wastewater Treatment & Septic Systems	168	0.0
Industrial Process and Product Use	5,073	0.3
Refrigerants	5,073	0.3
Agriculture, Forestry, and Land Use	-11,700	
Forest Carbon Storage	-11,700	
Other Agriculture	NE	
Consumption-based & Upstream Emissions	240,935	13.5
Household Consumption		
Goods	100,561	5.6
Food	54,648	3.1
Upstream Energy Production	64,627	3.6
Air Travel	21,099	1.2
Local Emissions	244,679	13.7
Local + Consumption	485,614	27.2

Emissions Category	Category Description
Stationary Energy (Buildings)	
Residential Energy	These categories include direct emissions from natural gas, fuel oil, and propane combustion by the residential, commercial, and industrial subsectors within the city’s geographic boundary. Also includes the emissions from grid electricity used by the same subsectors for the same geographic boundaries.
Commercial Energy	
Industrial Energy	
Electricity data were provided by Puget Sound Energy, and natural gas data were provided by Cascade Natural Gas. Electricity and natural gas data included information on retail sales, transported gas, and participation in renewable electricity and carbon offset programs. Residential and commercial fuel oil and propane use was estimated using state-level per capita 2021 fuel usage data downscaled by Anacortes’s population. Emissions factors for natural gas, fuel oil, and propane are from the U.S. Environmental Protection Agency’s (EPA’s) emissions factors hub and The Climate Registry’s 2018 default emissions factors and are considered highly accurate. Location-based electricity emissions factors are taken from EPA eGRID 2022 data for the Northwest Power Pool subregion. Market-based electricity accounting emissions factors for PSE were provided by the utility along with its usage data. Data on pipeline leakage and renewable natural gas percentages for natural gas was provided by Cascade. Utility data are considered highly accurate; nonutility data (e.g., fuel oil and propane) are considered to have medium accuracy.	
Fugitive Natural Gas System Emissions	Fugitive loss of natural gas from the local product distribution system.
Cascade Energy reported a system leakage rate which is considerably lower than the national average. These data are considered highly accurate.	

Emissions Category	Category Description
Transportation	
On-Road Energy	Direct emissions from gasoline and diesel for passenger and freight transportation.
Emissions from on-road energy were calculated using vehicle miles traveled (VMT) data provided by Skagit Council of Governments. To convert VMT into emissions, the population of cars was estimated using the City's registration records for 2022 which include whether the car was electric or internal combustion, gasoline or diesel. Fuel efficiencies for diesel, gasoline, and electric vehicles were taken from the AFLEET model's Washington data. All diesel usage was assumed to be B5 (5% biodiesel, 95% fossil diesel) and all gasoline was assumed to be E10 (10% ethanol, 90% fossil gasoline). All electric usage was assumed to have PSE's emissions factor (and subtracted from the overall residential electricity usage for that location). Due to assumptions around fuel type and fuel economy, data are considered to have medium accuracy. Note that the VMT counts do not include smaller, residential roads, and so it is likely an undercount of passenger car miles.	
Transit	Direct emissions from gasoline and diesel for passenger transit transportation.
Emissions data were collected from Skagit Transit in the form of fuel use that was then downscaled by service population within the city. These data are considered highly accurate.	

Emissions Category	Category Description
Water Transportation	Direct emissions from gasoline and diesel used by marine vehicles.
Gasoline and diesel use data were collected for several small marinas as well as the ferry terminals. Data are considered highly accurate. Cross boundary transportation poses a problem for local estimation, but the use of fuel data assumes that a jurisdiction holds approximately half of the traffic coming in and out of the port. This is a good assumption if every vessel fills up at every port but may be less accurate if some ports provide fuel and others do not. Because Anacortes is the only fueling stop on the ferry route, only half of the fuel emissions were attributed to Anacortes to more closely reflect the requirement of including all outbound traffic.	
Air Travel	Direct emissions from local airport.
There is one airport located at the Port of Anacortes. The emissions associated with travel in this airport are from fuel quantities dispensed by the Port. This information is highly accurate.	
Off-Road	Direct emissions from gasoline and diesel for off-road vehicles such as construction equipment, etc.
Emissions from off-road vehicles were estimated based on the state of Washington's GHG inventory (2019, used as proxy) and were downscaled by population. Off-road transportation data were available, split into air transport, marine transport, locomotives, and "other." The other data were used for off-road vehicles and more direct data were used for marine and air transport as described above. Locomotive emissions were not included since there is only a very small portion of rail line within the city limits and no rail fueling or stations, therefore protocol allows it to be excluded.	

Emissions Category	Category Description
Waste	
Landfill Solid Waste	Fugitive methane emissions from mixed solid waste generated in the community regardless of disposal location.
Anacortes has no active landfills that handle municipal waste within its geographic boundaries. Waste was landfilled at the Roosevelt Regional Landfill, which reports its overall tonnage and emissions to the EPA. Those emissions were prorated based on Anacortes's waste volumes.	
Wastewater Treatment Process Emissions	Fugitive nitrous oxide emissions from discharge of treated effluent (wastewater).
Wastewater treatment plant process emissions for biogas combustion and effluent discharge are calculated using data provided by Anacortes staff. Emissions calculations for nitrification/denitrification are based on service population. This activity data are considered highly accurate.	
Industrial Process and Product Use	
Refrigerant Loss	Fugitive loss of refrigerants from building and vehicle air conditioning systems.
Fugitive refrigerant loss and other nonindustrial high-GWP gas emissions are estimated using EPA estimates for Washington state and downscaled on a per capita basis. Activity data for state-level fugitive emissions from refrigerants, aerosols, and fire suppression systems is reported in the EPA's state-level emissions inventory as Substitute Ozone Depleting Substances. Emissions are considered as having moderate accuracy.	

Emissions Category	Category Description
Agriculture, Forestry, and Land Use	
Forestry	Direct sequestration and emission from forest tree gain and loss.
Emissions from forestry were estimated using Global Forest Watch satellite-based imaging. This service estimates the loss or gain of tree canopy over the last 21 years (from 2001 to 2022) and uses regional climate data to estimate the annual average amount of forest carbon gained and lost. The method of comparing tree growth to tree loss as performed here is preferable because it fully accounts for all carbon fluxes. These data are considered to be highly accurate.	
Imported Emissions	
Goods	Upstream energy and process emissions raw material extraction, manufacturing, and out-of-state transportation of goods.
Food	Upstream energy and process emissions from the growing, processing, and transportation of foods.
Services	Upstream energy emissions from air travel by community members from all airports regardless of location.
Accurate data on quantities and suppliers for the goods and food consumed by community households are not readily available. Therefore, the Berkeley Cool Climate Calculator was used to estimate emissions based on the city's household income distribution. Income data were acquired from the U.S. Census Bureau. Because the data are estimated from a large and complicated economic model, these activity data are considered as having low accuracy.	

Emissions Category	Category Description
Upstream Fuel Production	Upstream energy and process emissions from the production and distribution of natural gas, gasoline, diesel, and electricity consumed either directly or indirectly by the community.
Data for gasoline, diesel, natural gas, and electricity use are the same as previously described. Life-cycle emissions factors for the various fuel types are provided by the Oregon Department of Environmental Quality’s Clean Fuels program carbon intensity scores. These results are expected to be the same for Washington communities because the fuel products are generally the same. Upstream fuel and energy emissions are calculated as the difference between direct tailpipe emissions (reported under Transportation) and total life-cycle emissions. Activity data for electricity and natural gas are considered highly accurate, while transportation fuel use is considered moderately accurate because the precise feedstocks for biofuels sold within the community are not readily available. Upstream emissions can vary significantly for biofuels depending on feedstocks; therefore, calculated emissions are considered moderately accurate.	

Climate Vulnerability and Risk Assessment Report

Prepared for
City of Anacortes



March 2025

Climate Vulnerability and Risk Assessment Report

Prepared for

City of Anacortes
P.O. Box 547
Anacortes, WA 98221

Prepared by

Parametrix
719 2nd Avenue, Suite 200
Seattle, WA 98104
T. 206.394.3700 F. 1.206.649.6353
www.parametrix.com

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Contents

- 1. Climate Change..... 1-1
 - 1.1 Introduction..... 1-1
 - 1.2 Geography..... 1-1
 - 1.3 Climate Modeling..... 1-1
 - 1.3.1 Updates to Climate Modeling..... 1-2
 - 1.3.2 Uncertainty 1-2
 - 1.3.3 Future Updates to This Work..... 1-3
- 2. Risk 2-1
 - 2.1 Risk Methodology 2-1
 - 2.2 Overall Risk Assessment..... 2-1
 - 2.3 Impact Details..... 2-2
 - 2.3.1 Temperature..... 2-2
 - 2.3.2 Extreme Precipitation 2-3
 - 2.3.3 Sea-level Rise..... 2-3
 - 2.3.4 Landslides 2-4
 - 2.3.5 Snowpack 2-4
 - 2.3.6 Wildfire..... 2-5
 - 2.3.7 Cumulative Impact on Well-being 2-6
- 3. Climate Vulnerability Index..... 3-1
 - 3.1 Purpose 3-1
 - 3.2 Methodology and Data 3-1
 - 3.2.1 Sensitivity 3-1
 - 3.2.2 Adaptive Capacity..... 3-2
 - 3.2.3 Exposure..... 3-3
 - 3.2.4 Cumulative Index 3-4
- 4. Conclusion..... 4-1

FIGURES

- Figure 3-1. Components of the Climate Vulnerability Index..... 3-1

Contents (continued)

TABLES

Table 2-1. Climate Risks..... 2-1

Acronyms and Abbreviations

ACS	American Community Survey
AR5	IPCC fifth assessment report
AR6	IPCC sixth assessment report
CDC	Centers for Disease Control and Prevention
CVI	Climate Vulnerability Index
GIS	geographic information system
CMRW	Climate Mapping for Resilient Washington
CMIP	Coupled Model Intercomparison Projects
IPCC	Intergovernmental Panel on Climate Change
RCP	Relative Concentration Pathway
SSPs	Shared Socioeconomic Pathways

1. Climate Change

1.1 Introduction

The Climate Vulnerability and Risk Assessment Report for the City of Anacortes (City) is a comprehensive evaluation of the potential impacts of climate change on the region. This report aims to provide a detailed understanding of the various climate risks that the City may face in the coming decades, including sea-level rise, extreme heat, and increased precipitation. By leveraging the latest climate science and modeling, the report offers valuable insights into the projected changes in Anacortes' climate and their potential consequences on infrastructure, ecosystems, and public health.

Climate change refers to long-term shifts in temperatures and weather patterns, primarily driven by human activities such as the burning of fossil fuels, which increases the concentration of greenhouse gases in the atmosphere. These gases trap heat, leading to a rise in Earth's average surface temperature. This phenomenon has various impacts, including sea-level rise; increased temperatures; changes in precipitation patterns; and more frequent and severe weather events such as heatwaves, droughts, and heavy rainfall.

In the context of the City, climate change is projected to result in several changes by the 2050s and 2080s. These include increases in total annual precipitation, decreases in late summer precipitation, and reductions in summer stream flow from the Skagit River. Additionally, average summer maximum temperatures are expected to rise, leading to more days with extreme heat.

The cumulative effects of climate change for the City include coastal and urban flooding, sea-level rise, an increased likelihood of wildfires, and lower summer stream flows. These changes will also lead to higher temperatures beyond historical averages and more extreme high temperatures in the future.

1.2 Geography

The City of Anacortes is in Northwest Skagit County. The City lies on Fidalgo Island. The City takes up a large portion of the island, but some of the island is outside the city limits. Because of the geographic scale of climate data, the impacts and analysis are relevant for both Fidalgo Island and the City. Some impacts, such as wildfire, will be a hazard for the City but extend beyond City's boundaries. Therefore, we refer to both the City and Fidalgo Island throughout this report.

1.3 Climate Modeling

Globally, greenhouse gas concentrations have risen substantially because of human activities and are a primary driver of warming. To make projections of future climate, scientists use "what if" scenarios of plausible future greenhouse gas emissions to drive computer model simulations of Earth's climate. There are multiple greenhouse gas scenarios, numerous global climate models (each constructed slightly differently), and multiple techniques for "downscaling" coarse global model projections to local scales. The many possible combinations of scenarios, models, and downscaling techniques are used to estimate a range of possible future climates. The range reflects some of the important unknowns regarding our understanding of the climate system.

1.3.1 Updates to Climate Modeling

Climate models are constantly being updated, as different modeling groups around the world incorporate higher spatial resolution, new physical processes, and biogeochemical cycles. These modeling groups coordinate their updates around the schedule of the Intergovernmental Panel on Climate Change (IPCC) assessment reports, releasing a set of model results in the lead-up to each one. These coordinated efforts are part of the Coupled Model Intercomparison Projects (CMIP). The 2013 IPCC fifth assessment report (AR5) featured climate models from CMIP5, while the 2021 IPCC sixth assessment report (AR6) features new CMIP6 models. The information presented in this report is from CMIP5 modeling as part of AR5.

Parametrix reviewed CMIP6 data when assessing the vulnerability and risk to the City from future climate impacts and assessed whether the risks were greater with CMIP6 information than CMIP5. Mostly the results were similar between the two models, but the risks discussed between 2050 and 2080 may occur sooner according to CMIP6 modeling than CMIP5. The reason is explained below as additional future scenarios of future changes were modeled as part of CMIP6.

1.3.1.1 Future Emission Scenarios

CMIP6 represents a substantial expansion over CMIP5 in terms of the number of modeling groups participating, the number of future scenarios examined, and the number of different experiments conducted.

In the IPCC AR6, the energy modeling community has developed a new set of emissions scenarios driven by different socioeconomic assumptions. These are the Shared Socioeconomic Pathways (SSPs). A set of SSP scenarios were chosen to provide a range of distinct end-of-century climate change outcomes. These updated scenarios are called SSP1-2.6, SSP2-4.5, SSP4-6.0, and SSP5-8.5, each of which result in similar 2100 radiative forcing levels as their predecessor in AR5, Relative Concentration Pathway (RCP) 2.6, RCP4.5, RCP6.0, and RCP8.5, respectively.

Most recent literature relies on RCP8.5 as the no-climate-action baseline, often referring to it as “business as usual” despite it being somewhat of a worst case among possible no-policy outcomes.

Based on the current trends from CMIP5 and CMIP6 modeling, this report references RCP8.5 along with the uncertainty ranges to reflect the most plausible future projections for climate change.

1.3.2 Uncertainty

Using dynamic downscaling for multiple future climate scenarios is costly and unnecessary. For studies that use dynamic downscaling, a select number of scenarios are chosen based on trends in carbon emissions. In general, the differences between RCPs are small until mid-century, because the differences in concentration take time to become evident. After mid-century, RCP8.5 gives a much faster warming and more pronounced changes in important indicators such as river flow, water temperature, and precipitation compared to the other RCPs.

Because there are many variables involved in climate, it is not possible to predict exactly how climate change will play out into the future. As a result, modeling of future climate change must account for uncertainty. Sources of uncertainty in climate forecasting include:

1. Uncertainty in levels of anthropogenic forcing due to different emission paths (“scenario uncertainty”).
2. Uncertainty due to natural variability, encompassing internal chaotic climate variability and externally driven (e.g., solar, volcanic) natural climate change (“natural variability”).

3. Uncertainty in the climate system's response to external forcing due to incomplete knowledge of feedback and timescales in the system ("response uncertainty").

Acknowledging uncertainty allows the City to be prepared for a range of climate futures. Ultimately, uncertainties in climate projections are unknowable because they can only be verified in the future.

1.3.3 Future Updates to This Work

The following evaluation and methodology are based on the best climate science available at a local scale or regional scale. As climate science advances, new information will come out, and projections may need to be refined.

In particular, the Coastal Storm Modeling System detailing predictions of storm-induced coastal flooding, erosion, and cliff failures over large geographic scales is expected to be released soon. In addition, the Washington State Department of Natural Resources will release updated Washington State Wildfire Risk mapping.

Demographic data provided as part of the evaluation is updated by the U.S. Census Bureau and is updated after each census, usually within the first five years. Data provided in this report from the American Community Survey is updated after the Census is taken.

2. Risk

2.1 Risk Methodology

Climate risks can be categorized into seven risk types:

- Temperature.
- Extreme precipitation.
- Sea-level rise.
- Landslides.
- Snowpack (Water Resources).
- Wildfires.
- Wildfire Smoke.

The Makers and Parametrix team evaluated risks across these seven risk types. The level of risk is presented in this report as high, medium, or low in tables for each intersection between these seven risk types. Additional assumptions, quantitative data, and information are included in risk narratives in the following section.

2.2 Overall Risk Assessment

The impacts were rated based on qualitative information and the ability to mitigate each risk. Impact, probability, and mitigation difficulty are classified as high, medium, or low. The combined risk score reflects these three factors. If the City’s policies or actions can adapt to a climate risk, mitigation difficulty is rated low. Thus, a low mitigation difficulty rating indicates that the City can manage and implement plans effectively. Table 2-1 is an assessment of the risks for the City of Anacortes.

Table 2-1. Climate Risks

Climate Risk	Impact	Probability	Mitigation Difficulty	Overall Risk
Temperature	HIGH	HIGH	MODERATE	HIGH
Extreme Precipitation	HIGH	HIGH	LOW	MODERATE
Sea-level Rise	MODERATE	HIGH	HIGH	HIGH
Landslides	LOW	MODERATE	LOW	LOW
Snowpack (Water Resource)	MODERATE	MODERATE	LOW	MODERATE
Wildfires	MODERATE	LOW	MODERATE	MODERATE
Wildfire Smoke	MODERATE	HIGH	LOW	MODERATE

Sea-level rise is the highest risk because of the compounding impacts from sea-level rise, coastal flooding, groundwater flooding, and coastal erosion. Temperature will have high impacts and will increase throughout the 21st century over 20th century averages.

2.3 Impact Details

2.3.1 Temperature

According to the IPCC, there is consensus among CMIP6 models that, within the next five years, the global average surface temperature will increase by 2.7 °F (1.5 °C). The City can anticipate a shift in extreme weather, including the increase of extreme heat days defined as days over 90 °F. Like other counties in central Puget Sound and western Washington, the City of Anacortes will experience extreme heat in terms of warmer summers overall and an increase in 90 °F humidex (short for “humidity index,” it defines how hot the weather feels) days.

Heat exposure is particularly a concern because it can aggravate cardiovascular diseases and respiratory illnesses as well as cause heat stroke and dehydration. Small children, the elderly, people living alone, those who are pregnant, people with chronic diseases, persons of color,¹ and populations of low income are particularly at risk. Temperature extremes impact people’s ability to access transit; waiting along roadsides where the heat is increased would cause heat stress and be uncomfortable for transit riders.

High temperatures can soften asphalt roads and cause cracking in concrete roads, leading to buckling and peeling, which increases maintenance and replacement needs. Research has shown that heat waves affect bridge structures in similar ways, including stressing thermal expansion joints and prestressed concrete girders, which accelerate material degradation and create or accelerate cracks in concrete and steel members.

Extreme heat can have negative impacts on the structures and systems of buildings and assets, including schools, hospitals, and other facilities. Extreme heat impacts can be higher in areas where there is high impermeable surface coverage and limited shade due to the Urban Heat Island effect. However, there are many strategies that can mitigate these impacts that also benefit urban form and design, such as green stormwater infrastructure; street trees; and other sources of shade, green roofs, and strategies to reduce or capture waste heat from buildings.

