Greenhouse Gas Emissions

Greenhouse Gas (GHG) Emissions

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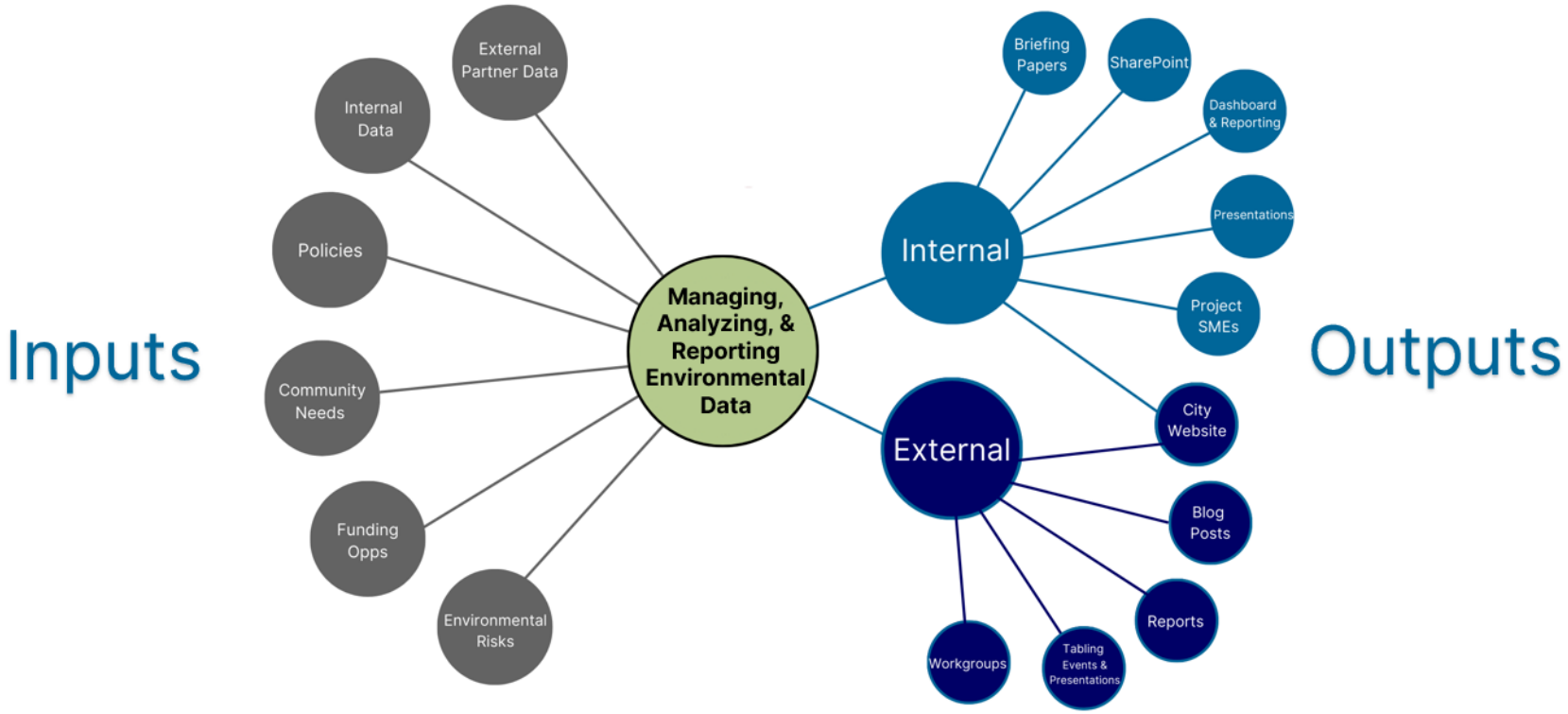
Team Overview

ICM - Environmental Analytics

Environmental Analytics is a sub-group within
Public Works' Integrated Capital Management department



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Cascadia Consulting Group

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CASCADIA
CONSULTING GROUP

Climate Planning/Analysis Clients

Cities:
- All King County Cities
- Tacoma
- Bainbridge Island
- Everett
- Edmonds
- Port Angeles
- Vancouver, WA
- San Francisco, CA
- Pleasanton, CA
- Albany, CA
- Dublin, CA
- Foster City, CA
- Livermore, CA
- Ashland, OR
- Flagstaff, AZ
- Sedona, AZ
- Columbia, MO
- Telluride, CO

Counties:
- Spokane
- King
- Pierce
- Snohomish
- Kitsap
- Thurston
- Whatcom
- San Mateo (CA)
- Sonoma (CA)
- Los Alamos (NM)
- Teton (WY)

Tribes:
- Coeur d'Alene
- Port Gamble S'Klallam
- Lummi
- Puyallup

Other Entities:
- DNR & DFW
- Sound Transit
- Port of Seattle
- OR DEQ
- University of Washington
- Lawrence Berkeley National Laboratory

Greenhouse Gas Introduction

Greenhouse Gas Inventory Definition

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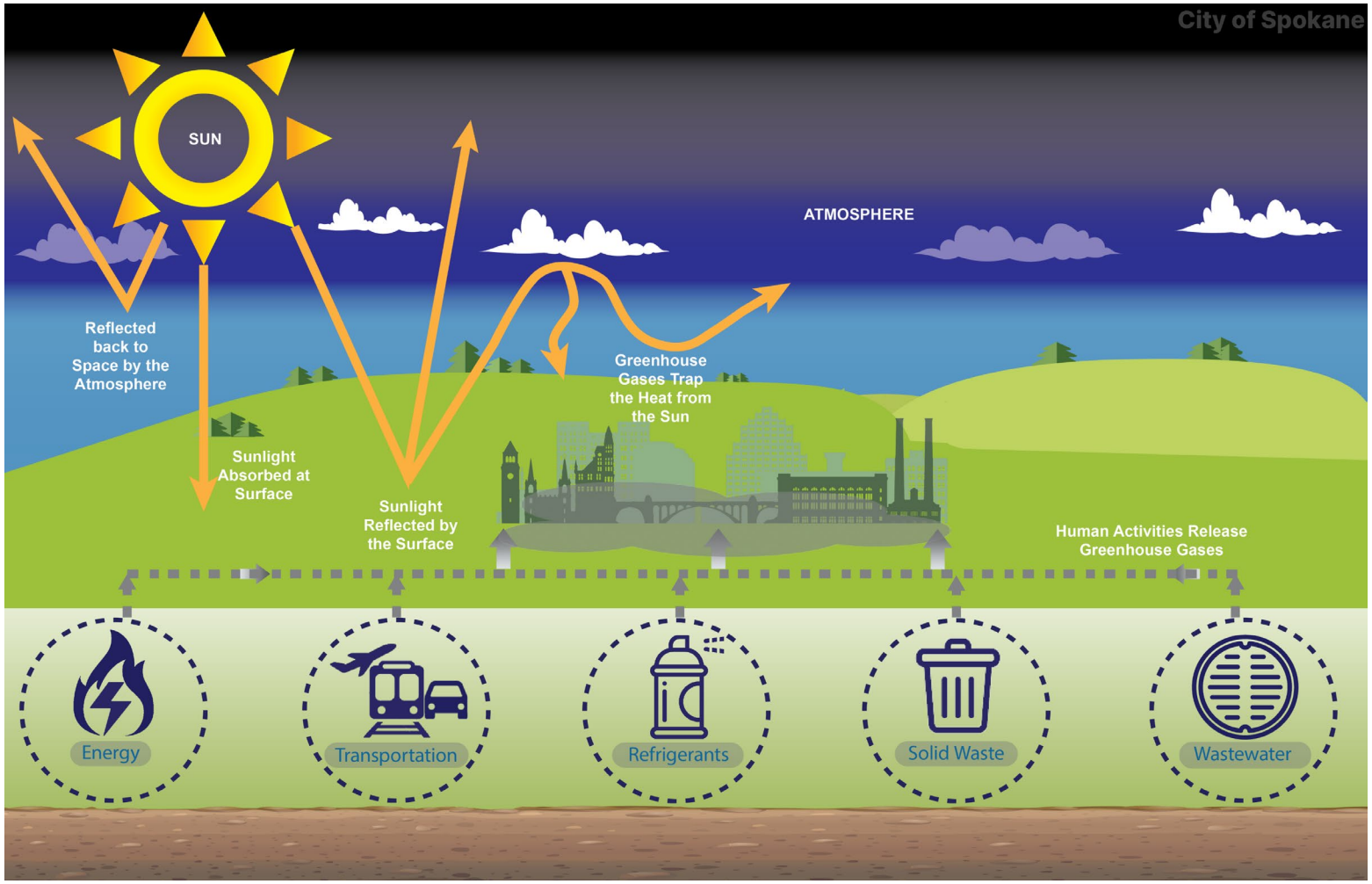