The heat impact to buildings is driven by building age and insulation requirements at the time of construction. The vulnerability index looks specifically at buildings built before the 1980s. Older buildings, historic buildings, and public buildings may not have adequate insulation or air conditioning. As temperatures rise, these buildings may need expensive retrofits and increased energy use to cool. Mobile homes are in the same high-risk category because they do not always have adequate insulation. Compounding hazards include high heat days, days with low air quality, and times when natural ventilation is not available due to high smoke days.

The Anacortes Community Forest provides critical ecosystem services that regulate temperature and buffer streams and wildlife habitat from heat impacts. Increasing temperatures and repeated extreme heat events can result in ecosystem stress to forests, reducing the ability of the system to provide these critical services. Ecosystems in more open areas—such as along shorelines, marine reserve areas and in areas that lack buffers—may be more impacted from increased temperatures and extreme heat events. Warmer streams are a significant concern for salmon, a culturally significant species to tribes throughout the region. Wetlands and streams depending on the buffer area would also see increased surface water temperatures during extreme heat.

¹ According to the U.S. Environmental Protection Agency, people of color are more vulnerable to climate change due to a combination of systemic, socioeconomic, and environmental factors. These factors include geographic proximity to polluting facilities, socioeconomic disparities, health inequities, employment in vulnerable industries, and historical and systemic inequities.

2.3.2 Extreme Precipitation

As temperatures rise, more evaporation occurs over the ocean, which in turn alters the intensity, duration, and frequency of precipitation. Increased precipitation intensity contributes to increased flood risk, greater soil erosion, higher sediment transport in streams, increased runoff contributing to water quality impairment, and increased landslide vulnerability. Roads can become impassable due to flooding or downed trees, and public transit stops can become flooded or inaccessible. Bridge structures can become damaged because of scour, additional torsion, and loads from higher water levels/flow than design anticipated. Erosion can also undermine bridge supports and foundations.

Extreme precipitation may impact the ability to access and utilize trails and parks. Flooding can lead to trail erosion and damage to park assets. Extreme precipitation poses a flooding risk for stormwater and wastewater assets, especially treatment plants, which tend to be at low elevations because they are connected to outfalls. Stormwater from extreme precipitation events also will lead to an increase in combined sewer overflows. Extreme precipitation events and the resulting impacts can also degrade local streams, wetlands, and shorelines through runoff and erosion, water temperature changes, and pollution.

2.3.3 Sea-level Rise

Sea-level rise is a result of increased temperatures melting the polar ice caps. Sea-level rise directly impacts the coastal region and can cause flooding in two major ways. The first way is by direct inundation of areas that either are connected to or become connected to Puget Sound. Shoreline areas are vulnerable to coastal flooding and coastal erosion. The second way is through groundwater flooding, which can occur inland as well as on the coast. Because seawater is heavier than groundwater, increased tidal heights can hydrostatically force groundwater to the surface, even in areas that are not directly connected to Puget Sound.

2.3.3.1 Coastal Flooding

Coastal flooding risk is highest in lower-lying areas, including the east coast of Fidalgo Island and the area around Washington Park and the Skyview neighborhood. Parametrix has identified the number of structures that would be vulnerable under different sea-level-rise scenarios and has checked current conditions. There are low-lying areas on the southeast corner of Fidalgo Island that currently experience coastal flooding from king tides. As sea-level rise increases, these areas will experience more frequent flooding, and other areas of Fidalgo Island within the City will also experience more frequent coastal flooding. There are culturally relevant areas that will see more inundation due to sea-level rise, where these assets may be underwater for longer periods or inaccessible in the future. The downtown business district is not vulnerable to coastal flooding. Historic waterfront buildings are vulnerable to coastal flooding.

The Anacortes Wastewater Treatment Plant is vulnerable to sea-level rise under a high-risk, low-probability scenario of future sea-level rise. Groundwater flooding would be a risk after 3 feet of sea-level rise, and the wastewater plant would be inundated with 6 feet of sea-level rise.

Currently, Highway 20 near Sharpes Corner has experienced coastal flooding during king tides. Coastal flooding has impacted City parks (Ship Harbor Interpretive Preserve) and trails (Guemes Channel Trail and the Tommy Thompson Trail) in recent years. This type of impact may become more frequent and/or severe in the future. Increased coastal flooding can lead to devastating impacts to coastal ecosystems and wildlife habitat, particularly in areas where development or other factors limit the ability for the system to adapt to change over time. According to the National Ocean and

Atmospheric Administration, Seawalls and other armored structures along the shoreline disrupt the natural shoreline process, increasing erosion in unprotected areas and damage habitat.

2.3.3.2 Coastal Erosion

There are some coastal areas at high risk for landslide vulnerability, with most of the block groups along the coastline ranking from stable to unstable under City of Anacortes Critical Areas. Recent slides have occurred east of the Anacortes/San Juan County Ferry Terminal. Although the coastal region is rated moderate on the risk scale for sea-level rise in the area, there are more risks for landslides on the north side of Fidalgo Island between Kiwanis Waterfront Park and Edwards Way and a small area near Anaco Beach Road. While some coastal erosion is a natural process, increasing erosion can exacerbate impacts on coastal ecosystems.

2.3.3.3 Groundwater Flooding

Depending on the elevation, groundwater flooding could be a daily or occasional occurrence. The U.S. Geological Survey recently completed modeling ground water flooding caused by sea-level rise throughout Puget Sound. The City has a high risk of groundwater flooding near Anacortes High School in a nondelineated wetland area near the high school. Other areas with delineated and nondelineated wetlands will see an increased risk of additional groundwater flooding as tide levels rise.

2.3.4 Landslides

Increased extreme precipitation causes increased land saturation, contributing to an increased likelihood of landslides. Areas with steep terrain, land previously burned in wildfires, areas impacted by deforestation, and areas along streams and rivers are particularly at risk. Landslides impact water quality by dumping sediment, debris, soil, and rocks into streams. Transportation systems are vulnerable to landslides because roads and bridges can become impassable, and public transit stops can become inaccessible because of debris. Landslides that impact homes or other structures can have financial impacts to local property owners. Areas around Mt. Erie and Whistle Lake are susceptible to landslide hazards, according to the City critical area mapping. Shoreline landslides can also occur and are aggravated by coastal erosion as discussed above.

Highway 20 is vulnerable to landslides near the Anacortes Viewpoint and Weavering Spit. Approximately 2 miles of Highway 20 has slope stability issues on the eastern side of Anacortes.

2.3.5 Snowpack

The Washington Cascade Mountain Range will experience changes in snowpack throughout the 21st century, with more rain-dominated basins along the western front range. By around 2070, no snow is expected after April 1 in this region.

The City relies on Skagit River flows for drinking water. The Skagit River is fed from the western slope of the Cascade Mountains. Changes in river hydrology due to climate shifts will affect water availability, with peak flows occurring earlier in the year and severe low flows in late summer and early fall, impacting Skagit County's water use. The City has been proactive in considering climate impacts to water resources and infrastructure and began consulting with the University of

Washington's Climate Impacts Group and the Skagit Climate Science Consortium in 2022 on the update to the 10-year Water System plan.²

2.3.6 Wildfire

Wildfires occur less frequently in Western Washington than in Eastern Washington, where wildfires are more common. However, wildfires do occur in Western Washington, and risks are increasing with climate change. Higher temperatures increase the wildfire risk in two ways: 1) Increased global temperatures contribute to stronger seasonal rainfall patterns, resulting in a dryer dry season, and 2) hotter weather during the increasingly dry summers further exacerbates drought and wildfire risk. Increased wildfires throughout the region contribute to increased greenhouse gas emissions to the atmosphere and deteriorate air quality (particulate pollution). Local wildfire events may result in increased stormwater runoff due to the destruction of vegetation and reduction of soil absorption post-wildfire. Vegetation destruction can also increase the risk of landslides and coastal erosion.

The most immediate risk of wildfire is the threat to human life in areas where wildland fuel (e.g., trees, grasslands, etc.) is close to structures (e.g., homes, etc.). Wildfires can spread quickly through residential areas, and severe, fast-moving fires in other regions have devastated suburban developments and commercial areas.³ Increasing risks throughout the western United States have resulted in increasing insurance costs for property owners in areas considered to be higher risk. There are some mitigation strategies, (e.g., building materials, reducing vulnerability to embers, safe storage of flammable materials, vegetation management, etc.) that can reduce risks to structures, and some insurance carriers may require such measures to obtain insurance.

Wildfires do not typically burn roads but can lead to cracks, deformations, and potholes that come later. Wildfires can create conditions where roads and bridges are impassable, similar to flooding. Wildfires can burn or destroy bridge structures, especially older bridges with wooden supports. According to the National Interagency Fire Center, landslides and flash flooding are common after wildfires and may lead to road washouts, buckling, and other road impacts.

Fire can reduce safe access to parks and trails, which are at higher risk of being destroyed or seriously damaged by wildfires. Wildfires can threaten drinking water quality through contamination of surface and groundwater during the first rain after a fire.

The City of Anacortes includes some areas that are considered high-risk for wildfires, particularly areas around the Anacortes Community Forest, which last experienced a wildfire in 2016. The City also includes both intermix and interface Wildland Urban Interface areas, which has increased wildfire risk. Given that wildfire frequency is lower than in more wildfire-prone regions, the overall likelihood of wildfire in the City is low, and the increased risk from climate change is moderate to low over present conditions. Seasonally, there will always be more risk in the summer than in the wetter seasons throughout the City.

As part of the outreach efforts and the key location of Anacortes, the regional electric grid goes through Anacortes to provide power to Whidbey Island and the SanJuan Islands. Risk of wildfire, while low, would cause disruption to a more regional electric grid. Based on discussions with Puget Sound Energy, there are policies related to the energy grid that will be recommended as part of the Comprehensive Plan.

² University of Washington Climate Impacts Group and Skagit Climate Science Consortium Climate Impacts and Adaptation in the Anacortes Water Plan, January 2025, <https://cig.uw.edu/projects/climate-impacts-and-adaptation-in-the-anacortes-water-system-plan/>

³ Geotechnical Extreme Events Reconnaissance Association, The 2021 Marshall Fire, Boulder County, Colorado, May 2022 doi: 10.18118/G6KT04

The City is also impacted by smoke from regional, national, and international wildfires. Wildfire smoke reduces air quality and can be a significant risk to vulnerable populations, including seniors; children; people with underlying health conditions, including pregnancy; outdoor workers; and people who are living unsheltered. People who live in non-air-conditioned homes may also be vulnerable to summer wildfire smoke that overlaps with higher temperatures or extreme heat events.

2.3.7 Cumulative Impact on Well-being

While most risks can be directly tied to specific impacts, it is also important to recognize the areas where there may be cumulative impacts to well-being from the combination of multiple impacts. The impact of wildfire smoke is one example—the effect on well-being for vulnerable populations will likely be exacerbated if the wildfire smoke impact occurs during hot weather or an extreme heat event where opening windows and fresh air ventilation are the strategy to reduce temperatures. According to the Centers for Disease Control and Prevention (CDC), the cumulative impacts of climate change are on mental health, where multiple climate impacts can result in stress and anxiety that can reduce well-being. Many different people may experience some form of climate anxiety, but the impact on mental health may be particularly acute for members of local tribes, who sometimes experience climate impacts as a cultural loss.

3. Climate Vulnerability Index

3.1 Purpose

The purpose of a climate vulnerability index is to quantify climate vulnerability across key climate, environmental, and community data. The final index can be visualized in maps and tables to help identify and prioritize projects that promote climate resiliency across the City. The Climate Vulnerability Index is available online via the City of Anacortes Climate Element Explorer.

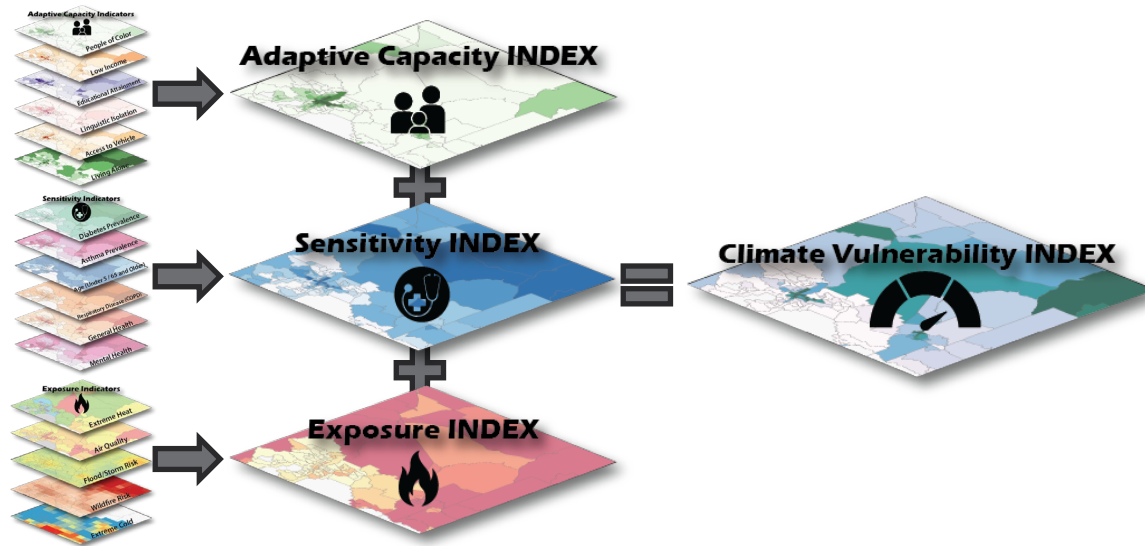


Figure 3-1. Components of the Climate Vulnerability Index

3.2 Methodology and Data

Parametrix grouped indicators (from geographic information system [GIS] data layers) into three individual indexes: Sensitivity, Adaptive Capacity, and Exposure (Figure 3-1). Each individual index is composed of 8 to 15 indicators that score each census block group based on their percentile rank compared to other block groups in the City. The indicators are mapped in GIS at the census block group level and exported to a custom excel tool developed by the consulting team to automate the scoring of the indexes for future updates as new source data becomes available. The final map product, a Climate Vulnerability Index (CVI) web map application, allows the user to visualize the block group scores of either the Climate Vulnerability Index or any of the individual indexes.

The CVI provides quantitative data to assess the impacts or vulnerability of a community. This in turn can help assess risk along with an understanding of probability and the ability to mitigate the risk (climate impact), as has been done in Section 2.

3.2.1 Sensitivity

Sensitivity indicators include age and health conditions that affect the degree to which the population may be affected by hazards. The Sensitivity Index is composed of GIS inputs from the

CDC's "Places: Local Data for Better Health" dataset and data from the American Community Survey (ACS), a U.S. Census Bureau product. The Sensitivity Index is made up of the following inputs:

- < 5 years old.
- > 64 years old.
- Diabetes – Diagnosed diabetes among adults aged ≥ 18 years.⁴
- Asthma – Current asthma prevalence among adults aged ≥ 18 years.
- Respiratory disease – chronic obstructive pulmonary disease.
- Heart Disease – coronary heart disease.
- Physical Health – Physical health not good for ≥ 14 days among adults aged ≥ 18 years.
- Mental Health – Mental health not good for ≥ 14 days among adults aged ≥ 18 years.

3.2.2 Adaptive Capacity

Adaptive capacity indicators include features of people or places that can affect their ability to cope with change. These indicators are primarily gathered from the ACS tables mapped at the block group level. There are other indicators like tree canopy and impervious surface that are used to identify the potential for heat islands. Overall job density and the job density of outdoor professions are determined using Longitudinal Employer-Household Dynamics data, which is a product of the U.S. Census Bureau.

The Adaptive Capacity Index is made up of the following inputs:

- People of color.
- Low income.⁵
- Educational attainment – less than a high school degree.
- Linguistic isolation.⁶
- Living alone.
- Housing cost burden – $> 30\%$ income to Housing Ratio.
- Access to vehicle.
- Housing condition (built before 1980) – Homes built before 1980 potentially have dangers like faulty wiring, cracked foundations, and hazardous materials.
- Population density.

⁴ People with diabetes are at greater risk of experiencing dehydration and cardiovascular events during periods of extreme heat.

⁵ Following the Office of Management and Budget's Statistical Policy Directive 14, the U.S. Census Bureau uses a set of money income thresholds that vary by family size and composition to determine who is in poverty. If a family's total income is less than the family's threshold, then that family and every individual in it is considered in poverty. The official poverty thresholds do not vary geographically, but they are updated for inflation using the Consumer Price Index. The official poverty definition uses money income before taxes and does not include capital gains or noncash benefits (such as public housing, Medicaid, and food stamps).

⁶ An entire household's inability to communicate in English can be even more of a barrier than an individual's inability. For example, in the case of a national or local emergency, such households could not receive an emergency communication in English. The concept of "linguistic isolation" was developed in preparation to provide estimates of the numbers and characteristics of households that might need assistance to communicate with government and social services—for example, to follow instructions from Federal Emergency Management Agency in the event of a disaster.

- Job density.
- Impervious surface.
- Unemployment.
- Outdoor professions: resource and construction jobs likely to be performed outside.
- Population age 18–64 without health insurance.
- Tree canopy coverage.

3.2.3 Exposure

The Parametrix and the MAKERS team identified climate impacts and projections for Anacortes. Table 3-1 summarizes the changes expected by mid-century (2050s) and end of the century (2080s). For community planning, RCP8.5 values are used, including uncertainty ranges where available. This approach helps assess risk and identify vulnerable populations and areas within the City.

Table 3-1. Climate Impacts and Projections for 2050 and 2080 for RCP8.5 for City of Anacortes (Fidalgo Island). *University of Washington Climate Mapping for a Resilient Washington (CMRW)*⁷

Climate Projection (Key indicators from CMRW Tool)	By 2050s*	By 2080s*
Total annual precipitation (percent change)	6.6% increase (-3.0%–11.3%)	10% increase (-1.4%–19.4%)
Late summer precipitation	14.3% decrease (19.2%–38%)	11.9% decrease (1.2%–53.6%)
Summer stream flow (Skagit River)	41% decrease	65% decrease
Change in average summer max. temp.	6.5 °F (4.4 °–8.3 °F)	10.7 °F (7.0 °–13.1 °F)
90 ° max. humidex (change in days) Historic 2 days	14.9 days (6.2–22.7 days)	34 days (16.3–15.7 days)
65 ° min. humidex (change in days)	14.9 days (4.9–28.8 days)	39.3 days (15.8–65.2 days)
Wildfire – change in high-fire days – 48 days historical (1971–2000)	11 additional days (4–22 days)	18 additional days (No data)
Extreme precipitation magnitude (20-year storm)	17% increase (-3 to 30%)	30% increase (6 to 39%)
Heavy precipitation magnitude (2-year storm)	15% increase (3 to 23%)	21% increase (11 to 27%)
1-inch precipitation days	1.6 additional days	3.5 additional days

⁷ Raymond, C., M. Rogers, 2022. Climate Mapping for a Resilient Washington. Prepared by the Climate Impacts Group, University of Washington, Seattle and Research Data & Computing Services, University of Idaho, Moscow.

Climate Projection (Key indicators from CMRW Tool)	By 2050s*	By 2080s*
	(0–3.9 days)	(0–5.3 days)
Coastal flooding – Likely sea-level rise	0.7' (0.5'–1.0')	0.9' (1.0'–2.0')
Coastal flooding – High sea-level rise	1.0'	2.0'

CMRW = Climate Mapping for Resilient Washington; RCP = Relative Concentration Pathway

As of the time of this study, there is no statistically significant change in the frequency of heavy surface winds associated with climate change and no consistent trend toward more extreme windstorms.