Greenhouse Gas Inventory Purpose

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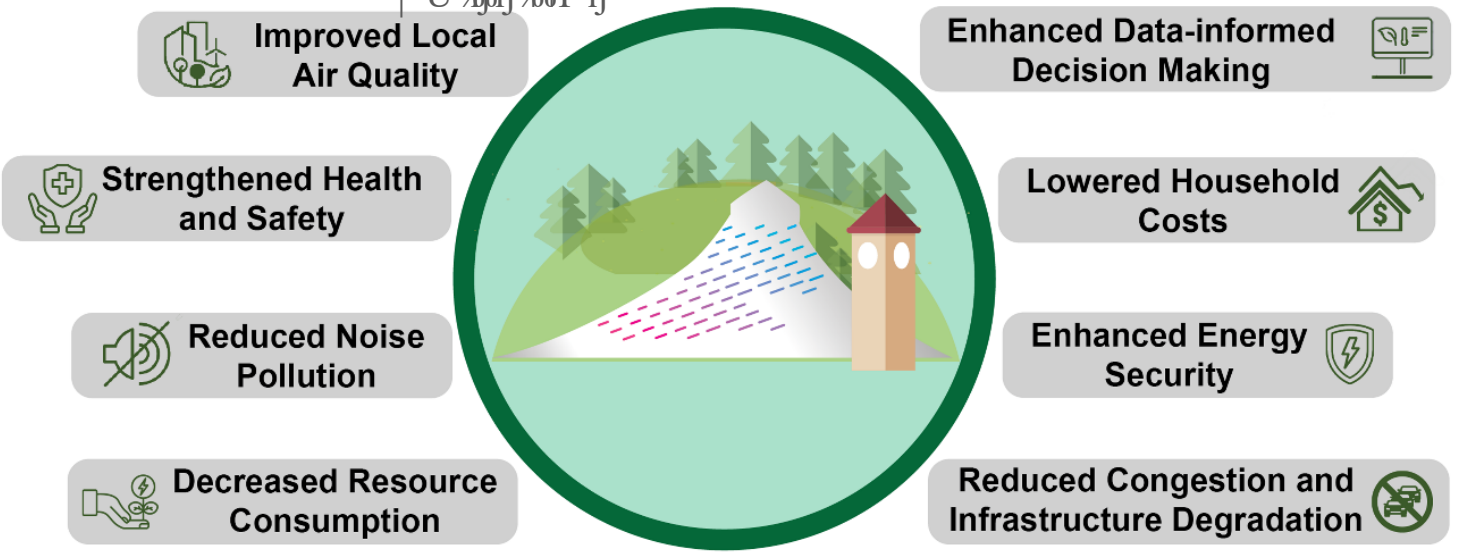

Critical Component for Informed Action

City of Spokane

Climate Planning

Comprehensive Plan 101

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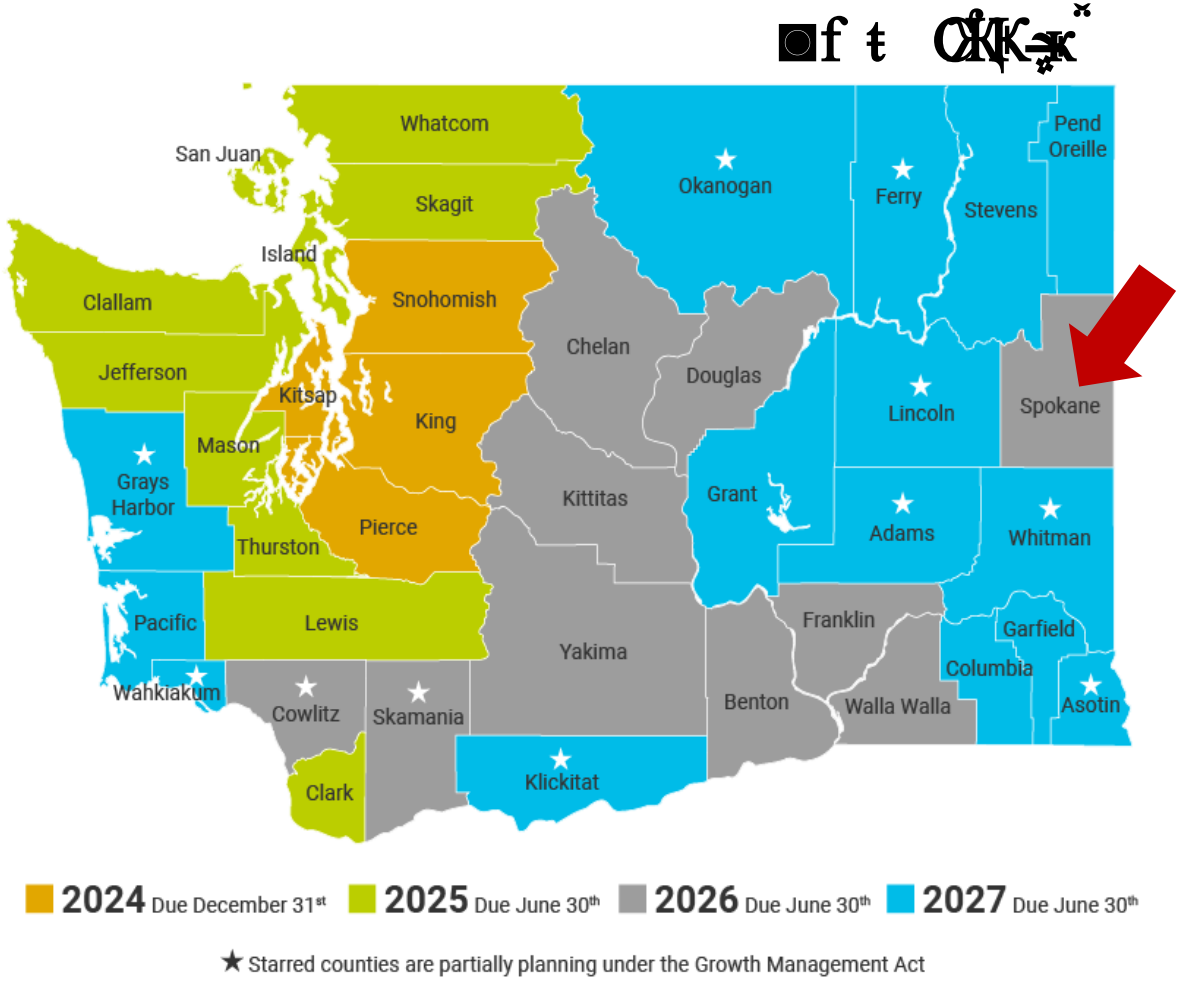

Climate Element Overview (HB 1181)

NEW

FUNDED BY WASHINGTON'S CLIMATE COMMITMENT ACT

HB 1181 GHG Requirements

Defining greenhouse gas emissions reduction (mitigation)

Actions taken to reduce or eliminate the emissions of greenhouse gases (present and future) in order to reduce the rate and extent of climate change damage.

HB 1181 GHG Requirements

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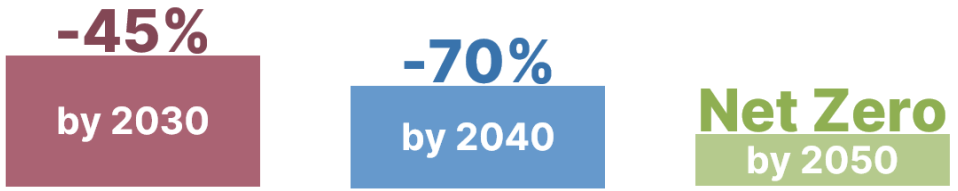

** relative to a 2016 baseline*

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Climate Reporting Elements

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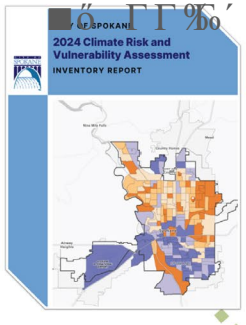

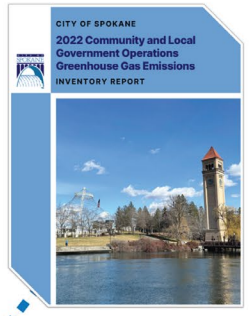

ADAPTATION

A variety of actions that are meant to reduce or compensate for or adapt to the adverse impacts that arise from changes in the Earth's climate

MITIGATION

Actions or changes in societal behavior taken to reduce or eliminate greenhouse gas (GHG) emissions and/or to remove GHGs from the atmosphere to prevent significant adverse climate effects