3.2.4 Climate Vulnerability Index

The final CVI represents the combined (averaged) score of the three individual indexes outlined above. The CVI is designed to identify areas within the City that are more vulnerable to climate change. Figure 3-1 describes how the GIS layer indicators from each index are combined to form the CVI.

4. Conclusion

The report details the projected impacts of climate change on the City of Anacortes, including increased precipitation, higher summer temperatures, and resulting risks such as flooding and wildfires. It assesses climate risks through seven categories, emphasizing sea-level rise and temperature increases as threats to consider priorities. The CVI quantifies vulnerability using indicators grouped into sensitivity, adaptive capacity, and exposure to prioritize climate resiliency projects.

The report focuses on climate change and its projected impacts on the City. It explains how human activities, such as burning fossil fuels, have increased greenhouse gas concentrations, leading to global warming. The report highlights the expected changes in the City by the 2050s and 2080s, including increased annual precipitation, decreased summer precipitation, and higher summer temperatures. These changes are anticipated to result in coastal and urban flooding, sea-level rise, wildfires, and lower summer stream flows, posing significant risks to the City's infrastructure, ecosystems, and public health.

The risk methodology outlines the methodology used to assess climate risks and categorizes them into seven types: temperature, extreme precipitation, sea-level rise, landslides, snowpack (water resources), wildfires, and wildfire smoke. The report evaluates the level of risk for each type and presents the findings in tables, indicating the impact, probability, and mitigation difficulty. For example, sea-level rise is identified as the highest risk due to its compounding effects, while temperature increases are expected to have high impacts throughout the 21st century. The section also discusses the potential impacts on infrastructure, public health, and ecosystems, emphasizing the need for adaptive strategies to mitigate these risks.

The CVI aims to quantify climate vulnerability across key climate, environmental, and community data. The index is visualized in maps and tables to help identify and prioritize projects that promote climate resiliency in the City. The methodology involves grouping indicators into three indexes: Sensitivity, Adaptive Capacity, and Exposure. Each index is composed of multiple indicators that score each census block group based on their percentile rank compared to other block groups in the city. The final map product, a CVI web map application, allows users to visualize the block group scores and make informed decisions to enhance the City's resilience to climate change.

This report will be used to evaluate measures, goals, and policies as part of the Climate Element of the City of Anacortes Comprehensive Plan.

Tentative* Schedule of Planning Commission Meetings

2025 Comprehensive Plan Periodic Update topics and other business

Last updated March 21, 2025

Date (2025)	Meeting Type	Agenda Topics	Activity / Action
March 26	PC	Climate – Intro (GHG Inventory and Vulnerability)	Discussion
April 9	PC	Climate – Draft Goals & Policies Discussion Environment & Conservation	Discussion
April 23	PC	Climate – Draft Goals and Policies Discussion Environment & Conservation	Public Hearing
May 14	PC	Parks, Recreation & Open Space; Economic Development	Discussion
May 28	PC	Parks, Recreation & Open Space; Economic Development	Public hearing
June 11	PC	TBD	TBD
June TBD		Fully integrated, revised Draft Comp Plan published for public review	
June - August		Critical Areas Ordinance and Development Regulations	TBD
August - September		PC meetings/ hearing/ recommendation	TBD
September – December		City Council adoption process	TBD

All meetings begin at 6pm in City Hall Council Chambers – 904 6th St.

To attend/participate in meetings virtually, [view the instructions published on the meeting agenda](#))

*Meeting dates and topics subject to change. Check www.planacortes.org for the most up-to-date information.

CompPlan@anacorteswa.gov

To Whom it May Concern:

These are my thoughts about the climate element of the Anacortes Comprehensive Plan.

It is clear to me that the climate element is a politically charged subject. The city clearly recognizes this as evidenced by the involvement of a climate committee made up of city leaders, and by the fact that **every** community meeting about the Comprehensive Plan has been focused on the **one** element of climate and has been organized and designed by the consultants who are paid to draft the climate element of the plan.

The climate pendulum throughout the nation is swinging to the far right (aka “Green New Scam”), and the climate element requirement in Washington State is evidence of a pendulum swinging to the far left in our state. One needs only to view the Washington State Department of Commerce website and to peruse the 200+ high priority climate suggestions for local jurisdictions to incorporate into their comprehensive plans, as evidence of the extremes that are advocated in Washington State.

Our consultants, who are being paid an incredibly large fee of almost \$400,000 (from a Department of Commerce grant) to shepherd the process of drafting this **one** element for the City of Anacortes, clearly want to do a good job for the city. Therefore, the tendency will be to infuse the climate element into every aspect of the Comprehensive Plan.

This brings me to my point. Don’t succumb to this tendency!

Since this is such a controversial topic, and since our job is to meet the needs and aspirations of all citizens, I strongly urge the consultants, the city employees and the City Council members to tread lightly on this topic. Certainly, there are resilience and greenhouse gas elements that we can and should incorporate into the plan that will move our city toward more sustainable practices without antagonizing half the population (on either side of the pendulum). For example, creating a communitywide comprehensive wildfire resilience strategy to improve emergency response capabilities is a strategy that the whole community can get behind (See Dep’t. of Commerce M.02). In addition, promoting purchasing from local businesses to support economic development and reduce emissions associated with transportation (Dep’t. of Commerce R.06) is a suggested strategy to satisfy the greenhouse gas emissions element that our community will wholeheartedly support.

My point is, **let’s keep this element short, manageable, and without the trappings of infusing climate into the rest of the plan.** In this way, we will have a blueprint for the future that the whole community can support for the next 20 years, regardless of the way the political pendulum swings.

Linda Martin

Libby Grage

From: Ian Munce <ianmunce@gmail.com>
Sent: Friday, March 21, 2025 4:00 PM
To: Libby Grage
Cc: lindajm1@gmail.com; Matt Miller; City Council; James Matson
Subject: Response to Chair Martin-For March 25 Planning Commission Meeting and 2025 Webpage Comments

***** This email is from outside the City of Anacortes network. Please use caution when clicking on links, opening attachments, or replying. *****

Dear Planning Commissioners

I write to you in opposition to Chair Martin's undated letter to you, her political supporters, and the public (page 69 of your March 26, 2025 agenda package) regarding the proposed Climate Element of the Comprehensive Plan.

Typically, and procedurally correctly, on key topics of massive public interest a presiding officer, here the Planning Commission Chair, will weigh in after public outreach via neighborhood meeting and direct mail outreach, and at the conclusion of a series of public hearings. And after deliberation with fellow Commissioners and professional advice from City Planning and Legal Departments will propose an approach.

Here, though, Chair Martin attempts to preempt this mandatory public participation process by first expressing her political opinion that "... the climate element requirement in Washington State is evidence of a pendulum swinging too far left in our State" and then "... let's keep this element short, manageable, and without the trappings of infusing climate change into the rest of the Plan".

The legislative intent in mandating a Climate Element within the Growth Management Act (GMA) was and is to infuse climate change issues into each and every aspect of the Comprehensive Plan. Further, the GMA mandates that Best Available Science be determinative as to Comprehensive Plan policies and implementing regulations and there is no ambivalence whatsoever from reviewing boards and courts on this standard.

The Draft Climate Element Report (Report) identifies the following risk types: temperature, extreme precipitation, sea-level rise, landslides, snow pack (water resources), wildfires, and wildfire smoke. The Report presents sound science on these issues and everyone involved is to be complemented for their contribution. As has been well documented we face an existential threat from climate change, We deserve better than to have climate deniers in charge. Last November 63% of voters statewide rejected a billionaire funded initiative to cancel the State's Climate Commitment Act and thereby voted to continue to fund major climate adaptation measures. The vote in Anacortes was 64%.

At least I now know why my 'progressive' proposed policy and regulation amendments (as well as those of others), amendments that begin to address climate change locally have been refused a hearing(s) by the Planning Commission.

Thank you,

Ian Munce
1711 Quail Drive

Libby Grage

From: William Turner <bill.h.turner@gmail.com>
Sent: Monday, March 24, 2025 1:51 PM
To: CityClerk; City Council; Matt Miller
Cc: Libby Grage
Subject: Planning Commission meeting on climate change

***** This email is from outside the City of Anacortes network. Please use caution when clicking on links, opening attachments, or replying. *****

Libby,
Please make available to PC for this Wednesday.

Dear Planning Commission members,

Let me explain how important understanding climate change is to Anacortes. First, our local government needs to know the facts when making many decisions. For instance, when I was on the Council and voting to upgrade our water treatment plant in 2009, the first question was “how will rising seas, higher tides, and more and bigger storms etc affect our water supply?” The University of Washington graciously sent their “climate team” of scientists to help us design our new water treatment plant.

Thankfully everyone involved (before MAGA) thought more info would help. I was at this meeting. No one on this science team suggested that climate change would not possibly affect the Skagit River, where our water comes from! I certainly was convinced that the future would involve bigger storms, and higher sea levels and would require careful engineering of our treatment plant. I thought this info was essential. Anacortes is better prepared for the future because of this.

Linda Martin seems to think it is too complicated for us to place language in the Comp plan about Climate Change, as it might be too political. Washington State law requires using “best available science” in our decisions. As it happens we have rules about Planning Commission members who bring their personal political beliefs into this job. It is against our rules.

I think Linda Martin should recuse herself from this very important discussion about preparing ourselves to deal with climate change. Or.. perhaps resign. The Planning Commission is only mandated to listen to the public and pass on those worthy ideas (from the public) to Council, not their own personal beliefs. Please stick to the facts.

It is not the job of the PC to convince citizens of their own beliefs.

Sincerely, Bill Turner

Sent from my iPad

ANACORTES

2025 Comprehensive Plan Update

Climate Element

Planning Commissions – March 26, 2025

*GHG Inventory and Climate Vulnerability
and Risk Assessment*



AGENDA

- Climate Element Overview
 - State laws, requirements, and definitions
 - Engagement
- GHG Inventory
 - Analysis and key findings
 - Discussion
- Climate Vulnerability and Risk Assessment
 - Analysis and key findings
 - Discussion

CLIMATE ELEMENT Overview

WHAT IS THE CLIMATE ELEMENT?

New state requirement to plan for climate change in the Comprehensive Plan process.

Includes two sections

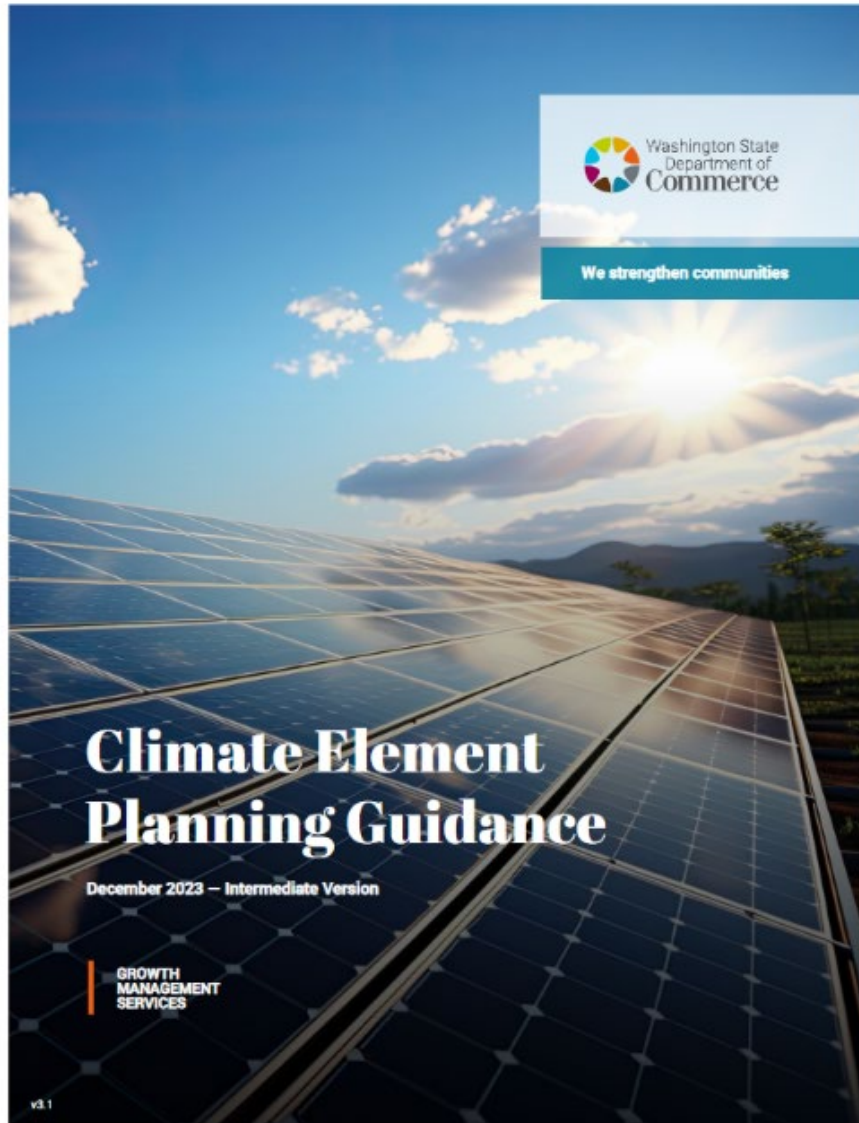
- GHG Emissions Reduction sub-element
- Resilience sub-element

Communities are also required to advance environmental justice and avoid environmental health disparities.

RCW 36.70A.070 Comprehensive plans—Mandatory elements.

*“A climate change and resiliency element that is designed to result in **reductions in overall greenhouse gas emissions** and that must **enhance resiliency to and avoid the adverse impacts of climate change**, which must include efforts to **reduce localized greenhouse gas emissions** and **avoid creating or worsening localized climate impacts to vulnerable populations and overburdened communities.**”*

Commerce Guidance



Excerpt from Figure 5 Crosswalk of Climate Guidance's Sectors with GMA Goal and Comprehensive Plan Elements.

SECTOR	NEXUS WITH GROWTH MANAGEMENT ACT GOALS ¹⁶	NEXUS WITH COMPREHENSIVE PLAN ELEMENTS
HEALTH & WELL-BEING (INCLUDES COMMUNITY WELL-BEING, EQUITY, AND ENGAGEMENT)	(10) Environment (11) Citizen participation and coordination (14) Climate change and resiliency	Housing; Land Use; Capital Facilities; Park & Recreation; Environmental Protection
ECOSYSTEMS (INCLUDES TERRESTRIAL AND AQUATIC SPECIES, HABITATS, AND SERVICES)	(8) Natural resource industries (9) Open space and recreation: Retain open space and green space, enhance recreational opportunities, enhance fish and wildlife habitat, increase access to natural resource lands and water, and develop parks and recreation facilities. (10) Environment (14) Climate change and resiliency (15) Shorelines of the state: For shorelines of the state, the goals and policies of the Shoreline Management Act as set forth in RCW 90.58.020 shall be considered an element of the county's or city's comprehensive plan.	Land Use; Rural; Park & Recreation; Capital Facilities; Conservation; Housing; Natural Resource Lands; Environmental Protection
TRANSPORTATION (INCLUDES MULTIMODAL TRAVEL AND INFRASTRUCTURE)	(3) Transportation: Encourage coordinated, multimodal transportation systems that will reduce greenhouse gas emissions and per capita vehicle miles traveled, and are based on regional priorities and coordinated with county and city comprehensive plans. (10) Environment (14) Climate change and resiliency	Transportation; Land Use; Housing; Ports; Capital Facilities; Environmental Protection

GHG Emissions Sub-element– Min. Requirements

Requirement 1: Result in reductions in overall greenhouse gas emissions generated by transportation and land use within the jurisdiction but without increasing emissions elsewhere in Washington;

Requirement 2: Result in reductions in per capita vehicle miles traveled within the jurisdiction but without increasing greenhouse gas emissions elsewhere in Washington; and,

Requirement 3: Prioritize reductions that benefit overburdened communities in order to maximize the co-benefits of reduced air pollution and environmental justice.

Jurisdiction must submit reports on five-year progress implementing GHG and VMT reduction measures.

Resilience Sub-element – Min. Requirements

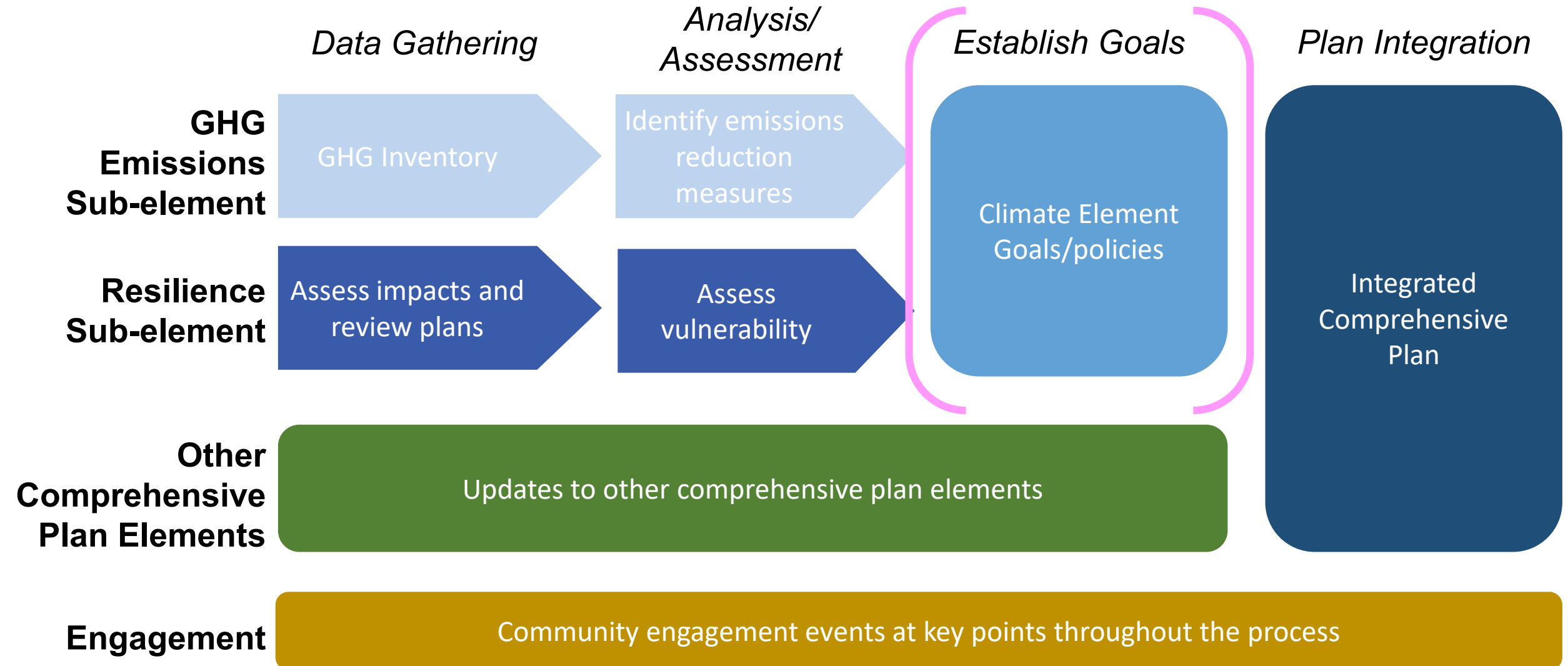
Requirement 1: Address natural hazards created or aggravated by climate change, including sea level rise, landslides, flooding, drought, heat, smoke, wildfire, and other effects of changes to temperature and precipitation patterns;

Requirement 2: Identify, protect, and enhance natural areas to foster climate resilience, as well as areas of vital habitat for safe species migration;

Requirement 3: Identify, protect, and enhance community resilience to climate impacts, including social, economic, and built-environment factors, which support adaptation to climate impacts consistent with environmental justice.