City of Spokane

Climate Planning - Phase 1 Tasks

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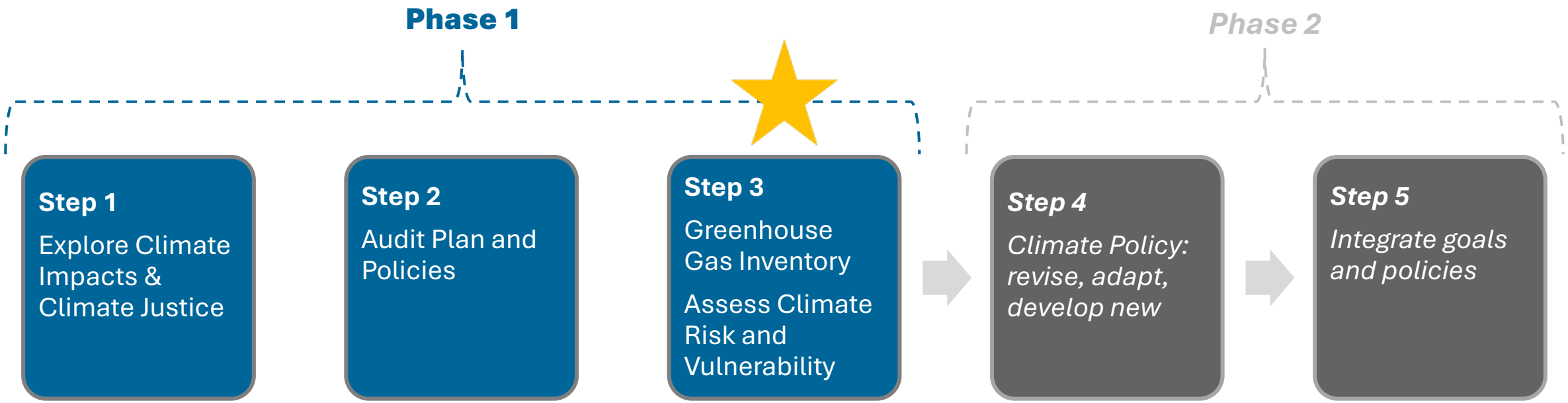
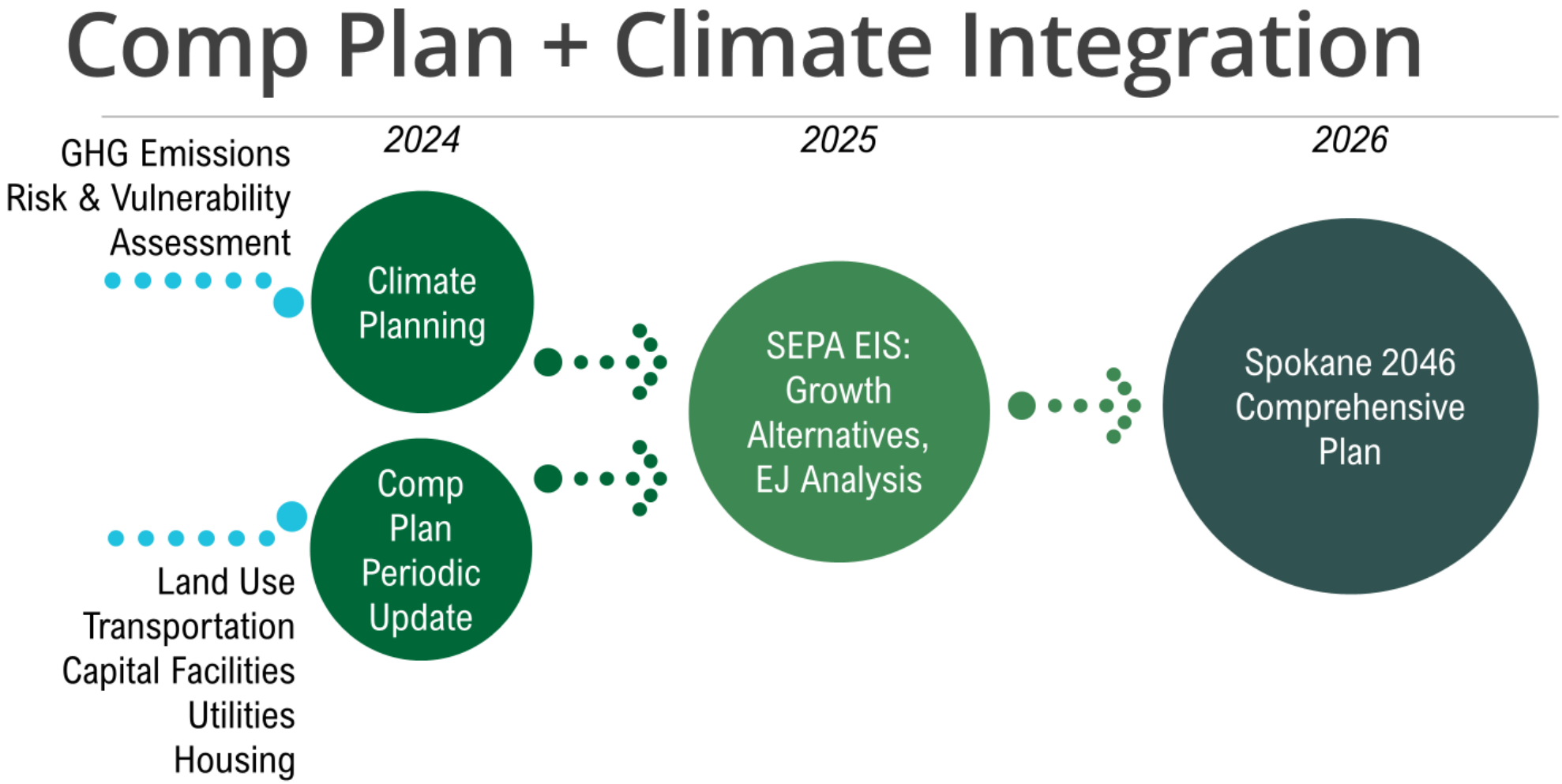
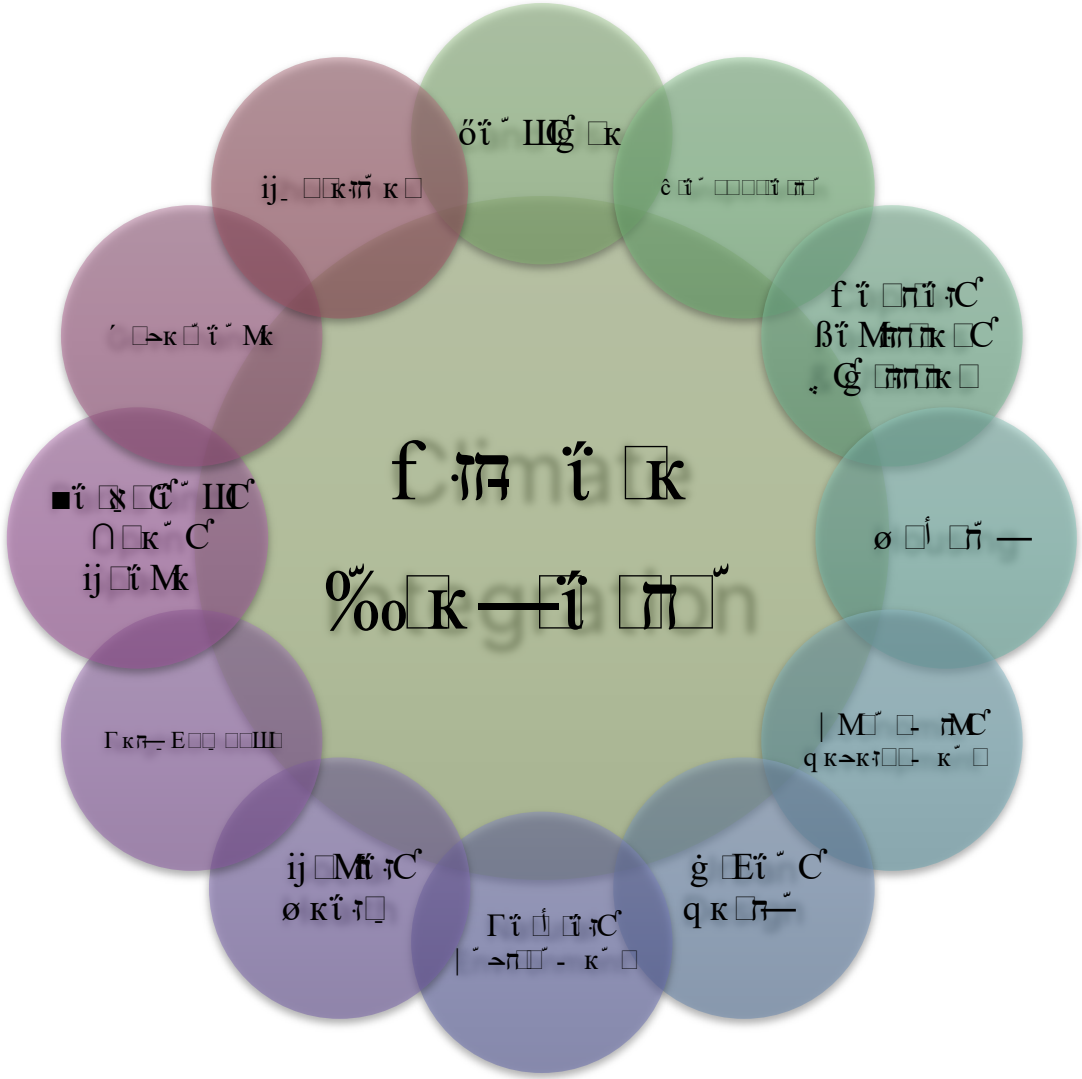