At least one goal and policy for each climate-exacerbated hazard, commerce goal/policy measures address multiple hazards

PROCESS OVERVIEW



BUILDING ON EARLIER WORK

City of Anacortes



Greenhouse Gas Inventory

Proposed Climate Action Plan
November, 2006



Prepared by ICLEI – Local Governments for Sustainability
Northwest Clean Air Agency and the City of Anacortes



Vision Statement

A vision represents a community's best desired future. Prior to the Comprehensive Plan, the City of Anacortes lacked a vision statement; therefore, the Comprehensive Plan established the Community's vision, based on extensive community efforts and crafted by the Community Advisory Committee, Commission and City Council:

Anacortes is a unique, creative, vibrant and caring community that supports cultural and economic diversity and vitality, builds growth with respect for our history, and protects our natural and public lands for future generations.

Values Statements

The following "Values Statements" further define and clarify identifying values to embrace and achieve in the next twenty years:

Pursue Environmental Sustainability

- Embrace a conservation ethic.
- Develop and maintain healthy land and marine ecosystems.
- Prepare for natural disasters and climate change.
- Embrace and promote green energy and technology opportunities.
- Adopt innovative and environmentally sensitive development practices.

Provide a Supportive & Connected Community

- Provide a variety of housing types in all price ranges.
- Utilize residents' extensive knowledge and experience.
- Be aware of how we relate to the issues around the world.
- Provide good access to town amenities.
- Provide high quality health and community services.
- Make education available for people of all ages and abilities.
- Provide cultural and artistic activities and opportunities.
- Offer a variety of year-round recreational and tourism opportunities.
- Provide good pedestrian, bicycle, and multi-modal access.

ANACORTES 2016 COMPREHENSIVE PLAN VOL. 1

Policy EC-10.3. Require buffering or other noise reduction and mitigation measures to reduce noise impacts from Commercial and Industrial zones on residential areas.

Goal EC-11. Light Pollution. Reduce light pollution.

Policy EC-11.1. Minimize and manage ambient light levels to protect the integrity of ecological systems and public health without compromising public safety and cultural expression.

Policy EC-11.2. Design and construct night lighting to minimize glare and to avoid light spillover onto nearby properties.

Policy EC-11.3. Minimize overhead lighting that would shine on the water surface of the City's shorelines or streams. Encourage the use of pedestrian level or shaded lighting when providing lighting along the Tommy Thompson and Guemes Channel Trail.

Policy EC-11.4. Establish design standards and other regulations, where appropriate, that employ "dark skies" approaches.

Goal EC-12. Food security. Promote a resilient local food system.

Policy EC-12.1. Support efforts to identify food vulnerabilities and formulate strategies to increase food resilience.

Policy EC-12.2. Support community workshops, educational programs and local farmers markets that encourage local food production.

Policy EC-12.3. Promote increased access to locally-grown foods by providing space for community gardens, encouraging growing food in backyard gardens, and encouraging the location of fresh food markets and community food gardens in close proximity to multifamily uses and transit facilities.

Policy EC-12.4. Support a local food system that includes a diversity of food sources, encourages consumption of local, healthy foods with a low carbon footprint, minimizes adverse impacts to eco-systems, and minimized food waste.

Policy EC-12.5. Support development of infrastructure for processing and storing food.

Goal EC-13. Climate Change. Anacortes should be a regional leader in mitigating and adapting to climate change.

Policy EC-13.1. Support local community and multi-jurisdictional efforts to raise awareness, address the impacts of, and develop solutions to the challenges of climate change.

Policy EC-13.2. Consider a multi-pronged approach to climate change adaptation and mitigation, including support for energy efficiency (Anacortes Community Energy Plan), promotion of "green energy", vehicle trip reduction, and environmental protection.

Policy EC-13.3. Advocate for administrative practices, land use patterns, transportation systems, and building practices that will reduce greenhouse gas emissions.

ANACORTES 2016 COMPREHENSIVE PLAN VOL. 1

Page 1-46

The Anacortes community has been leading on climate planning for many years.

This Climate Element will build and expand on the values and goals identified in the City's 2016 Comprehensive Plan

Dark Skies standards seek to reduce light pollution by addressing urban sky glow, glare, light trespass, and light clutter. Excessive artificial light can disrupt the ecosystem, impact human health, and waste resources.



Climate change impacts may include declining snowpack negatively affecting regional water supplies, higher temperatures increasing risks to forestry from wildfires and insect pests, negative impacts on coastal areas resulting from sea-level rise and decreasing habitat for cold-water fish, such as salmon.

ENGAGEMENT

Meetings and Key Feedback

CLIMATE TEAM

Carolyn Moulton - City Council

Mike Mills - Planning Commission

Todd Woodard - Infrastructure & Resources Exec. Director, Samish Indian Nation

Marcus Campidilli - Climate Adaption Specialist, Samish Indian Nation

Warren Tessler - Island Health Commissioner, Island Health

Crystle Stidham - Chief Executive Officer, Skagit Transit

Andy Wilken - Maintenance Supervisor, Anacortes School District

Sandi Phinney - Chief Strategy Officer, Community Action Agency

Matt Gill - State Government Affairs Officer, Marathon Petroleum Corp.

Marlene Finley - Board President, Evergreen Islands

Kevin Anderson - Environmental Specialist, Port of Anacortes

John Coleman - PCED Director, City of Anacortes

Libby Grage - Planning Manager, City of Anacortes

Andrew Rheume - Public Works Director, City of Anacortes

Jonn Lunsford - Parks Director, City of Anacortes

Bill Harris - Fire Chief, City of Anacortes

Karl Wolfswinkel - Senior Center Administrator, City of Anacortes



Guiding Principles

- **Leadership and Collaboration:** Be a regional leader by taking local action to anticipate, mitigate and adapt to climate change, and work collaboratively with local municipalities, regional and state agencies, and tribal communities whenever feasible to achieve shared climate adaptation goals.
- **Multi-benefit Strategies:** Seek multi-benefit strategies to climate change adaptation and mitigation that also address community needs and priorities.
- **Economic Sustainability:** Identify potential impacts to local economy and businesses and seek mitigation strategies that will foster economic development as the City adapts to climate change.
- **Broad Community Engagement:** Engage with all sectors of the community and ensure voices of vulnerable and overburdened communities are heard. Work to minimize and mitigate impacts to these groups to support equitable adaptation to climate change.
- **Evidence-based and Adaptive:** Use best available science to identify impacts and build on the success of others when developing strategies. Monitor change and track progress over time, so that goals and policies can adapt as new information becomes available.
- **Feasible and Action-oriented:** Assess feasibility of strategies and prioritize them based on the overall economic and environmental costs and benefits to balance near-term results with planning for and investing in long-term solutions.

Meetings

Past Meetings

- **1ST Open House – June 5, 2024**
- City Council GHG Presentation – September 16, 2024
- Climate Team Meeting 1 – September 24, 2024
- **2nd Open House – October 23, 2024**
- Climate Team Meeting 2 – November 19, 2024
- Marine Focus Listening Session – December 4, 2025
- PSE, Port, and City Coordination - January 7, 2025
- Climate Team Meeting 3 – January 14, 2024
- PSE, Port, and City Coordination - February 4, 2025
- Marine/Industry Listening Session – February 13, 2025
- Climate Team Meeting 4 - February 27th
- **3rd Open House – March 20, 2024**

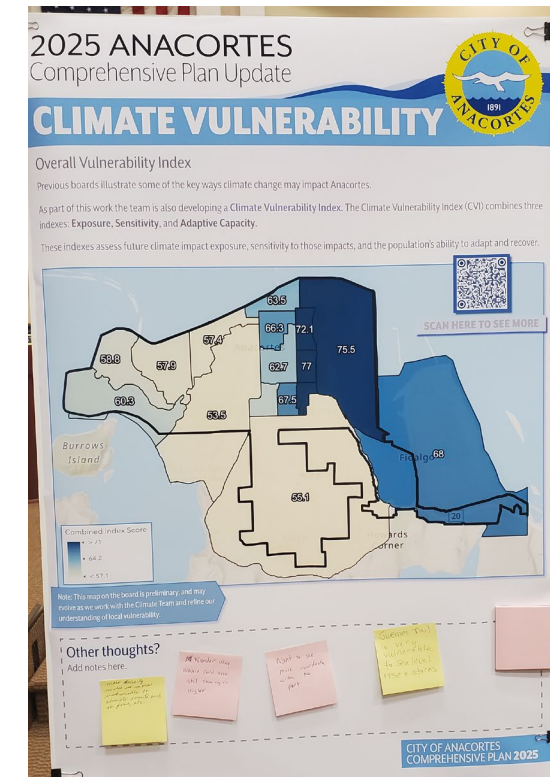
Upcoming - Planning Commission

- March 26, 2025
- April 9th, 2025
- April 23, 2025 - Hearing

BROAD PUBLIC FEEDBACK

KEY FEEDBACK FROM OPEN HOUSES AND SURVEY

- Community members have taken some action to reduce GHG emissions
 - Energy conservation, lighting efficiency, walking/biking
 - Smaller number have invested in solar, efficient heating/cooling
- Top barriers/challenges
 - Cost of building improvements and/or electric vehicles
 - Not feeling safe/comfortable walking and biking
 - Transit service doesn't meet travel needs
- Wildfire concern has come up at every meeting/survey
- General support for findings of Climate Vulnerability Index maps
- Desire for action – want the City to move to implementation



CLIMATE EXPLORER TOOL



Collection

Anacortes Climate Element Explorer

The following is an overview of the climate element work done to date. Start with the Climate Element Overview and How to Use.

Explore each page to learn more about the Climate Element.



1 Climate Element Overview and How to Use



2 Greenhouse Gas Emissions Inventory



3 Overall Climate Vulnerability



4 Vulnerable Populations



5 [Sea Level Rise & Coastal Flooding](#)



6 Heat Exposure



7 Changing Precipitation Patterns



8 Anacortes: Wildfire

LISTENING SESSION FEEDBACK

MARINE AND INUSTRY LISTENING SESSIONS (December 2024 and February 2025)

- Some businesses and the Port are starting to develop long-term plans to address vulnerability – others didn't feel the impacts were significant to their business.
- Discussion of alternative fuel availability (i.e. R99 diesel) – not currently as available locally, but changes may occur over next 5-10 years.
- Some concerns around the stability of electrical supply:
 - Meetings with PSE indicated the City generally has adequate supply;
 - City will continue to coordinate with PSE on supply considerations.
- Maintaining a strong local economy is fundamental – skilled industrial and waterfront jobs are a major part of that.
- Some attendees also highlighted the need to consider impacts to ecosystems, such as pollution from flooding, habitat connectivity, and wildfire.

OPEN HOUSE 3 FEEDBACK

ENERGY



Emerging Goals/Priorities

- Increase resilience of energy infrastructure so that it can accommodate renewable energy opportunities while withstanding and recovering quickly from extreme weather impacts.
- Coordinate with regional utilities and jurisdictions to ensure new energy demands can be accommodated.
- Promote local solar energy production and other small-scale renewable strategies and battery storage.

Why is this important?
Energy resilience is key to a reliable, sustainable power system that withstands climate impacts and supports growth. By increasing resilience, we can ensure the City's ability to support its residents and businesses.

City of Anacortes Comprehensive Plan 2025

BUILDINGS



Emerging Goals/Priorities

- Require that all new city-owned buildings are energy efficient (i.e., LEED certified or similar).
- Promote energy efficient heating and cooling systems in existing buildings, and seek funding partnerships to support implementation.
- Encourage small-scale renewable energy (i.e., solar, microgrids, etc.).
- Promote development that is resilient to the impacts of climate change and extreme weather.

Why is this important?
The energy used in buildings for things like heating and cooling systems is a significant contributor to GHG emissions.

City of Anacortes Comprehensive Plan 2025

LAND USE & DEVELOPMENT/HOUSING



Emerging Goals/Priorities

- Foster more efficient land uses to reduce vehicle miles traveled and increase people's proximity to everyday amenities.
- Explore incentives to promote private development to include green energy and sustainable design features that surpass minimum code requirements.
- Establish land use patterns that increase the resilience of climate change.

Why is this important?
Resilient development focuses on overall land uses, and how the City will promote growth and housing that will withstand climate change.

City of Anacortes Comprehensive Plan 2025

HEALTH & WELLBEING/CULTURAL RESOURCES



Emerging Goals/Priorities

- Ensure that cultural resources - including historic sites and culturally important natural resources - are resilient to climate change impacts.
- Promote community health, and protect vulnerable residents from wildfire smoke and reduced air quality, extreme heat, and disruptions to local food-distribution systems.
- Foster community-building activities that can promote sustainability and resilience by strengthening local social networks.

Why is this important?
Protecting community wellbeing and cultural resources is vital for addressing climate-related health risks, especially for vulnerable groups. Climate impacts threaten public health and culturally significant places.

City of Anacortes Comprehensive Plan 2025

ECOSYSTEMS



Emerging Goals/Priorities

- Protect and enhance the climate resilience of urban forest by implementing climate-smart forest management.
- Protect and restore coastal ecosystems to increase the resilience of species, habitats, and communities to climate change.
- Protect and restore streams and wetlands to achieve a healthy watershed that is resilient to climate change.

Why is this important?
Ecosystems protect coastal habitats, wildlife, and communities from climate change impacts. By restoring natural systems, assessing vulnerabilities, and adapting policies, the City can reduce flood risks and support biodiversity.

City of Anacortes Comprehensive Plan 2025

WATER RESOURCES/EMERGENCY MANAGEMENT



Emerging Goals/Priorities

- Protect and preserve water resources from drought, extreme heat, and other hazards exacerbated by climate change.
- Enhance community preparedness, response and recovery from climate change impacts by updating emergency plans.
- Address utility and transportation infrastructure vulnerabilities.
- Increase access to cooling centers and resilience hubs.

Why is this important?
Enhancing emergency preparedness includes mapping vulnerable infrastructure, identifying alternative routes, and reducing fire and water-related risks through careful planning and awareness efforts.

City of Anacortes Comprehensive Plan 2025

ECONOMIC DEVELOPMENT



Emerging Goals/Priorities

- Coordinate with local and regional partners to promote awareness, education, and training for green job opportunities.
- Promote local businesses by raising awareness of investments that are being made towards reducing emissions, increasing resilience and sustainability.
- Continue to engage with local businesses to understand local needs and how the City can support climate preparedness.

Why is this important?
The City's goal is to ensure that the local economy is resilient to climate disruptions and foster business opportunities associated with climate mitigation and adaptation.

City of Anacortes Comprehensive Plan 2025

GHG Inventory

Analysis and Key Findings

What is a GHG Inventory?

- **Accounting of greenhouse gases** (GHGs) emitted to or removed from the atmosphere **during a specified period** for an organization or geographic boundary.
- GHGs are in large part from the **combustion of fossil fuels**, but also include emissions from other sources like **refrigerants, wastewater treatment, waste disposal, and land use change**.
- GHG inventories provide an **emissions baseline** and a **means to track emissions reductions over time and progress toward goals**.

Greenhouse Gas	Chemical Formula	Global Warming Potential
Carbon Dioxide	CO ₂	1
Methane	CH ₄	28
Nitrous Oxide	N ₂ O	265
Other high-GWP gases	CFCs, HFCs, SF ₆ , etc.	up to 24,000

Source: IPCC 5th Assessment Report, 2014, 100-year values

Why do a GHG Inventory?



Required by Commerce (Pathway 3)



Point in time measurement of GHG sources in the community

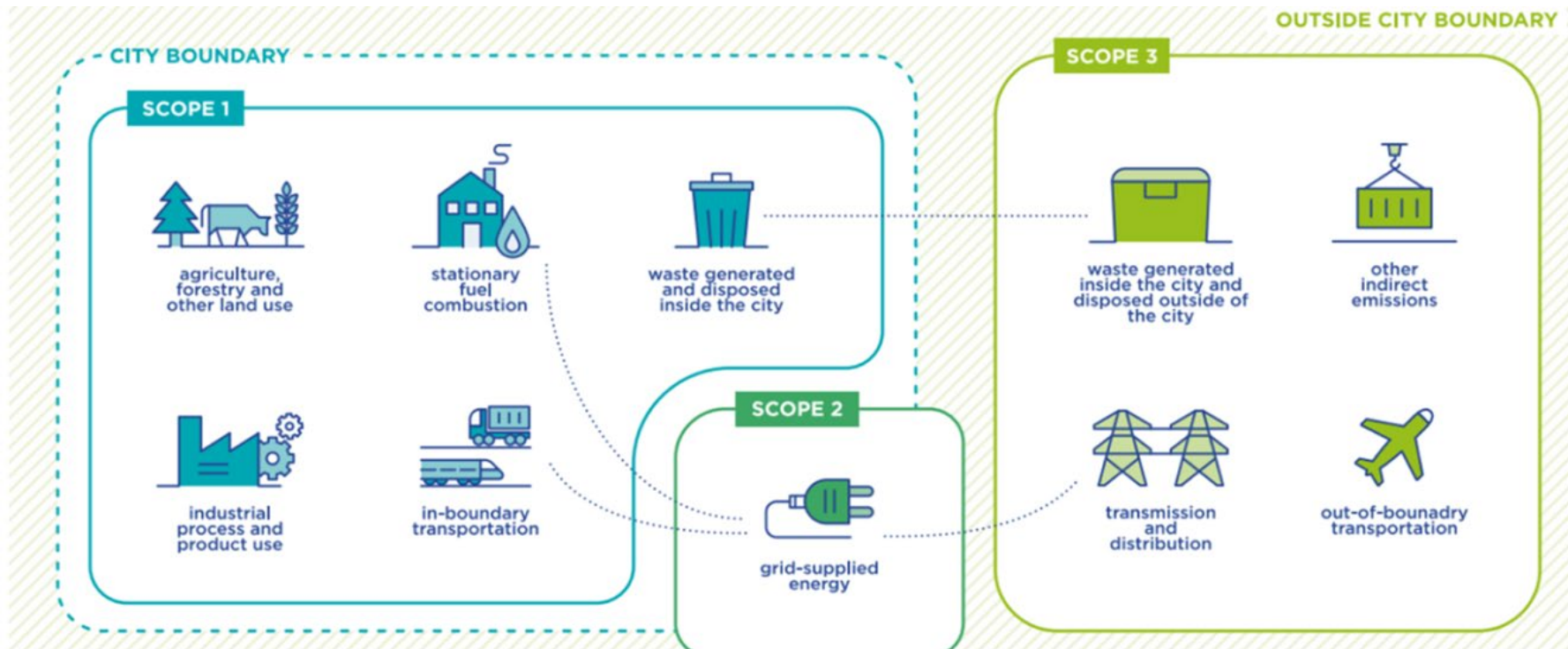


Way to identify and prioritize actions



Keep track of progress

What's Included?



- Includes activities within calendar year 2022
- Activities within the city's geographic boundary
- Follows Washington State Department of Commerce requirements
- Includes ferries, marinas, and urban forest
- Refineries included in Skagit County inventory

What is 1 MT CO₂e?

**A Metric Ton of Carbon Dioxide Equivalent –
a way to normalize GHG gases to CO₂.**

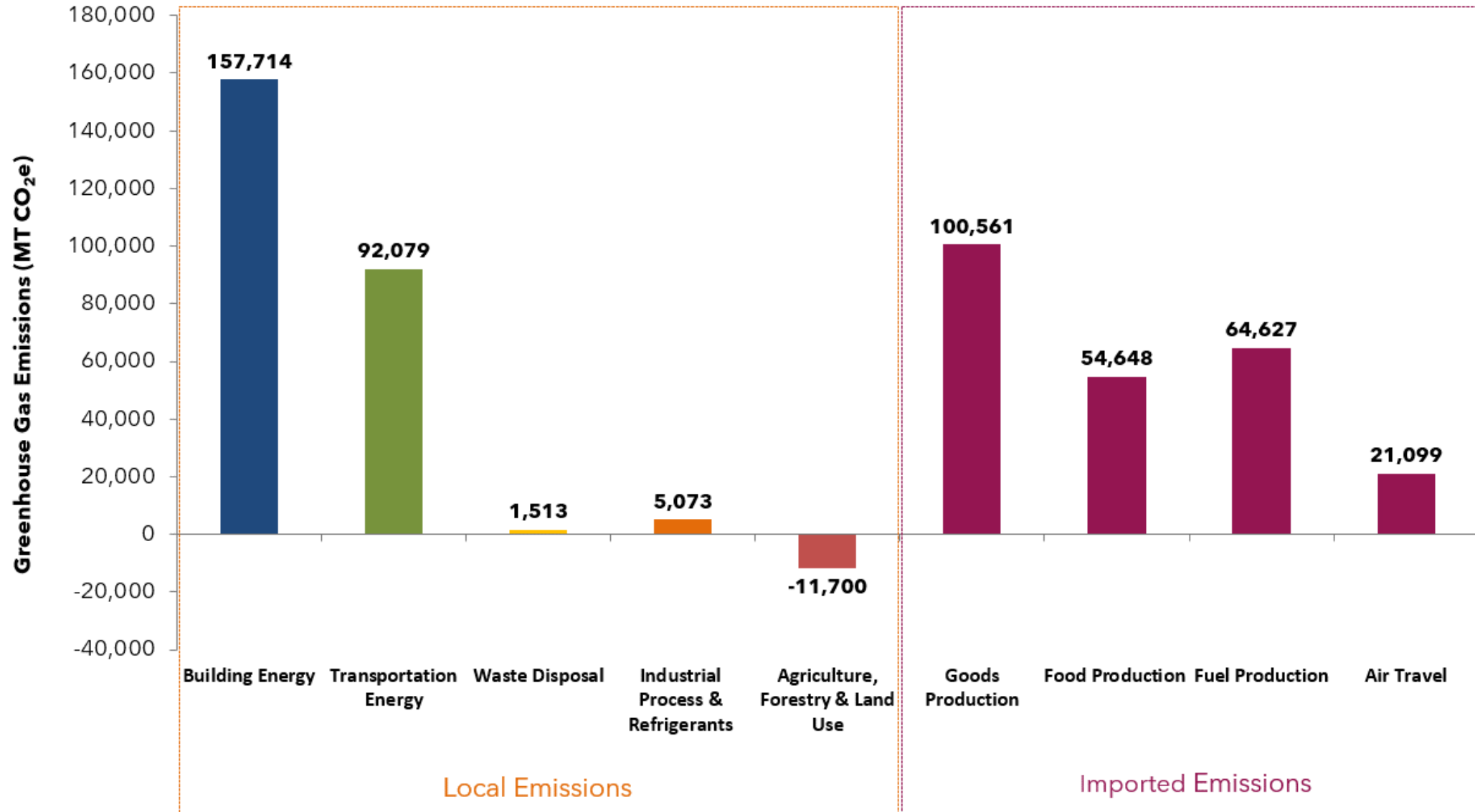
One MT CO₂e is equal to any one of the
following:*

- One passenger vehicle driven 2,500 miles
- 13% of one US home's energy use for a year
- 46 propane cylinders for home BBQs
- 1.2 acres of forest sequestration for 1 year

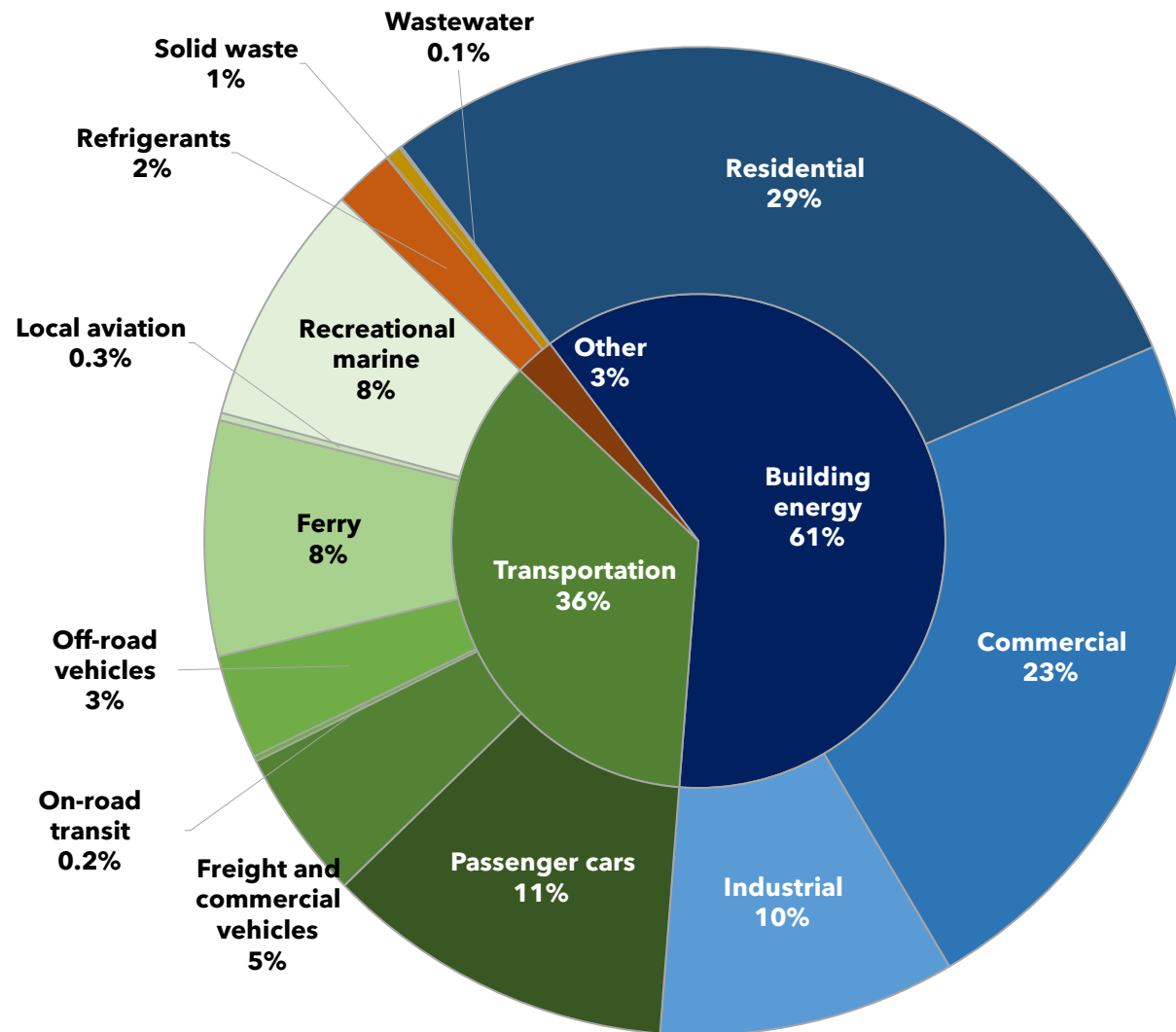
*Calculated using [EPA's GHG Equivalencies Calculator](#)



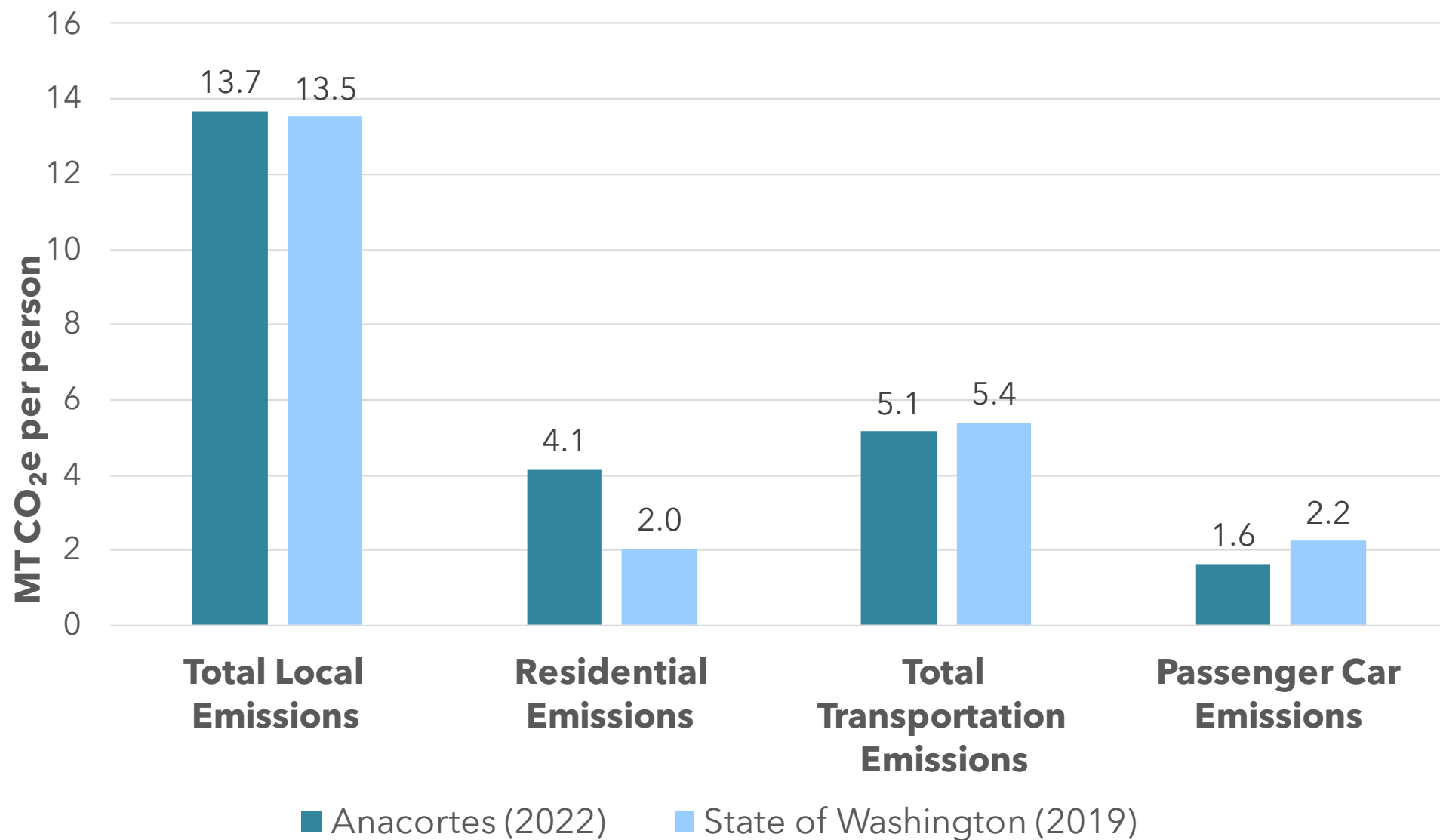
Overall Results: 486,000 MT CO₂e



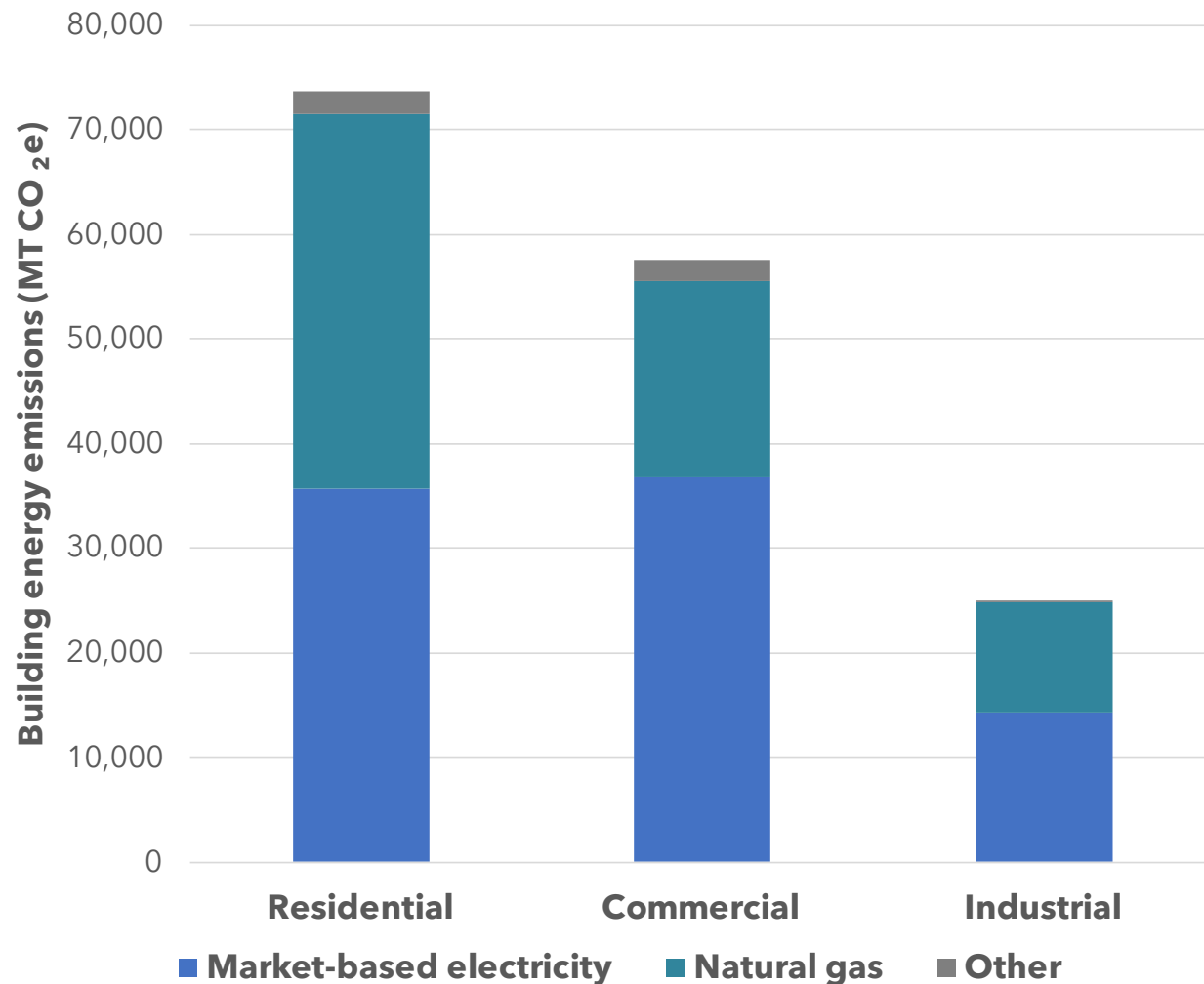
Overall Results—Local Emissions



Per Capita Results—Comparison

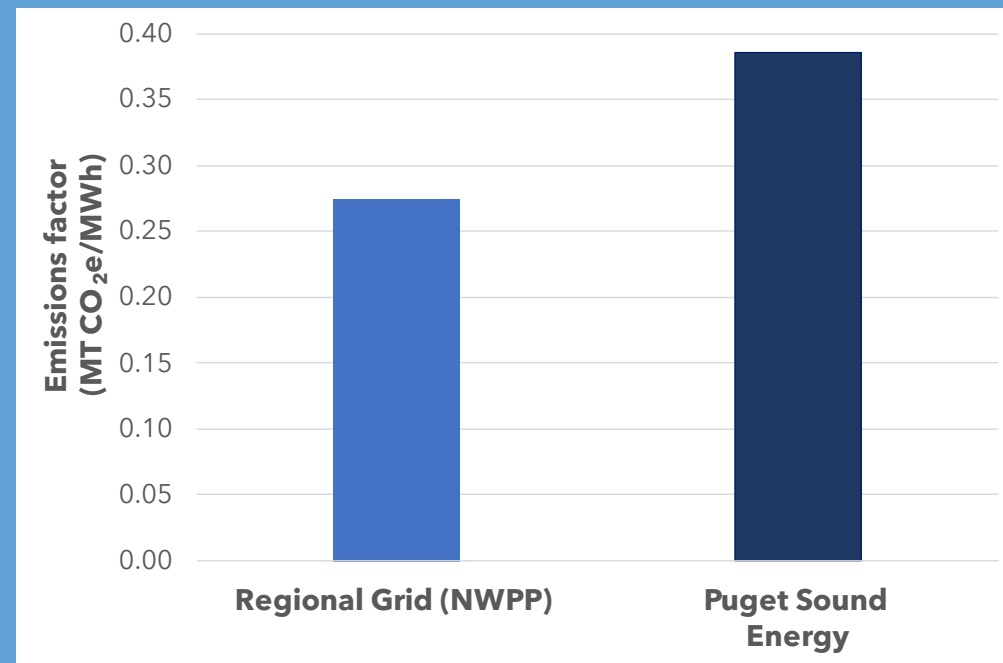


Building Energy (61%)