Comprehensive Plan Process

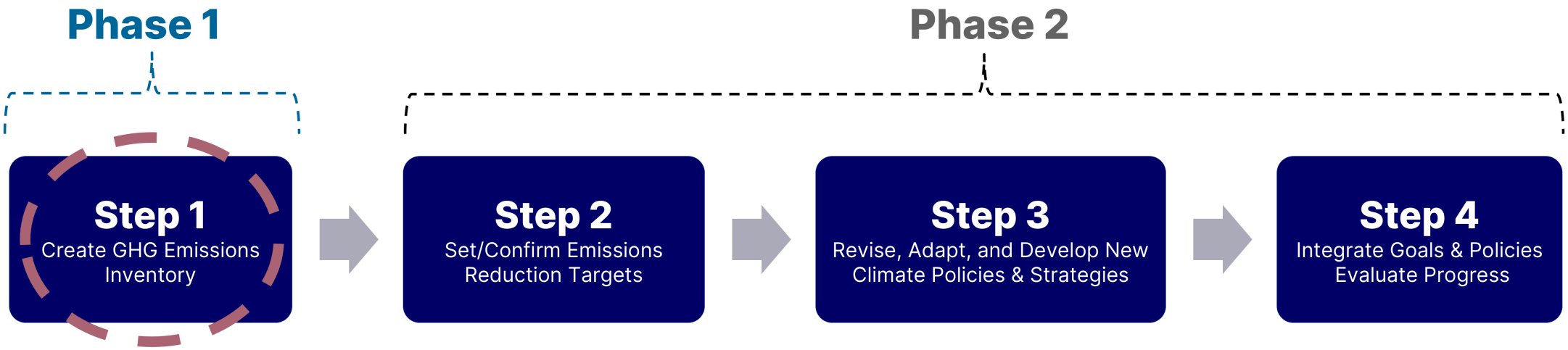


Integrative Approach



Engagement Phases

Climate Planning Phases – GHG Element



GHG Methodology Overview

What is a greenhouse gas inventory?

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Key Metric Requirements

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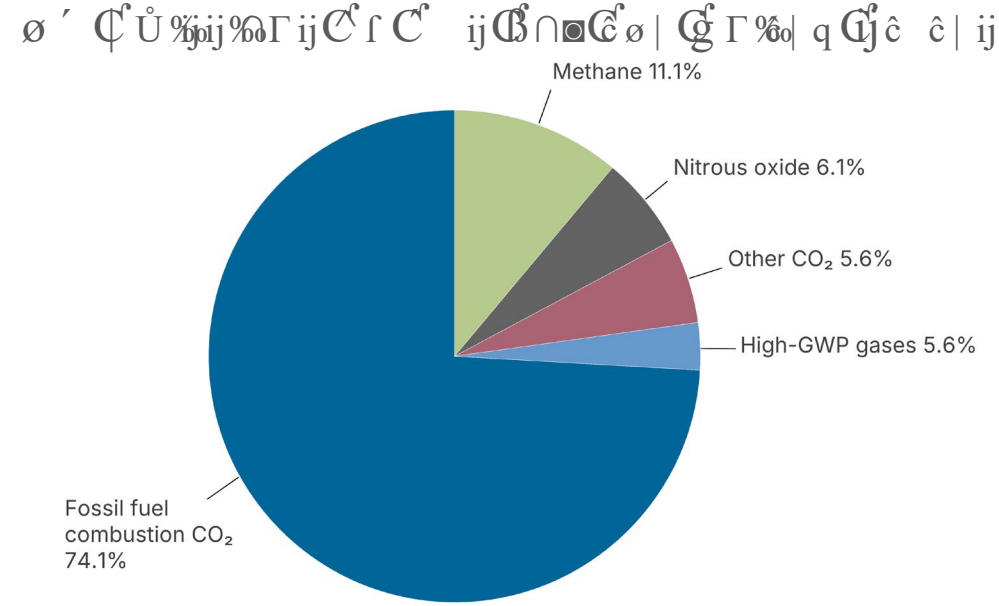
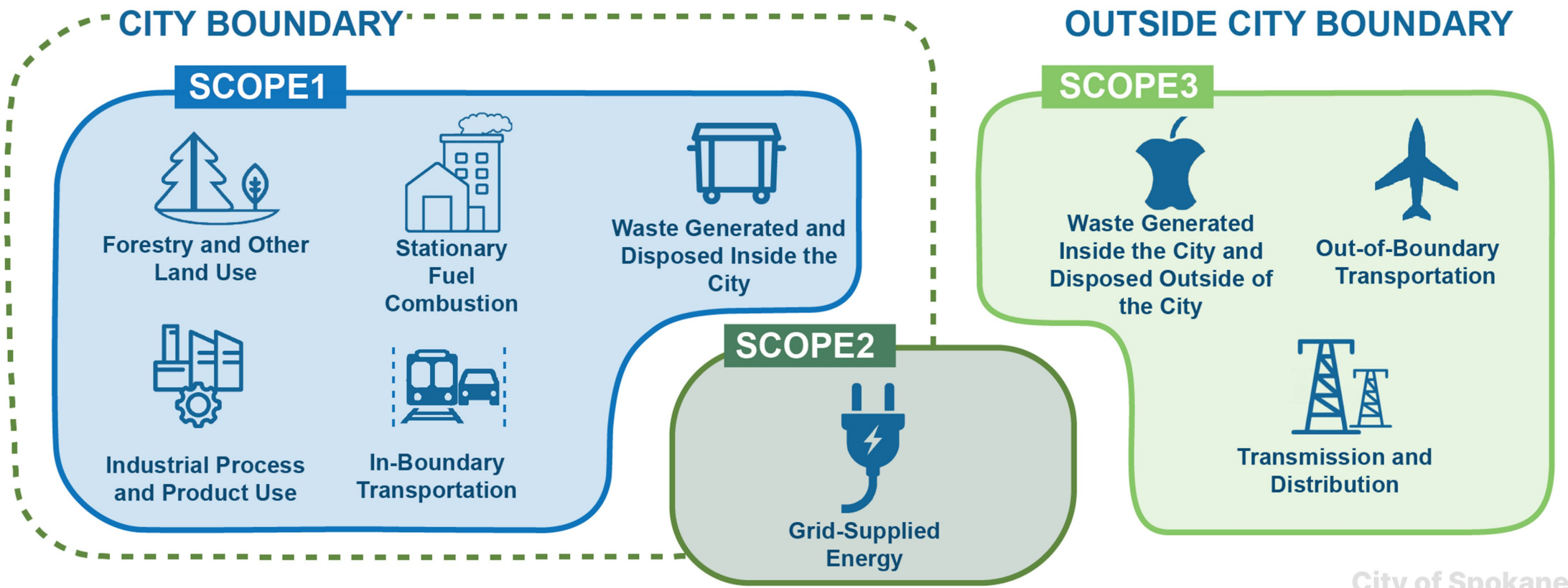


Data Source: U.S. Environmental Protection Agency (EPA), Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2022, April 2024.
Note: Data are CO_2e based on 100-year global warming potential.