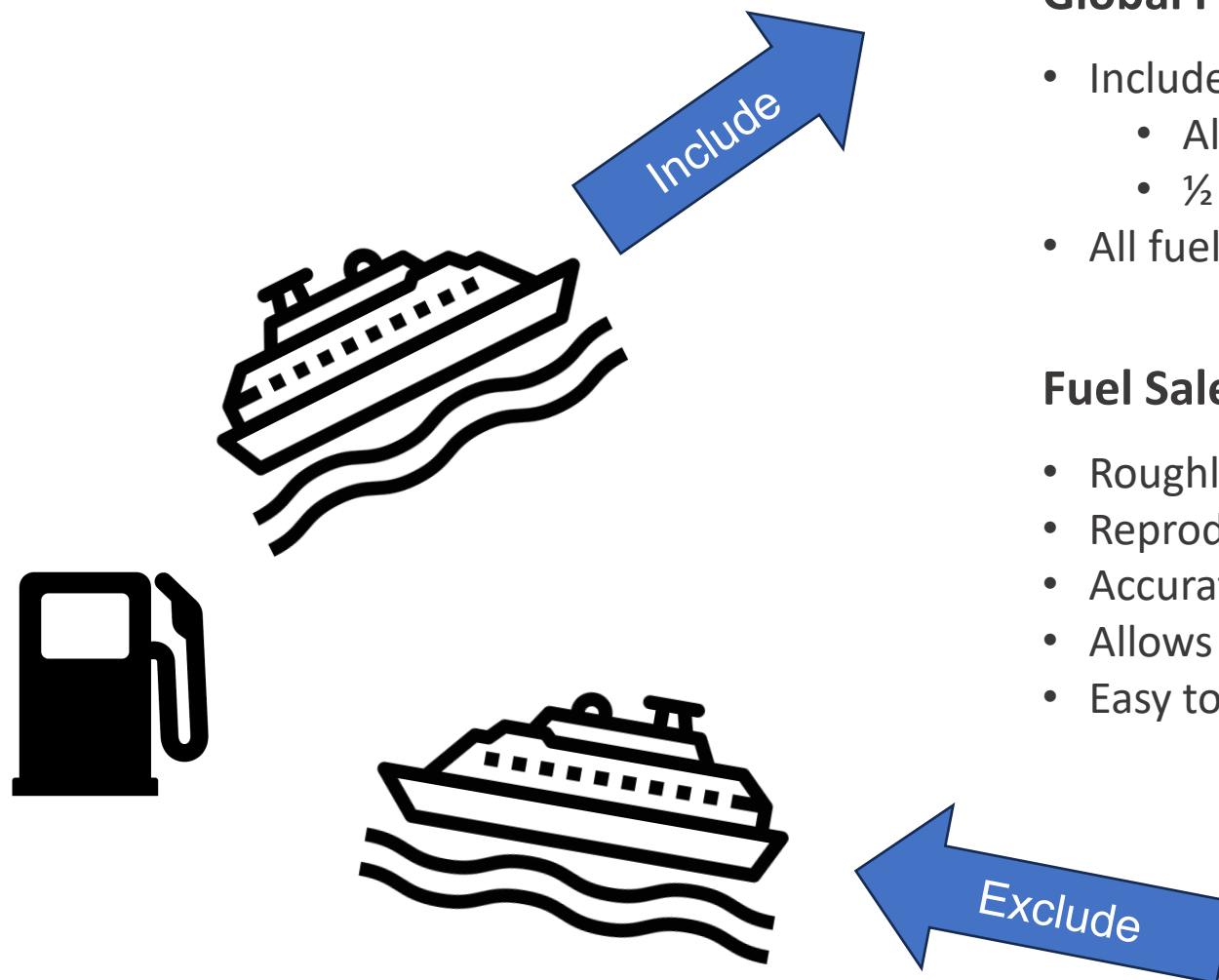


Emissions Factors – Location- vs Market-Based

Puget Sound Energy is relatively carbon intensive compared to average of the NWPP region



Transportation Energy—Ferries



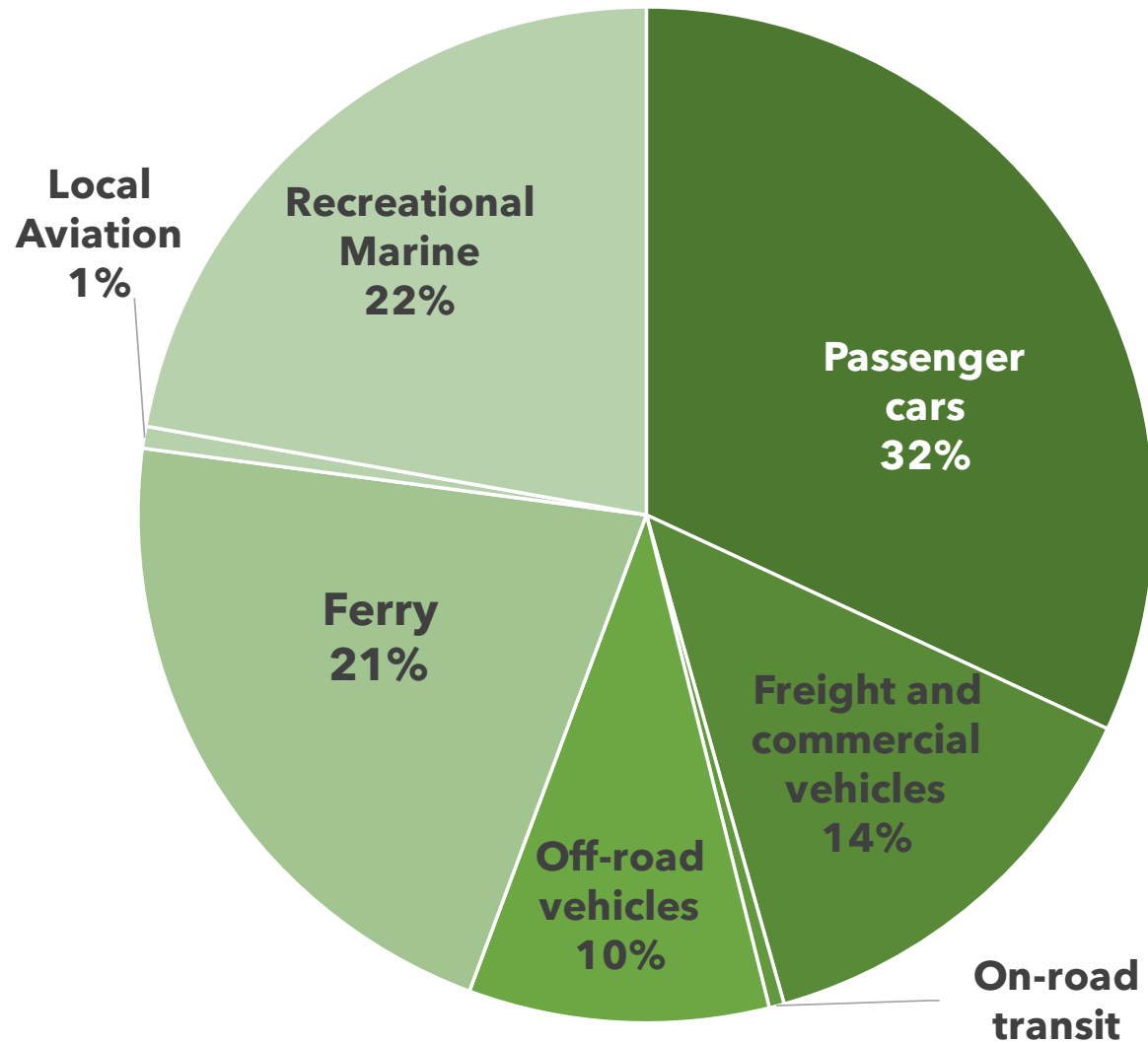
Global Protocol for Cities

- Include $\frac{1}{2}$ of all domestic ferry emissions
 - All departing trips
 - $\frac{1}{2}$ of Fuel sales
- All fuel sales for airplanes

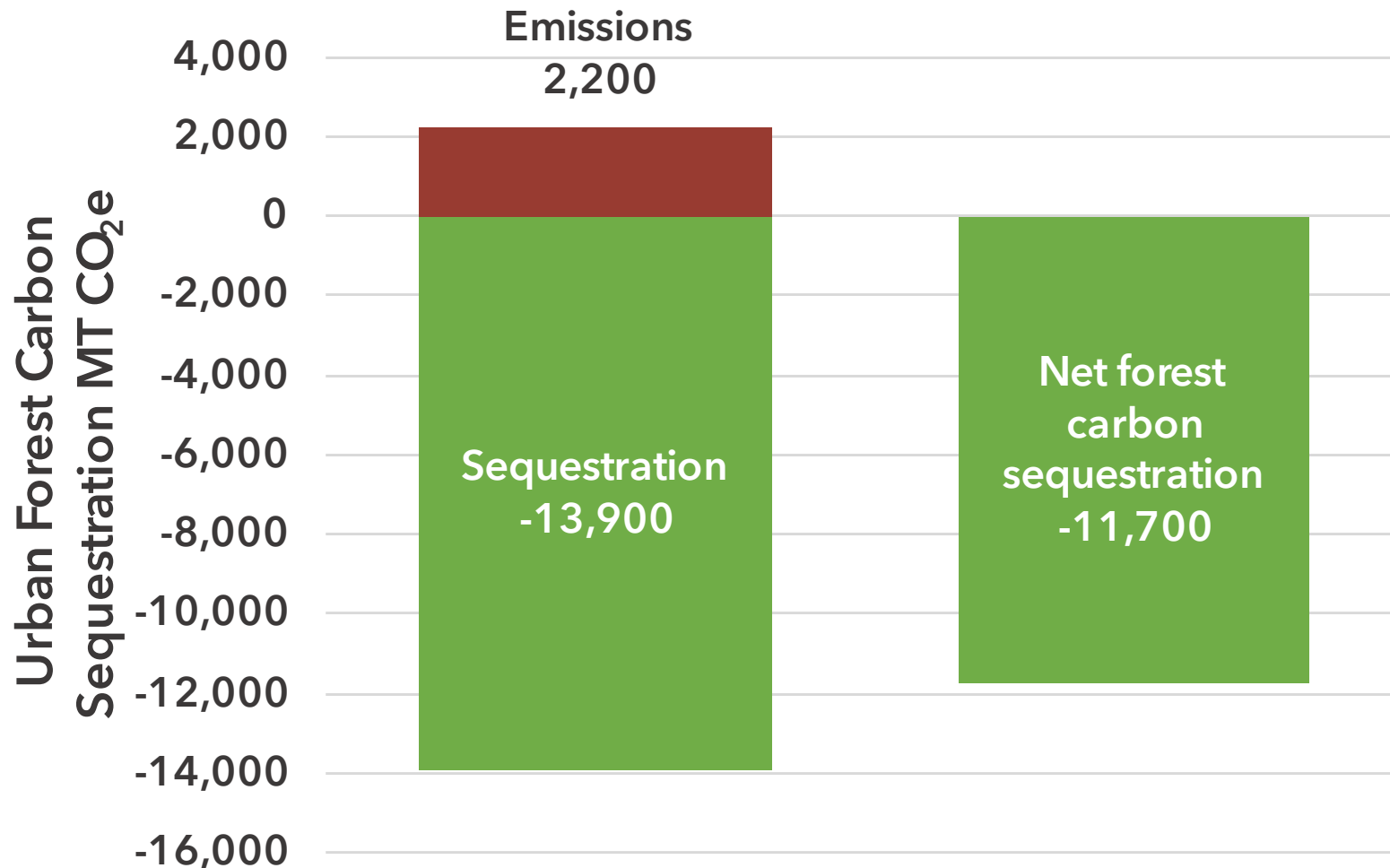
Fuel Sales Method

- Roughly half of all transboundary transportation
- Reproducible
- Accurate
- Allows for different fuel types
- Easy to see progress

Transportation Energy (36%)



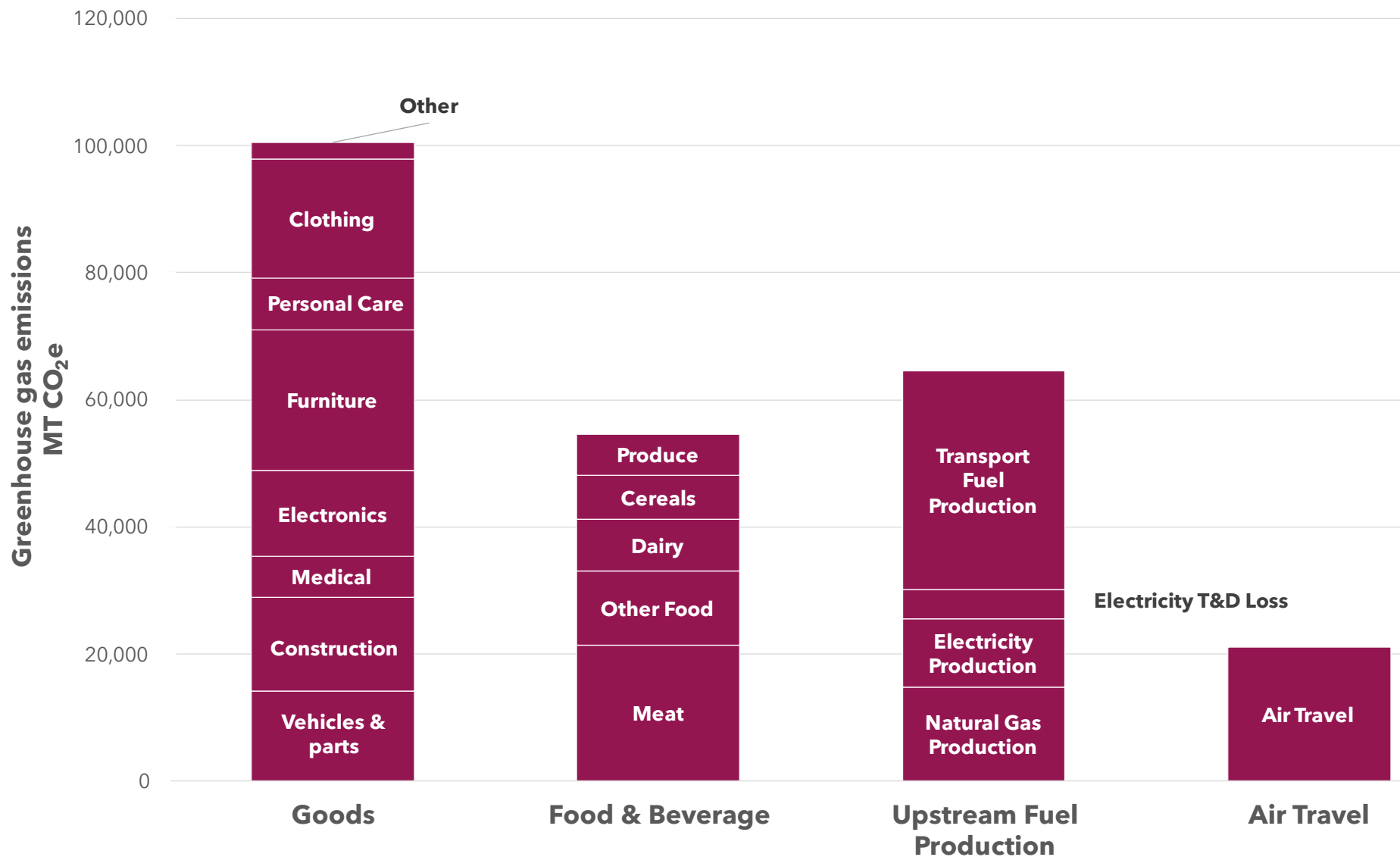
Forest Carbon Sequestration (-4.6%)



Data source context:

- Satellite image based
- Change in tree canopy over the entire city
- Looks back 20 years
- Yearly average

Imported Emissions (roughly equal to local)



Food, Goods, and Air Travel
based on income

- *Data Source: Berkeley CoolClimate Calculator*

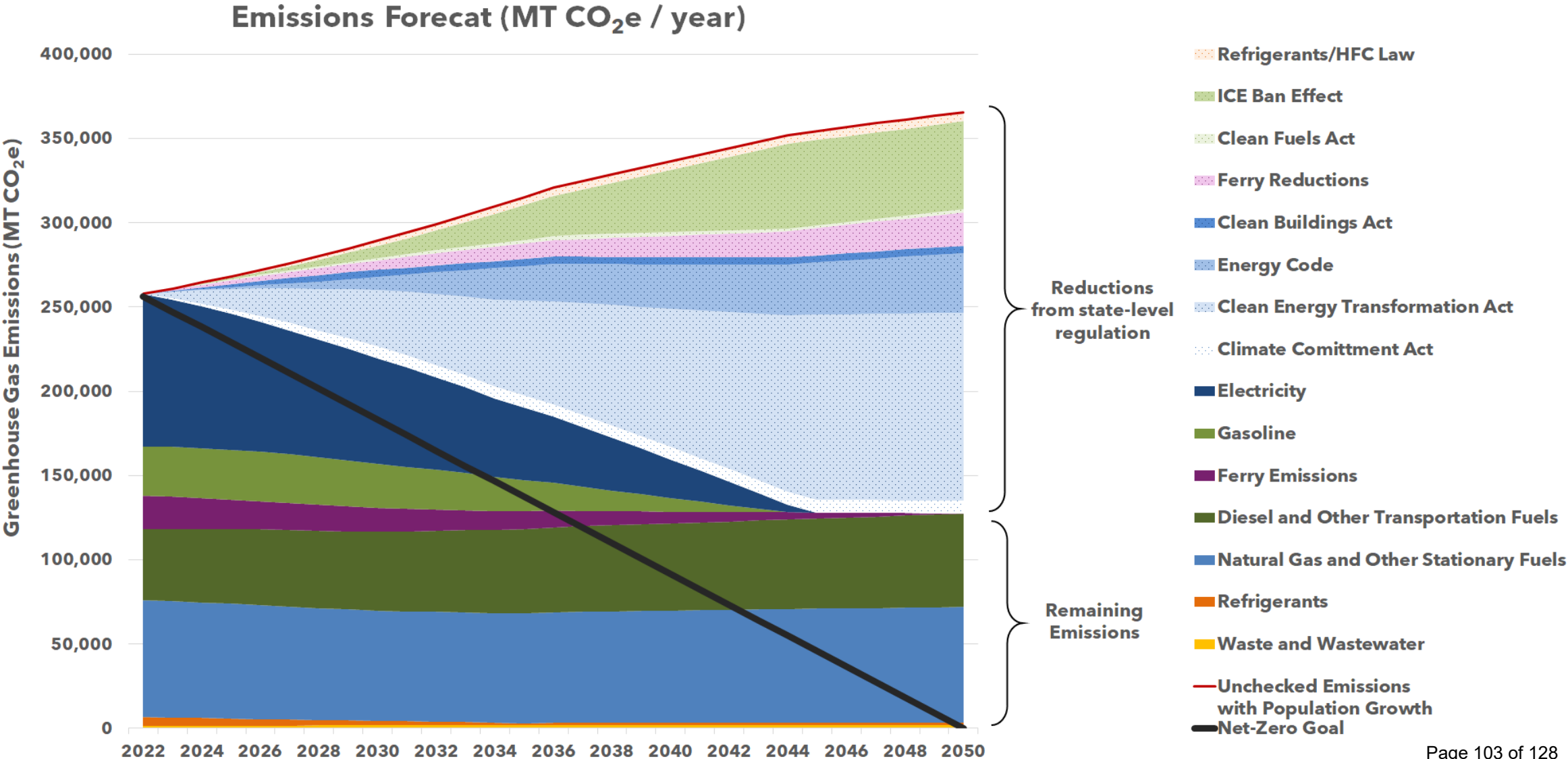
Fuel production based on
electricity, natural gas,
gasoline, and diesel usage

- *Data Source: State-wide and national fuel production averages*

GHG INVENTORY

Discussion

GHG INVENTORY – KEY FINDINGS



GHG INVENTORY – KEY FINDINGS

Actions that the community can take:

- Reducing VMT through land use decisions
- Switch residential heat to electric
- Increase local renewables
- Switch commercial and industrial heat to electric
- Support switch to renewable diesel

Climate Vulnerability Analysis and Key Findings

CLIMATE EXPLORER TOOL



Collection

Anacortes Climate Element Explorer

The following is an overview of the climate element work done to date. Start with the Climate Element Overview and How to Use.

Explore each page to learn more about the Climate Element.