Inventory Scopes and Sectors



Multilayered Reporting Protocols

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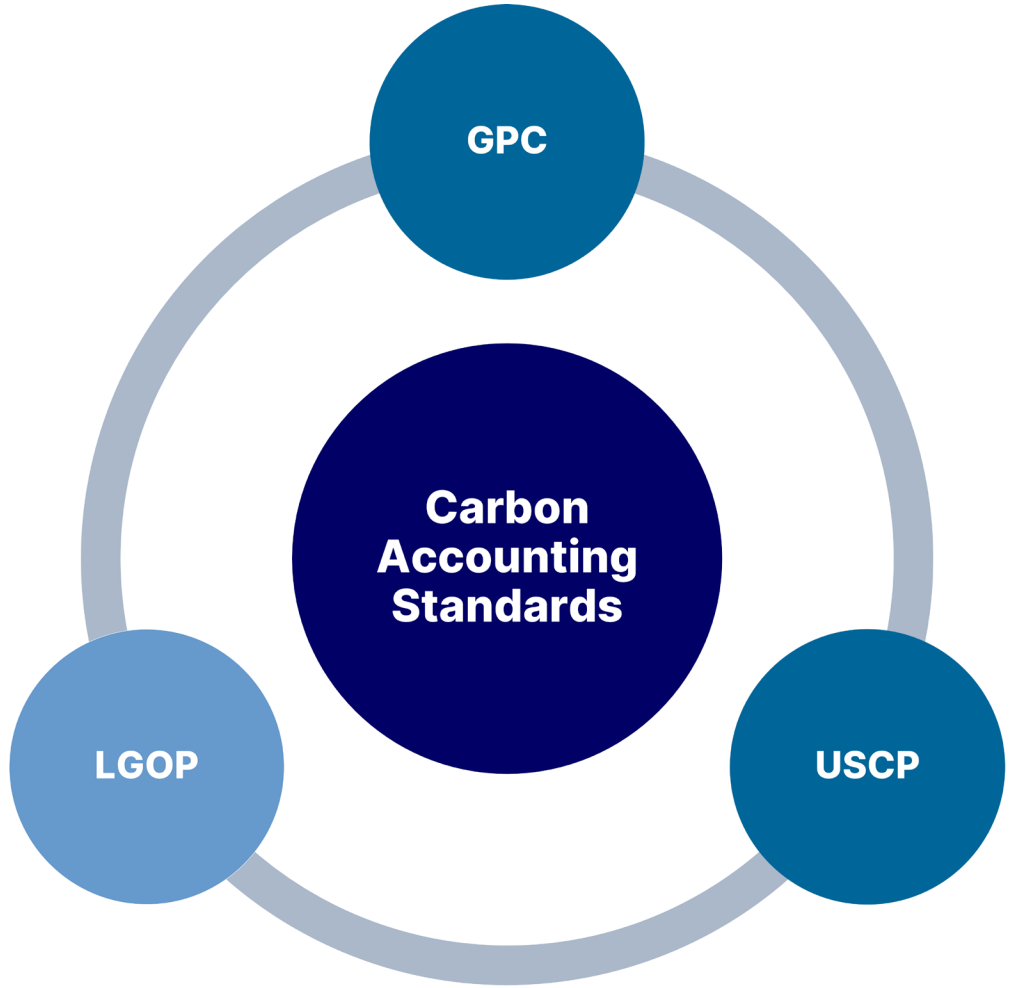
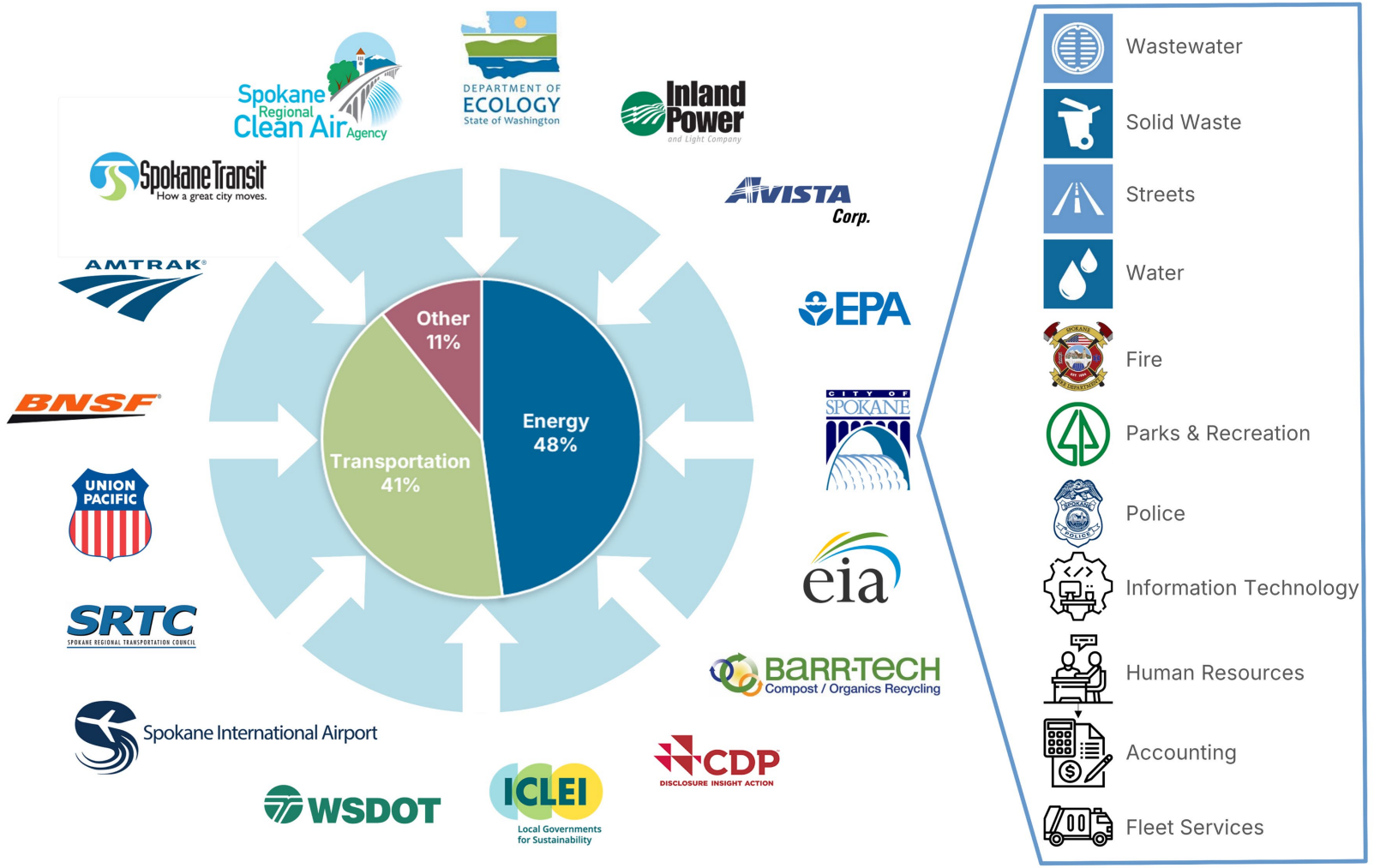


Data Management and Partnerships



Different Approaches

Inventory Analysis Approaches	Benefits	Risks
In-house Staff	•Full control over data and methodology and **customized** reporting •**Potential for greater understanding of operations** •Enhanced internal capability building	•Time-consuming and labor-intensive •Requires dedicated staff and training •**May lack specialized expertise and global trend knowledge**
Consultants	•**Access to specialized expertise and experience** •Saves time for internal staff to focus on other work •Potential for high-quality and **comprehensive** reports	•**Can be expensive** •Less control over the process •Possible communication challenges
ICLEI Membership & ClearPath Tool	•Software and support tailored for local governments and communities •**Standardized methodology that complies with global protocols** •Integrates various data sources and modeling abilities	•**Requires initial setup and ongoing training** •Limited customization options •Subscription costs