1 Climate Element Overview and How to Use



2 Greenhouse Gas Emissions Inventory



3 Overall Climate Vulnerability



4 Vulnerable Populations



5 [Sea Level Rise & Coastal Flooding](#)



6 Heat Exposure



7 Changing Precipitation Patterns

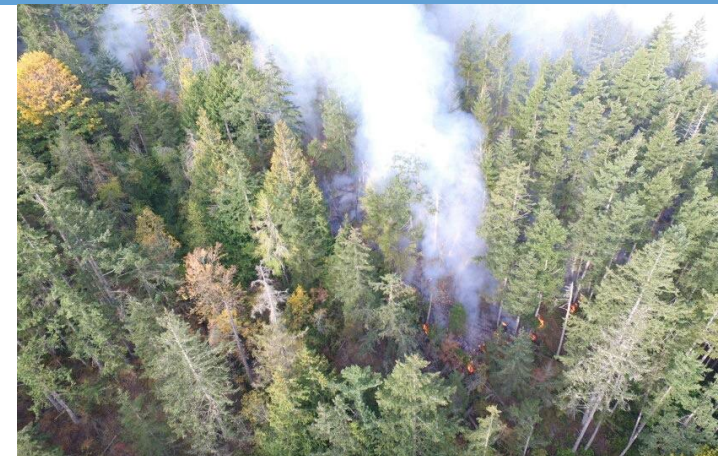


8 Anacortes: Wildfire

LOCAL IMPACTS

Key impacts

- Sea Level Rise/Coastal Flooding
- Changes in Precipitation
 - *Drought stress*
 - *Storms and flooding*
 - *Erosion and landslide*
- Heat
- Wildfire
 - *Wildfire smoke*
 - *Local wildfire risk*



LOCAL IMPACTS

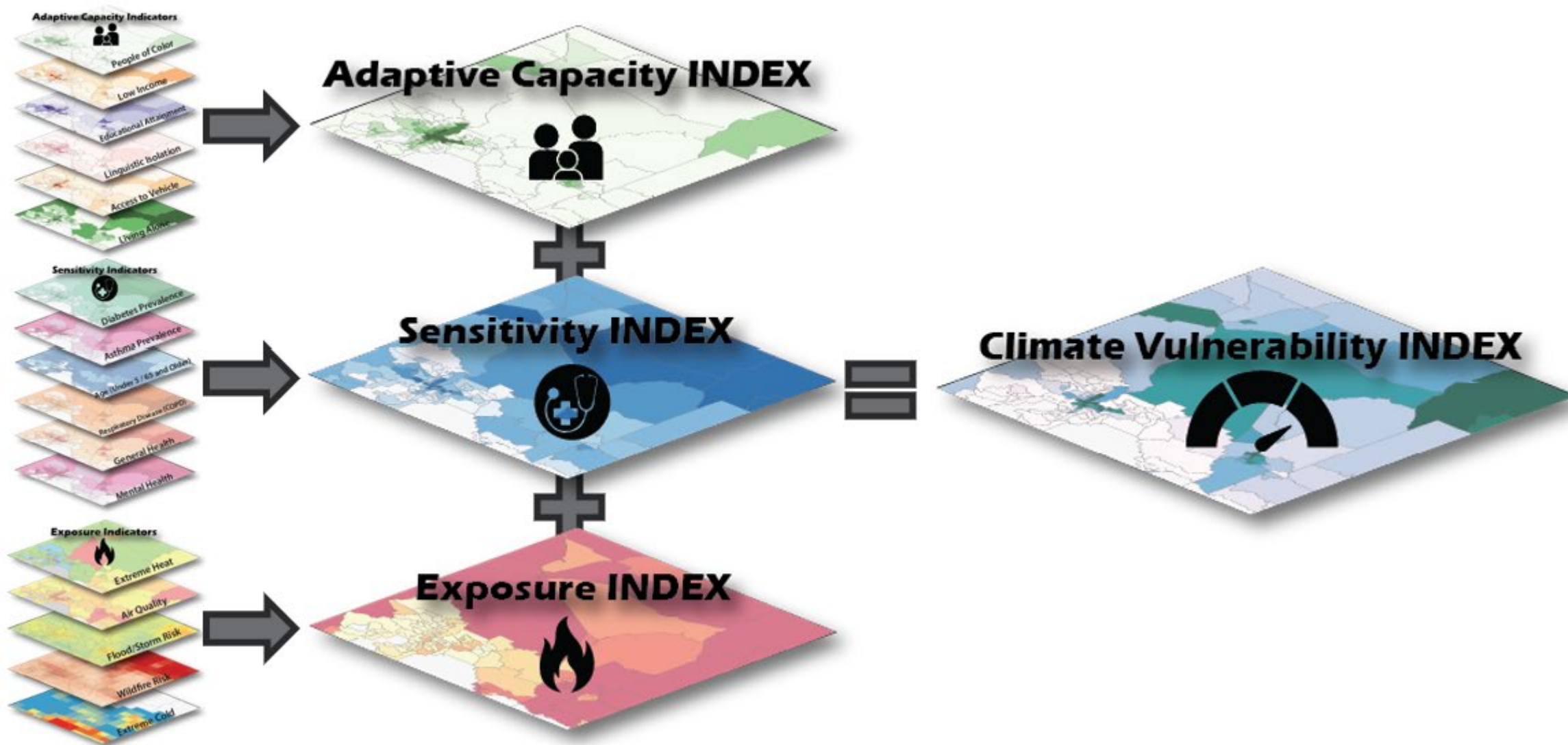


SECTORS AND LOCAL ASSETS

CLIMATE SECTOR	LOCAL ASSETS
Agriculture & Food Systems	Small local farms and farmer's markets (in Anacortes) Local food distribution and food banks Seafood processing facilities
Buildings & Energy	Commercial/Civic/School buildings Residential buildings Schools/Community buildings Puget Sound Energy transmission and substations Pipeline corridors
Cultural Resources & Practices	Historic Built Environment Resources Ethnographically Named Places Cemeteries
Economic Development	Key employment sectors Retail and local businesses Communications (fiber optic, copper)
Ecosystems	Marine shorelines and reserve areas Streams, Wetlands, and freshwater shorelines Anacortes Community Forest Anacortes park system

CLIMATE SECTOR	LOCAL ASSETS
Emergency Management	Fire stations Police stations Emergency Response (vehicles, crews, etc.) Emergency Shelters
Health & Well-being	Hospital and medical clinics
Transportation	Bridge Island Entry/Exit points Roads Marine Terminals and Ferry Service Airport Transit Service and Active Transportation
Waste Management	Solid waste and recycling RV Dump Stations
Water Resources	Water Sources (Skagit River(primary) and groundwater) Water Infrastructure Wastewater (Sanitary Sewer) Stormwater
Zoning & Development	Waterfront-focused zones Central Business District and Commercial Ave Residential areas

ANACORTES CLIMATE VULNERABILITY INDEX



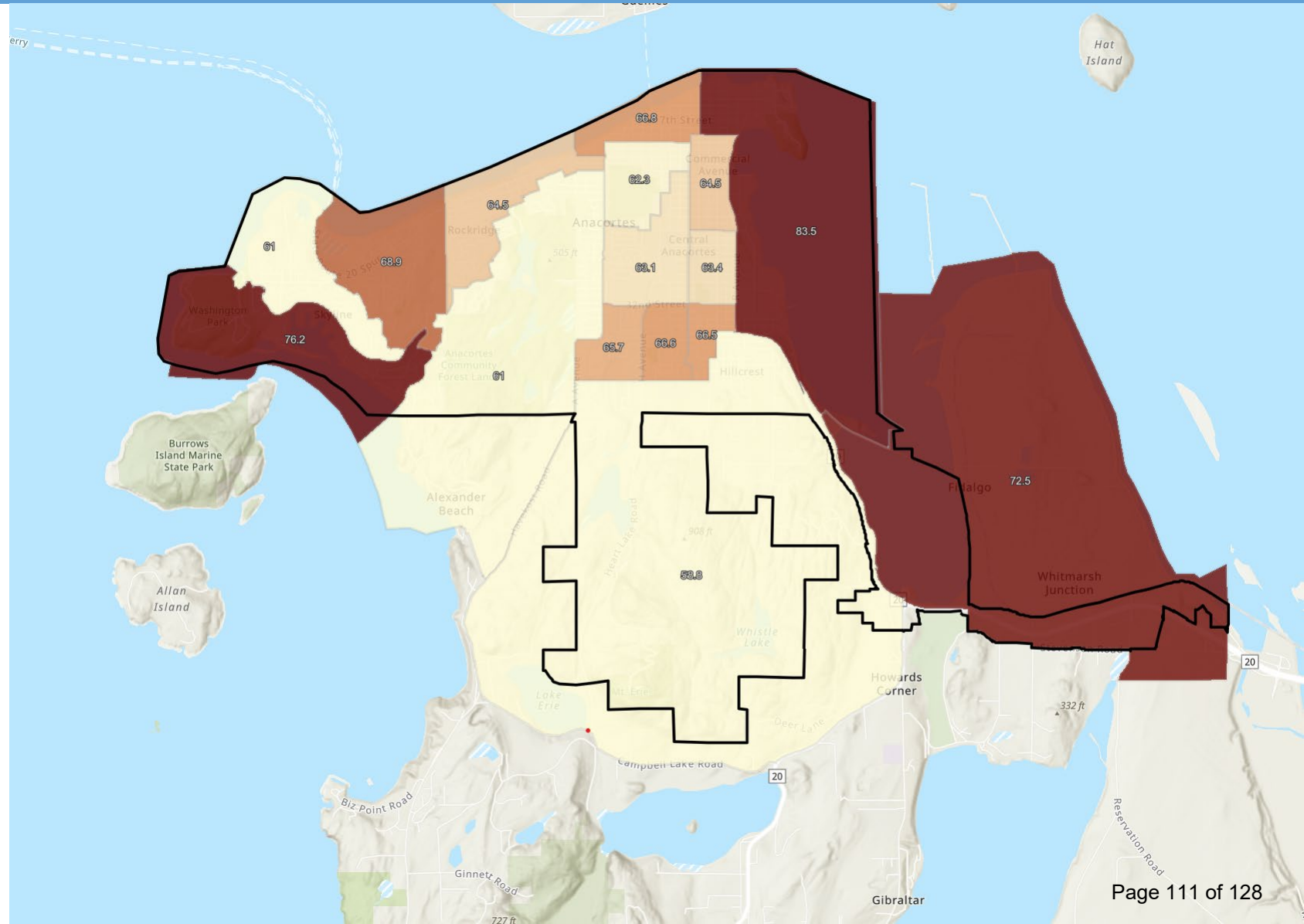
ANACORTES CLIMATE IMPACTS

Exposure Index

Evaluates expected increases in climate-related physical hazards and exposures. This index supports identifying amount and rate of change of physical exposures.

The Index Considered:

- Heat
- Precipitation
- Drought
- Wildfire
- Land cover
- Air Quality
- Sea Level Rise



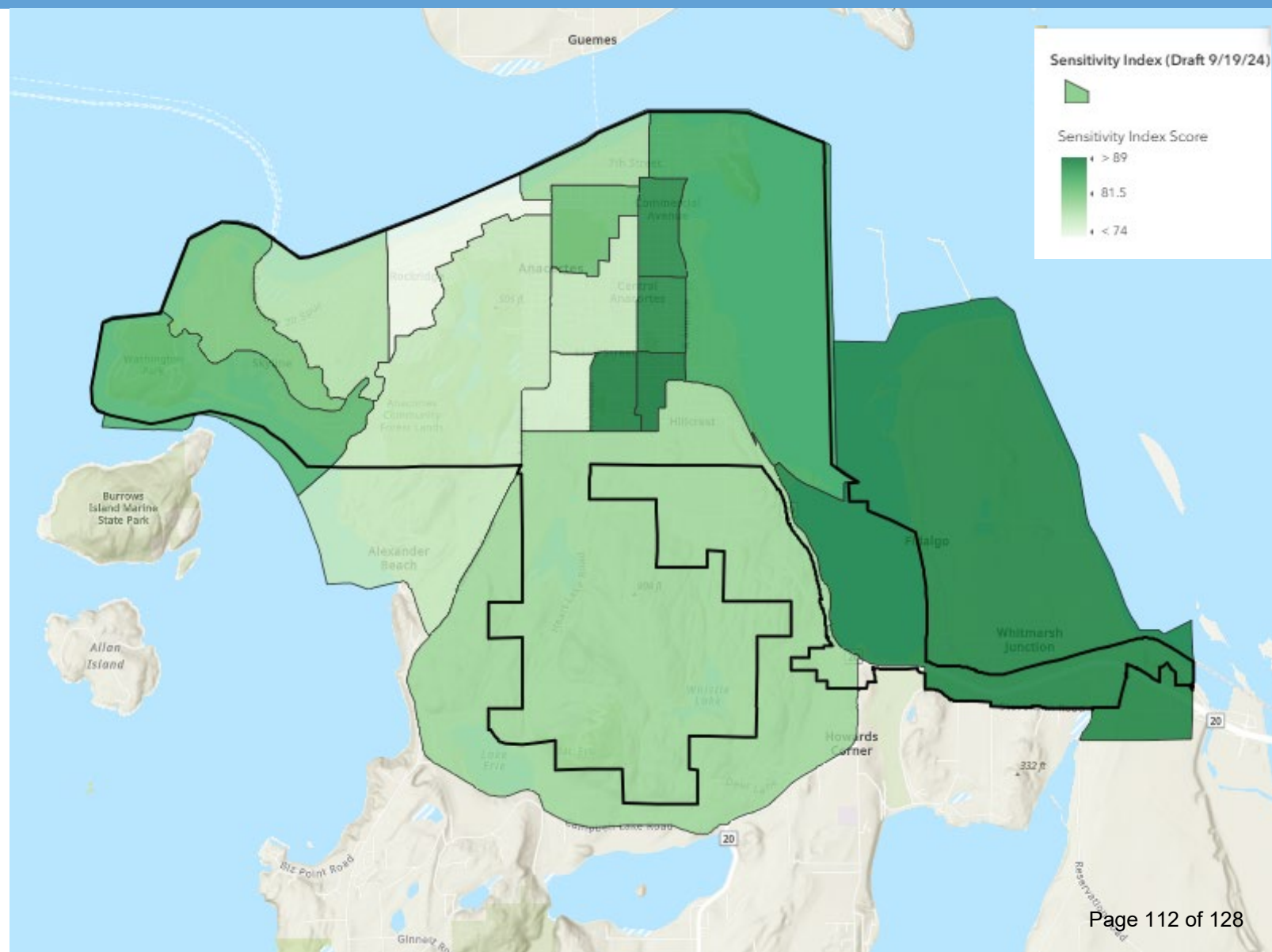
ANACORTES POPULATION SENSITIVITY

Sensitivity Index

Evaluates factors that may increase an individuals' vulnerability to negative health effects from impending climate hazards.

The Index Considered:

- Older Adults (65+)
- Children (under 5)
- Frequent Mental Health Distress
- Frequent Physical Health Distress
- Heart Disease
- COPD
- Asthma
- Diabetes
- Cancer (except skin)



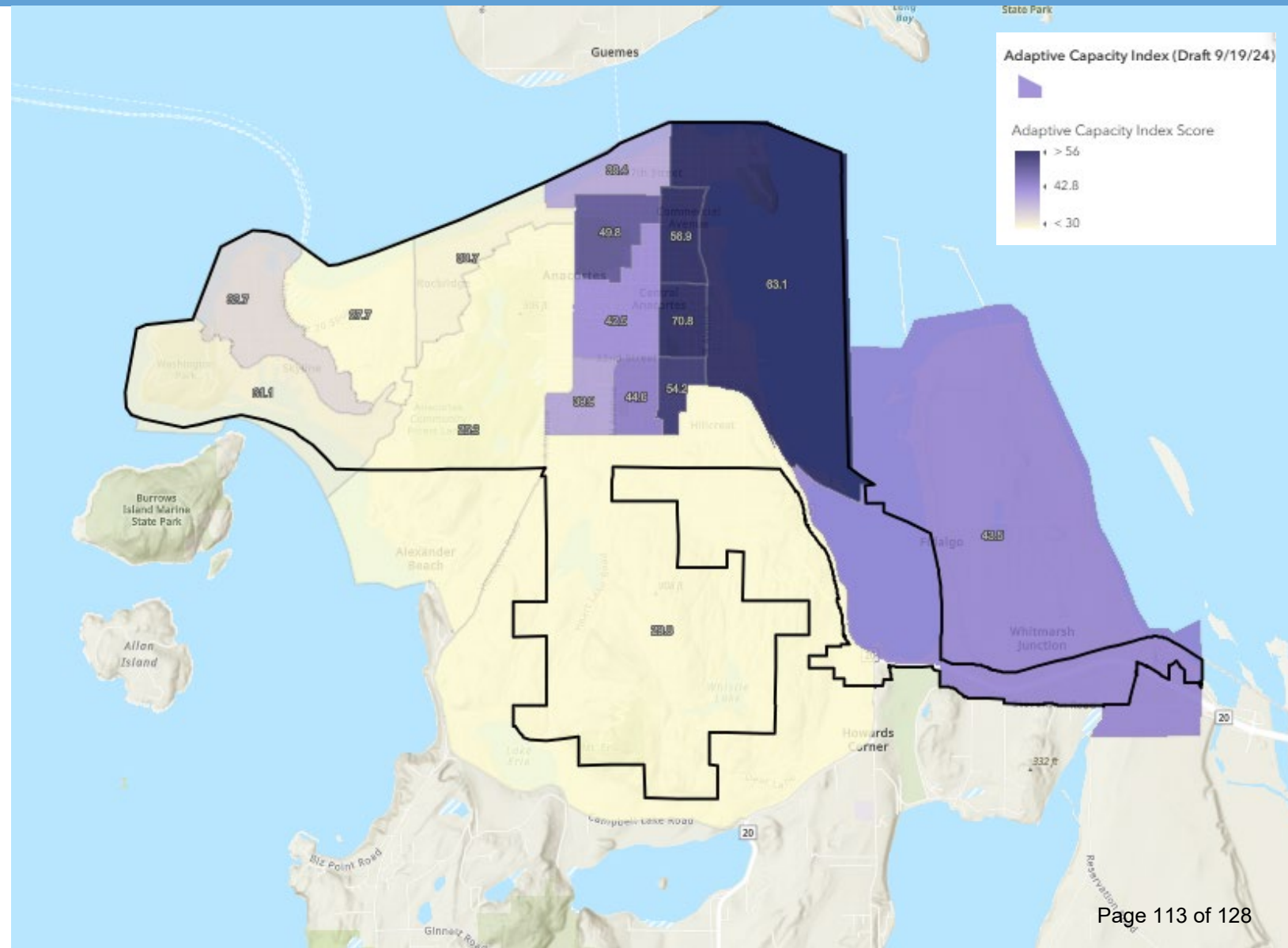
ANACORTES POPULATION SENSITIVITY

Adaptive Capacity Index

Evaluates socioeconomic, demographic, and location-based factors that affect an individual's ability to cope with change, and recover from climate-related hazards/events.

The Index Considered:

- Low Population Density
- People of Color
- Low Income
- Educational Attainment
- No Car
- Limited English Speaking
- Older Homes
- Lack of Health Insurance
- Housing Cost Burden
- Living Alone
- Outdoor Employment



ANACORTES CLIMATE VULNERABILITY INDEX

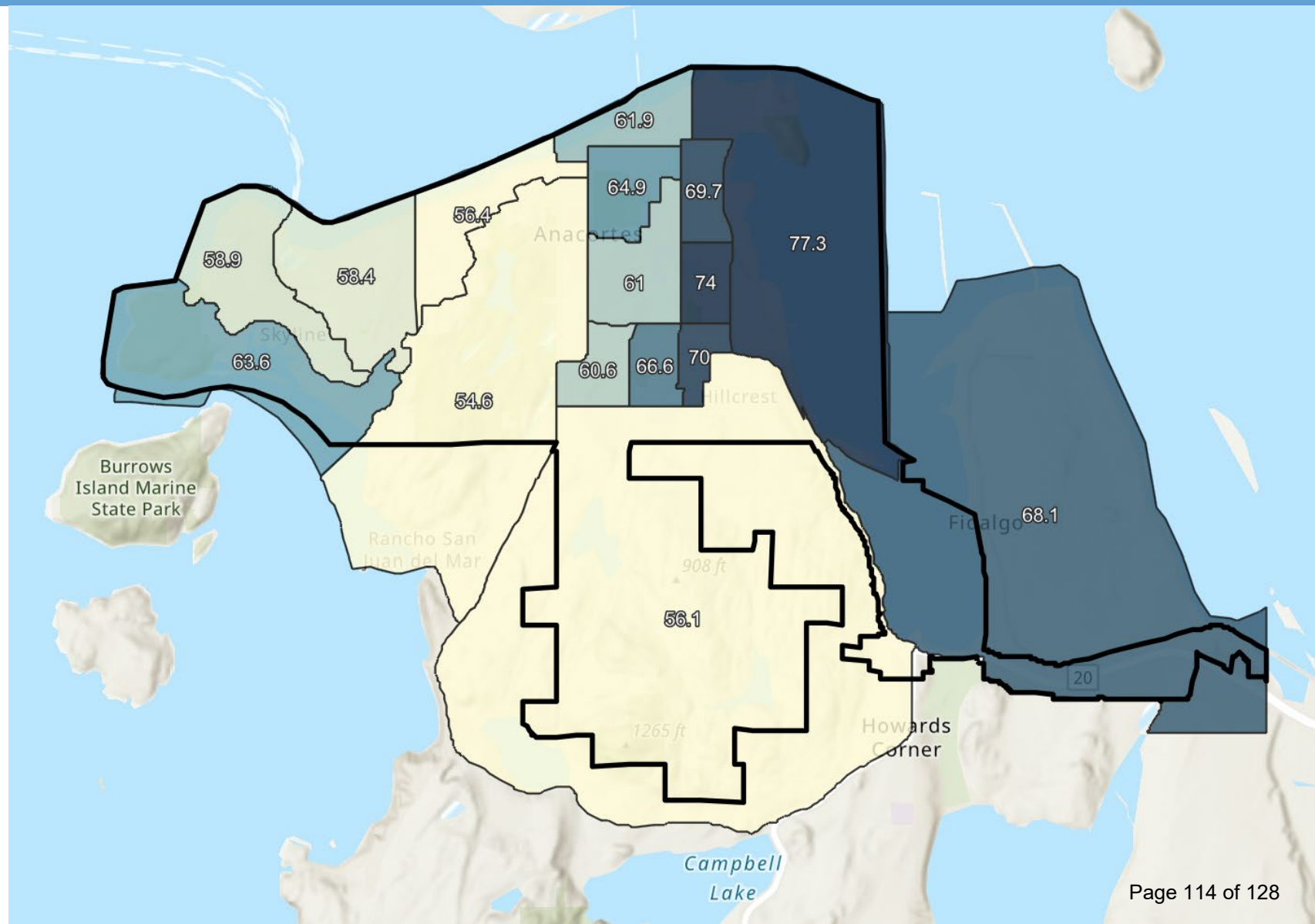
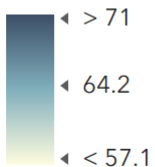
Climate Vulnerability Index

Combines results from the Exposure, Sensitivity, and Adaptive Capacity indexes. By combining these results, the CVI provides a high-level overview of how vulnerable different areas are to impending climate impacts.

Overall Climate Index



Combined Index Score



Vulnerability and Risk Assessment

Climate Risk	Impact	Probability	Mitigation Difficulty	Overall Risk
Temperature	HIGH	HIGH	MODERATE	HIGH
Extreme Precipitation	HIGH	HIGH	LOW	MODERATE
Sea-level Rise	MODERATE	HIGH	HIGH	HIGH
Landslides	LOW	MODERATE	LOW	LOW
Snowpack (Water Resource)	MODERATE	MODERATE	LOW	MODERATE
Wildfires	MODERATE	LOW	MODERATE	MODERATE
Wildfire Smoke	MODERATE	HIGH	LOW	MODERATE

Vulnerability and Risk Assessment

Key Asset Vulnerabilities

- SR-20 – recent floods during king tides
- Flood risks for homes and businesses in low-lying coastal areas – recent floods during king tides
- Water resources – key issue, but the City has done proactive planning
- Wastewater Treatment Facility – future vulnerability
- WUI areas and higher-risk areas around ACFL
- Extreme heat vulnerabilities – older buildings, areas with higher impervious surface coverage, etc.
- Multiple impacts to local ecosystems – ACFL provides some buffer
- Cumulative impacts on human health and well-being

Climate Vulnerability Discussion

THANK YOU

Rec'd 3/26/25
@ PC mtg.
Xuhua Mu.

Dear Commissioners,

I attended the Climate Element Open House last Thursday at the City Hall. There was a large amount of information and various concepts packed in a couple of presentations. The audience perceived the session as information download with graphics, color coded maps, numbers and terminologies. Few questions were raised during the presentation because many members said it was hard to follow. Without understanding how GHGE generated by category, vulnerability, sensitivity and various indexes, I can neither agree or disagree with the conclusions. I had many questions during the presentation regarding the contents and got to ask one. I asked what the goal would be for GHGE per capita for Anacortes since the baseline is 13.7 MT per capita. The consultant does not know but will find the answer. During the break, I was advised the background information for climate elements is on the Anacortes Comp Plan web page.

After reviewing the material online. I found myself have more questions. Below are just a few for your information.

- 1) For example, in its GHG emission inventory section, 2022's emission level was selected as baseline. Let us not forget that was at the peak of Covid Pandemic. Manufacturing, commercial, industrial and travels were at much lower levels compared to pre or post pandemic years. Should not we select a non-covid year as baseline?
- 2) What are the assumptions and basis used to come up with GHG by building types, transportation means, refrigerants and etc.?
- 3) Import emissions were presented as 50% of GHG in Anacortes. The model appears to focus on consumer goods. What are the assumptions and basis to aggregate the GHG by "goods", "food&beverage" "upstream fuel production", "air travel"?
- 4) How about imported GHG from commercial goods and activities, travel by boat/vehicles and train? How about wild fires?
- 5) For the "vulnerability index", which year's census block groups were examined? What rationale and assumptions utilized to assign values to different factors such as heat, drought, precipitation, wild fire, land cover, air quality and sea level rise to overlay the population blocks? There are inter-dependencies between heat, drought, wild fire, air quality, precipitation, how does the model take account of the inter-dependencies to avoid inflated calculated results for an area? Please explain how two neighboring blocks can be 20 points difference along the border? That tells me the model adopted may not be suitable for this index. Why skin cancer is excluded? I know of neighbors with melanoma and other forms of skin cancers. They are certainly vulnerable with lower immune systems.

6) Please provide data sources, detailed data tables from each source, rationales to parse the map and mathematical model(s) to calculate sensitivity and adapted sensitivity index. The sensitivity and Adaptive Capacity index does not support what I see in my neighborhood. For each input category (such as low population density, people of color, older homes, limited English speaking, outdoor employment etc.) please provide definition, rationale and assumptions for assigning values.

7) Data source of information and timeline to coronary and diabetes population. How it is trended?

8) For sea level rise and coastal flooding, I would like to see a model to project sea levels by year for the future as the analysis on consecutive dry days (1975-2000, 2050 and 2100).

9) A critical piece of information would be damages to health and property caused by climate element factors. I am surprised that was not included.

Comprehensive Plan drives future economic development policies and resource allocation and regulatory decisions. It is our responsibility to examine the basis used for long term strategic planning, not the consultants. We have to make sure the facts and data utilized are solid, logic and rationale are sound and no errors in mathematical models. Right now the background data, sources, timeline, assumptions, methods and rationale to assign values for inputs and mathematical model are not visible to the citizens. I have requested that City Council to obtain all climate element related material and all supporting documents and data, AKA work product. Additionally we require all presentation and supporting documents /data from the consulting firms be provided 10 days prior to any future presentation or open house so we can digest the information and have meaningful dialogue.

WA state has an excellent webtool called "climate policy explorer" with filters for "GHGE" and "Resiliency". I found the topics on the posters at the open house match the policies from this webtool. Why do not we have our own planning department or commission along with community members utilize the Webtool from WA Dept off Commerce to own policy evaluation and development ourselves? I am confident that this will not only save the city money but also generate a lot more ownership and public participation.



Planning Commission Agenda Bill

Meeting Date: March 26, 2025

Agenda Item: 6.b.

Subject: Planning Commission Rules of Procedure discussion

Staff Contact:

Approved for Submittal to Commission by

Libby Grage
John Coleman

Action Type

Motion

Summary Statement: The Planning Commission Chair requested that the Planning Commission review the General Provisions section of the Planning Commission Rules of Procedure. At its January 22, 2025 meeting, the Planning Commission agreed to put the issue on the February 12, 2025 meeting agenda. Because not all Commissioners were present at the February 12 or February 26 meeting, the item has been postponed to the March 26 meeting.

Background: The Planning Commission adopted the current Rules and Procedures in August of 2024. Since that time, there has been a discussion about the RCW section referenced in the document. The Chair requested to continue that discussion and possibly amend the Rules of Procedure. The Planning Commission agreed to discuss the topic in more detail; that discussion is on tonight's agenda.

Previous Action: The Planning Commission adopted the current Rules and Procedures in August of 2024.

Competing Viewpoints Considered:

Recommended Motion: None

Alternative Actions:

Attachments (listed in order presented):

1. PC Rules of Procedure SIGNED (8-14-24)

Anacortes Planning Commission

Rules of Procedure

1	General Provisions	
1.1	Authority.....	1
1.2	Roles of the Planning Commission	1
2	Organization of the Planning Commission.....	2
2.1	Membership.....	2
2.2	Quorum.....	2
2.3	Election of Officers.....	2
2.4	Officers.....	2
2.5	Duties of Chairperson and Vice-Chairperson.....	2
3	Meetings.....	3
4	Agenda.....	4
5	Study Sessions.....	4
6	Public Comment.....	4
7	Public Hearing Procedures.....	5
8	Conflict of Interest and Appearance of Fairness.....	6
9	Code of Ethics and Decorum.....	6
10	Amending Rules of Procedure.....	7

1. GENERAL PROVISIONS

1.1 Authority

The Planning Commission has all the powers and performs each and all the duties specified in Anacortes Municipal Code (AMC) Title 19, Title 2.42, and RCW 35.63.

1.2 Roles of the Planning Commission

The Planning Commission is an appointed independent review body of local citizens that provides recommendations to the Anacortes City Council. The Planning Commission also provides guidance and direction for Anacortes' future growth through continued review and improvement to the City's comprehensive land-use plan, zoning code, shoreline management, environmental protection, and related land-use documents.

The Planning Commission is tasked with considering the long-term growth and development of the community. Commissioners also consider the impact of land-use decisions on

community livability, economic opportunity, housing affordability, public services, and the environment. The Commission brings a long-term community perspective to land-use policy and is responsible for maintaining an accessible and transparent process that informs and educates the public.

2. ORGANIZATON OF THE PLANNING COMMISSION

2.1 Membership:

- a) The Planning Commission consists of seven members with a term of office of six years.
- b) When vacancies occur or terms expire, the mayor shall appoint new members or reappoint existing members pursuant to AMC 2.42.020.
- c) If a Commission member has more than four (4) unexcused absences from regularly scheduled meetings in a calendar year, the Chair shall inform the Mayor who may appoint a new Commission member to complete the member's term.
- d) No person shall hold the office or be a member of the Planning Commission unless that person is a resident of the city or the urban growth area.
- e) If a member of the Planning Commission ceases to be a resident of the city or urban growth area, the office must be vacated.

2.2 Quorum

- a) A quorum will consist of four (4) members of the Commission, and no action can be taken in the absence of a quorum except to adjourn the meeting to a subsequent date.

2.3 Election of Officers

- a) The officers of the Commission will consist of a Chair and a Vice-Chair.

2.4 Officers

Officers are elected each year at the Planning Commission's first regular meeting of the year. This is done by nomination and voting of the Commissioners. Nominations are made by members; members do not nominate themselves unless no nominations are made.

- a) If either the Chair or the Vice-Chair positions become vacant during the calendar year, the Commission must elect a replacement to serve until the next regularly-scheduled election
- b) The Planning Commission may create special committees and assign up to three members to such committees.

2.5 Duties of the Chair and Vice-Chair:

- a) The Planning Commission Chair, or in his or her absences, the Planning Commission Vice- Chair, shall be the Presiding Officer of the Planning Commission. In the absence of both the Chair and the Vice-Chair, the Commission shall appoint one of the other members

of the Commission to act as a temporary Presiding Officer.

- b) The Chair calls meetings to order, records attendance into the record, and assigns subcommittees and duties as needed.
- c) The Chair keeps the meeting to its order of business, controls discussion in an orderly manner, and permits audience participation at the appropriate times. Every Commissioner who wishes an opportunity to speak must be recognized by the Chair.
- d) The Chair opens the floor for motions made by members, asks for discussion from members, asks for seconds to the motions, calls for voting by reading the motion into the record and may state in the record the vote of each member.
- e) It is the Chair's duty to see that the transaction of the Planning Commission's business is in accord with these Procedures.

3. MEETINGS

- a) The Planning Commission and City staff shall determine a regular meeting time (time, place, and frequency) as necessary.
- b) All meetings of the Planning Commission are open to the public.
- c) Executive sessions may be held only in accord with the requirements imposed by RCW 42.30.110 and RCW 42.30.140.
- d) The Planning Commission meetings are governed by the current edition of *Roberts Rules of Order*.
- e) To the extent it does not violate public notice requirements, the printed agenda of a regular meeting may be modified, supplemented, or revised at the beginning of the meeting by the affirmative vote of the majority of Commission members present.
- f) Action is taken by a majority vote of the members present. Any member may abstain from voting. A tie vote means a motion fails.
- g) After 9:00 PM, the Planning Commission must hear no new agenda items unless a majority of the Commissioners present decide otherwise.
- h) A city staff person will be responsible for the written recording of all Planning Commission meetings.
- i) All approved minutes will be retained by the City of Anacortes in accordance with retention requirements under the Public Records Act at Chapter 42.56 of the Revised Code of Washington.

4. AGENDA

- a) The preparation of the agenda will be the duty of the Planning Director or his/her designee, and he or she will coordinate that preparation with the Chair.
- b) The agenda may be divided into sections and continue until subsequent meetings when it is apparent that one meeting will not be sufficient to complete the scheduled business.
- c) Copies of the agenda and final meeting packet materials will be available to all Planning Commission members at least two days prior to a regular meeting date.
- d) The agenda will indicate whether the Planning Commission intends to take formal action on a particular matter.
- e) The Planning Commission may continue a public hearing to a future date for reasonable purposes. A continued public hearing does not require new public notice.
- f) Once a public hearing is closed, it cannot be re-opened without issuance of a new public notice.

5. STUDY SESSIONS

- a) The Planning Commission may conduct informal study sessions to carry out its duties.
- b) The Commission may consider information and recommendations from staff and comments from the public during the study session.

6. PUBLIC COMMENT

- a) An opportunity for public comment will be provided at each Planning Commission meeting consistent with the requirements of Chapter 42.30 of the Revised Code of Washington.
- b) The Public Comment period is for comments not related to items on that meeting's agenda, while specifically pertaining to the City of Anacortes.
- c) If appropriate, there will be an opportunity for the public to comment on agenda items as they are addressed by the Commission.
- d) Each speaker is limited to 3 minutes speaking time.
- e) Members of the public wishing to provide comment may only speak if acknowledged by the Chair.
- f) If audience comment or behavior becomes disruptive, the Chair may recess or adjourn the meeting.

7. PUBLIC HEARING PROCEDURES

- a) The Chair must open the public hearing on the subject case by identifying the proposal.
- b) The Chair must state that the testimony and input will be taken in the prescribed fashion.
- c) All persons wishing to speak on the matter before the Planning Commission must be recognized by the Chair.
- d) Any commenter must state his or her name and city of residence for the record, as well as any group or organization he or she represents.
- e) All statements by the speaker must be addressed to the Planning Commission.
- f) The Chair may limit the amount of time allowed to any person or group to allow efficient and thorough hearing procedures.
- g) The Chair may limit input to avoid duplication.
- h) There will be no cross-examination of or dialogue with speakers.
- i) The presentation order will be as follows:
 - 1) Staff Planner: Presentation of staff report and other materials and correspondences into the record.
 - 2) Proponent: Presentation and statements by representatives of the proponent/applicant.
 - 3) Chair: Open public hearing.
 - 4) Members of the Public: Presentations and statements by the public who wish to speak for or against the proposal/application. The hearing is to gather information; questions from the public are not answered at the public hearing. Questions about the proposal/application must be addressed to staff during regular city hall business hours or in writing to the Planning, Community and Economic Development Department.
- j) After the public testimony portion, the public hearing is then closed.
- k) Planning Commissioners then deliberate on the proposal/application and the testimony received.
- l) Commissioners may ask questions of staff and applicants to clarify their understanding of relevant points or to gather additional information. All questions shall be posed through the Chair who shall ask the appropriate party for answers.
- m) A motion for disposition may then be made. For proposals that require a recommendation from the Planning Commission to the City Council, the motion may be to continue the hearing to gather more information, to recommend approval, approval with conditions,

denial of the proposal/application, or to forward to the City Council with no recommendation. For proposals/applications that require a decision by the Planning Commission, the motion may be to continue the hearing to gather more information, to approve, approve with conditions, or to deny the proposal/application.

- n) Planning Commission recommendations must be transmitted to the City Council in writing and must include the recommendation, findings of fact, the planning staff report, other correspondences, if any, and a summary of testimony presented to the Planning Commission.

8. CONFLICT OF INTEREST AND APPEARANCE OF FAIRNESS

All members of the Planning Commission must act in accordance with the Appearance of Fairness Doctrine at Chapter 42.36 of the Revised Code of Washington. If any Commissioner has a personal interest in any matter before the Planning Commission that would prejudice their actions, they must publicly disclose the conflict of interest and recuse himself or herself from participating in the proceedings and voting on the matter.

9. CODE OF ETHICS AND DECORUM

- a) A Planning Commissioner is a representative of the City of Anacortes and, therefore, a Commissioner's actions should reflect that representation.
- b) Members of the Planning Commission must fully comply with RCW Chapter 42.23, the Code of Ethics for Municipal Officers.
- c) Members of the Planning Commission must fully comply with RCW Chapter 42.30, Open Public Meetings Act, including RCW 42.30.205 which requires training on the OPMA's requirements.
- d) While the Planning Commission is in session, a Commission member must neither, by conversation or otherwise, delay or interrupt the meeting or the peace of the Planning Commission, nor disrupt any Commission member while speaking nor refuse to obey the orders of the Chair.
- e) To preserve the integrity of the Planning Commission, if a Commission member reasonably believes that he/she has a conflict of interest in regard to a matter before the Planning Commission, the Commissioner should recuse himself/herself from discussion or vote on the matter and must leave the Council Chambers while the matter is under consideration. A Commission member may seek advice from the City Attorney in making this determination.

10. AMENDING RULES OF PROCEDURE

- a) The Planning Commission, at a regularly scheduled meeting, may amend these Rules of Procedure by a vote.
- b) A super-quorum of six of the seven members must be present to amend the Rules of Procedure.

L. Martin

Planning Commission Chair

August 14, 2024

Date