Goal

- Maximize the benefits while mitigating the risks

Outcome

- Continually reviewed blended approach

Data Quality Tracking

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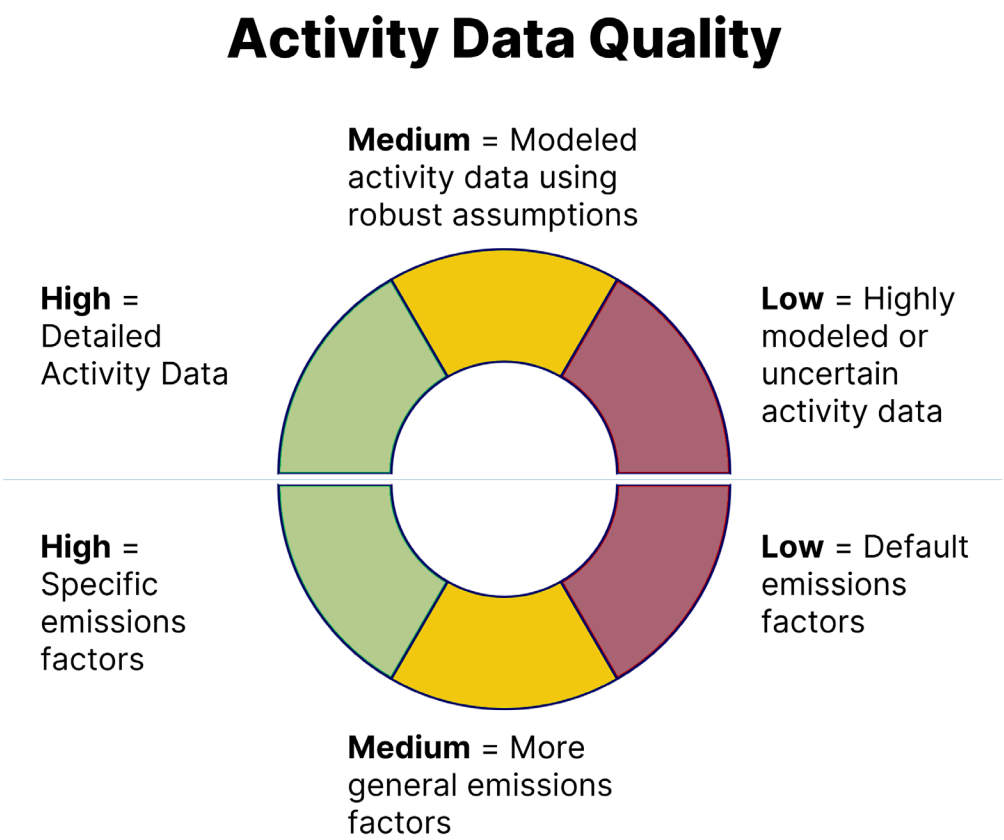

Data Reporting Value

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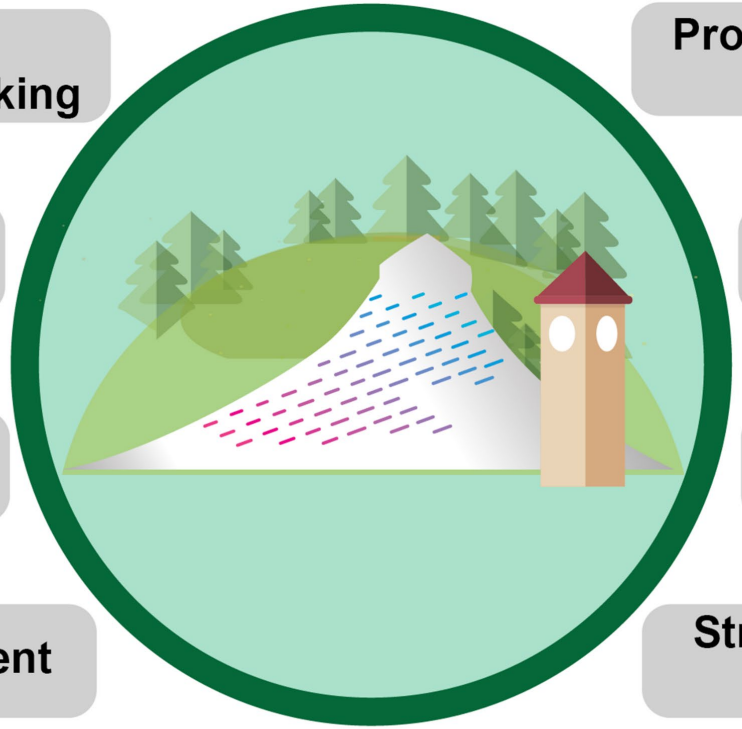
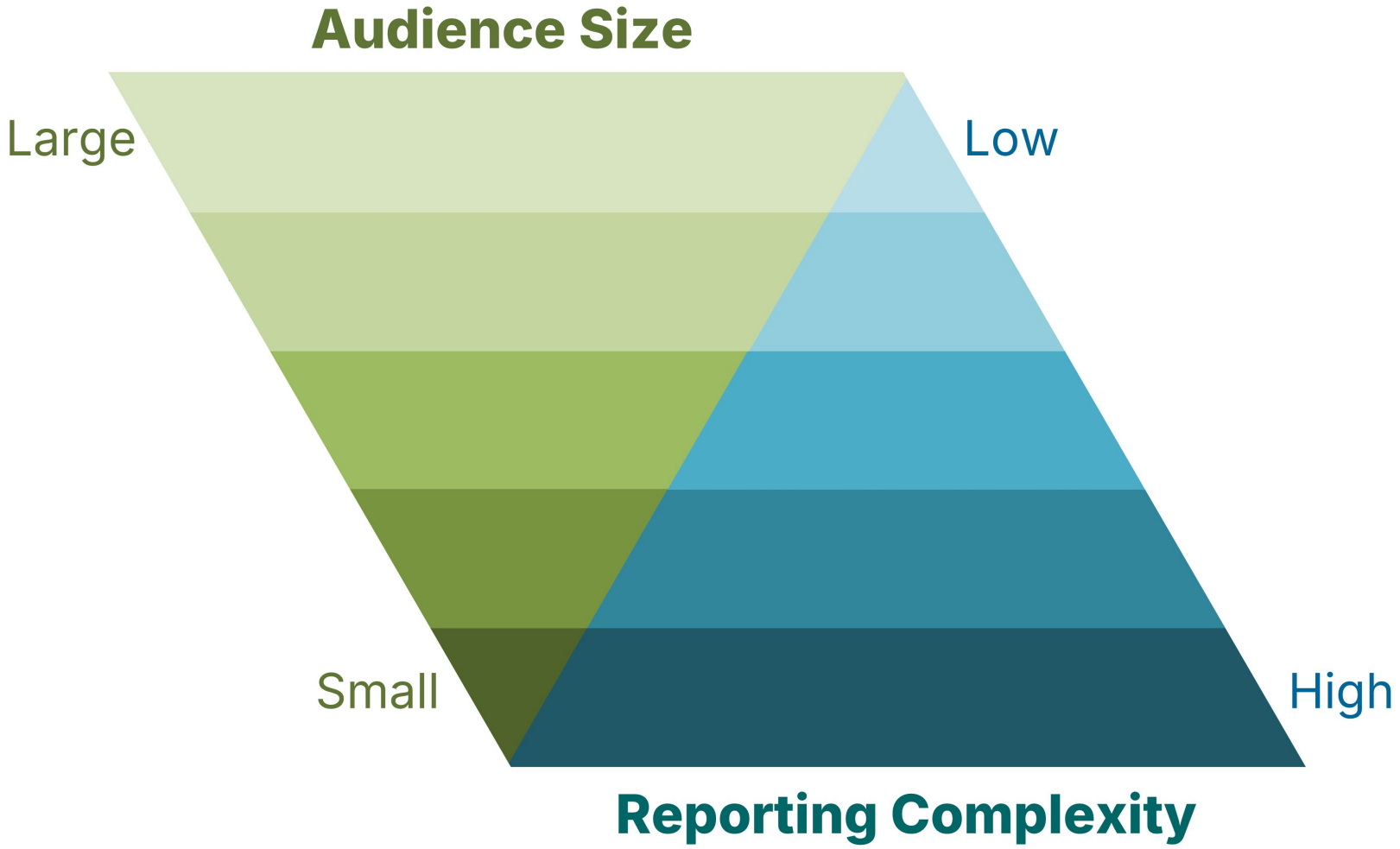
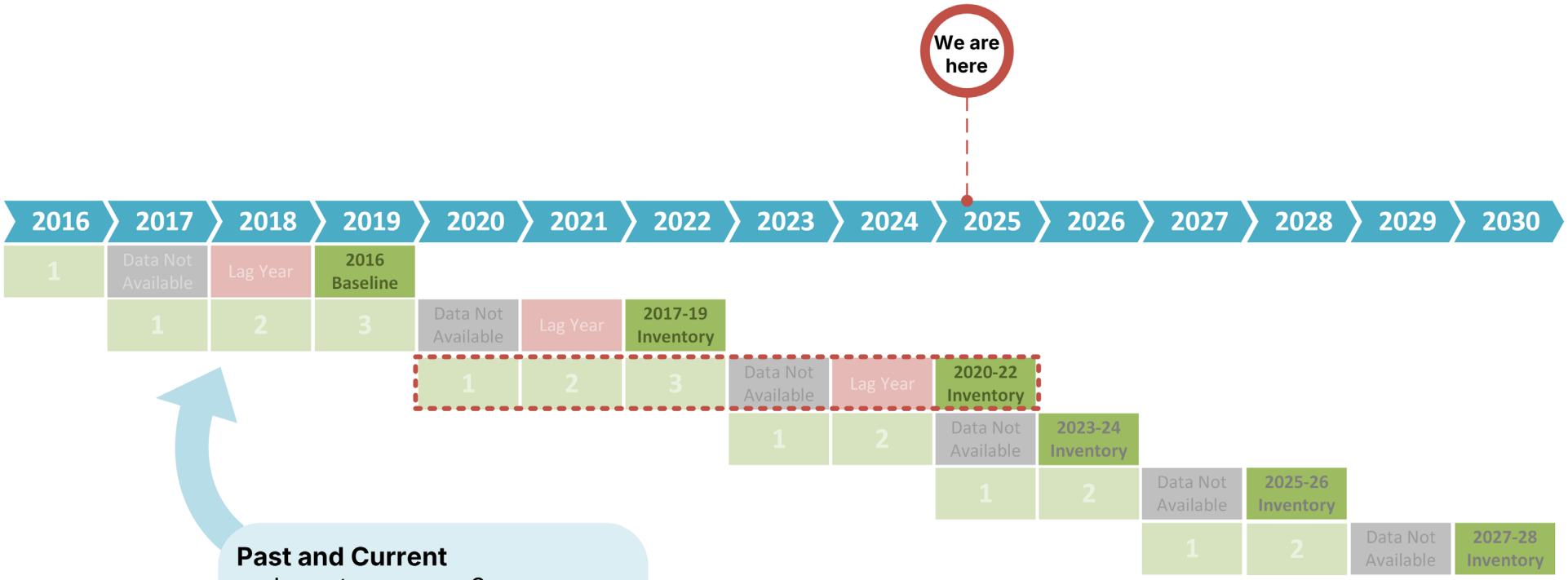


- Inform Decision-Making
- Promotes Resource Efficiency
- Beyond Compliance
- Increased Transparency and Public Trust
- Risk Management
- Enhanced Market Advantage
- Performance Improvement
- Strengthened Education and Awareness

Audience Focused Deliverables



Reporting Update Intervals



Past and Current

- Inventory every 3 years
- Inventories cover 3-year span
- **Lag years**
- 3+ year lag for results

Future

- Inventory every 2 years
- Inventories cover 2-year span
- No lag years
- Less than 2 years lag for results
- **Fastest turnaround**

Inventory Baseline Year

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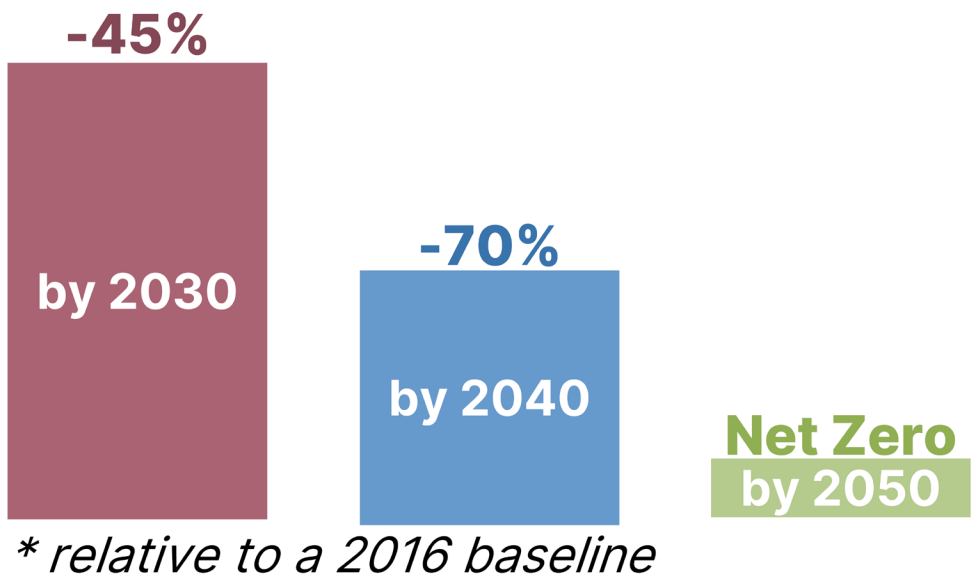

GHG Inventory Process Summary

Greenhouse Gas Emissions

Drivers of Variability

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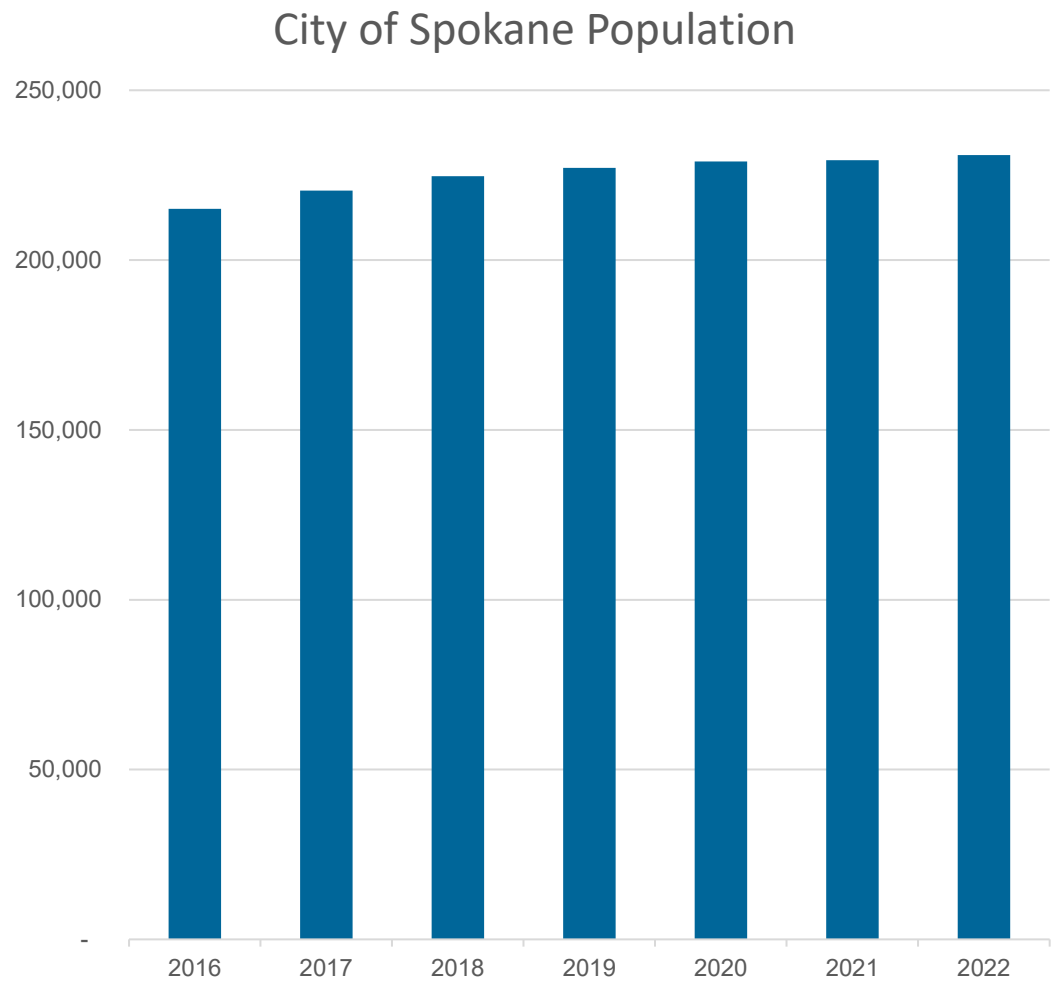

Drivers of Variability

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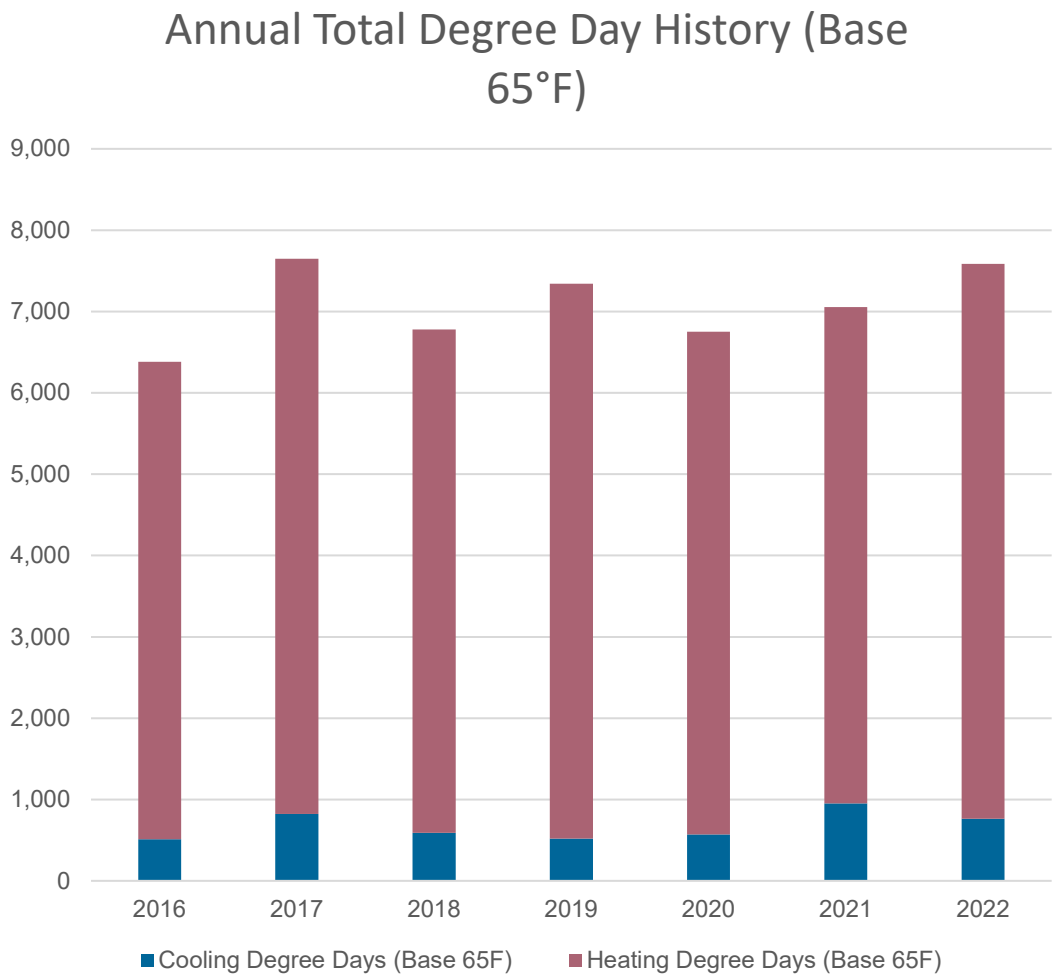

Community GHG Emissions

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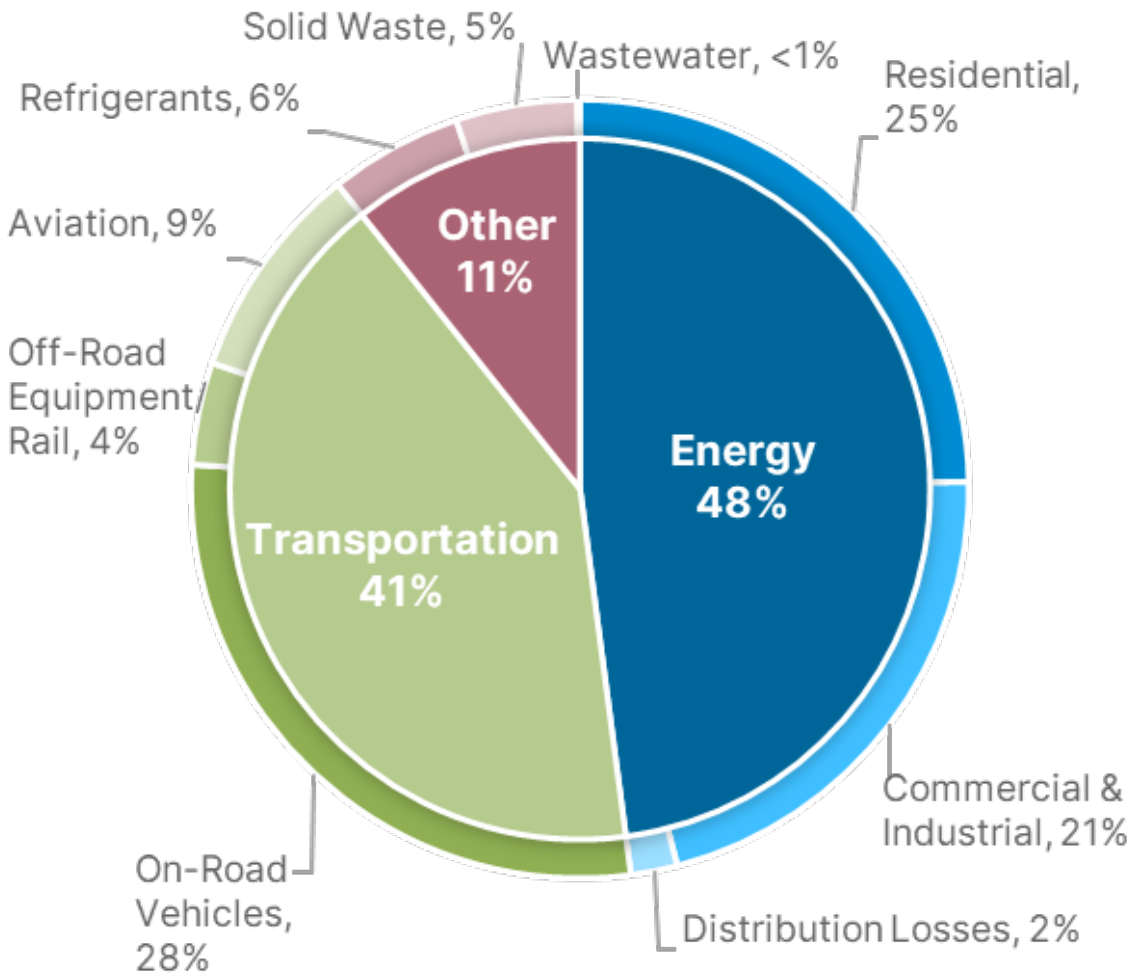

Community Results for 2022

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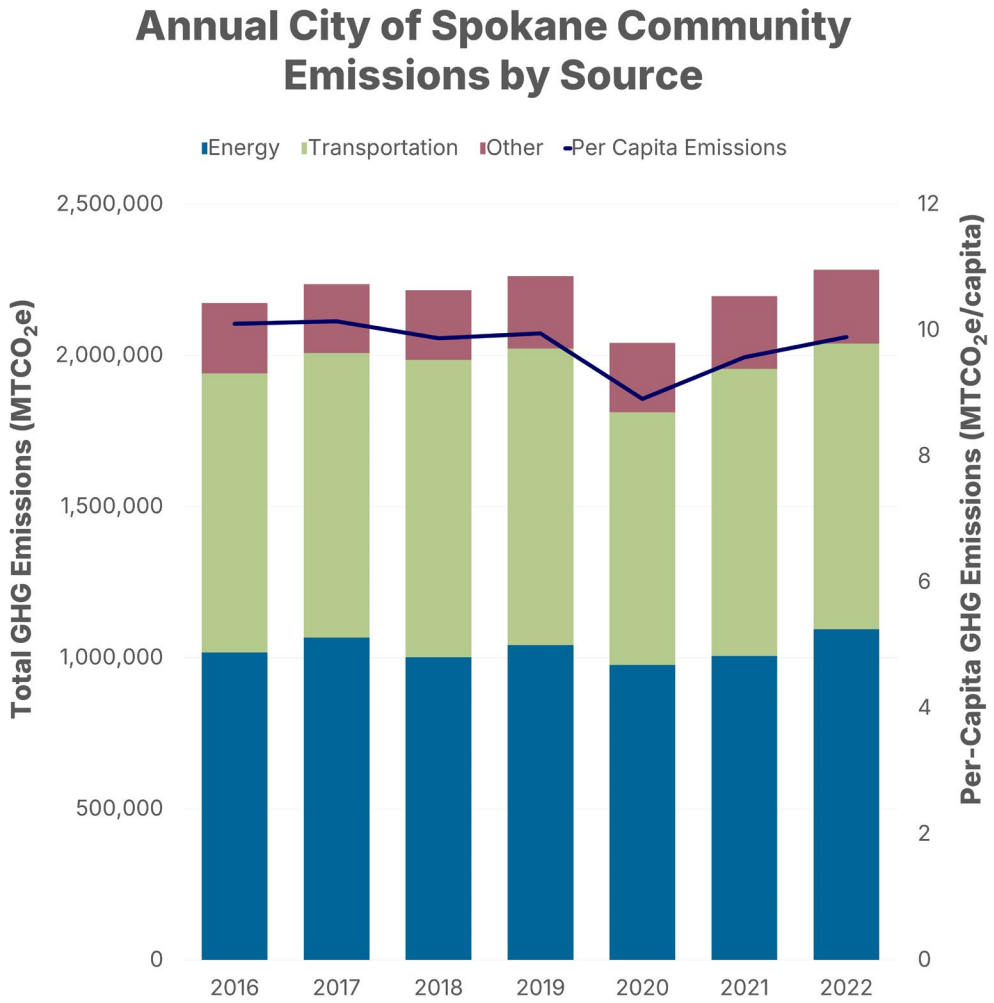

Community Energy Emissions

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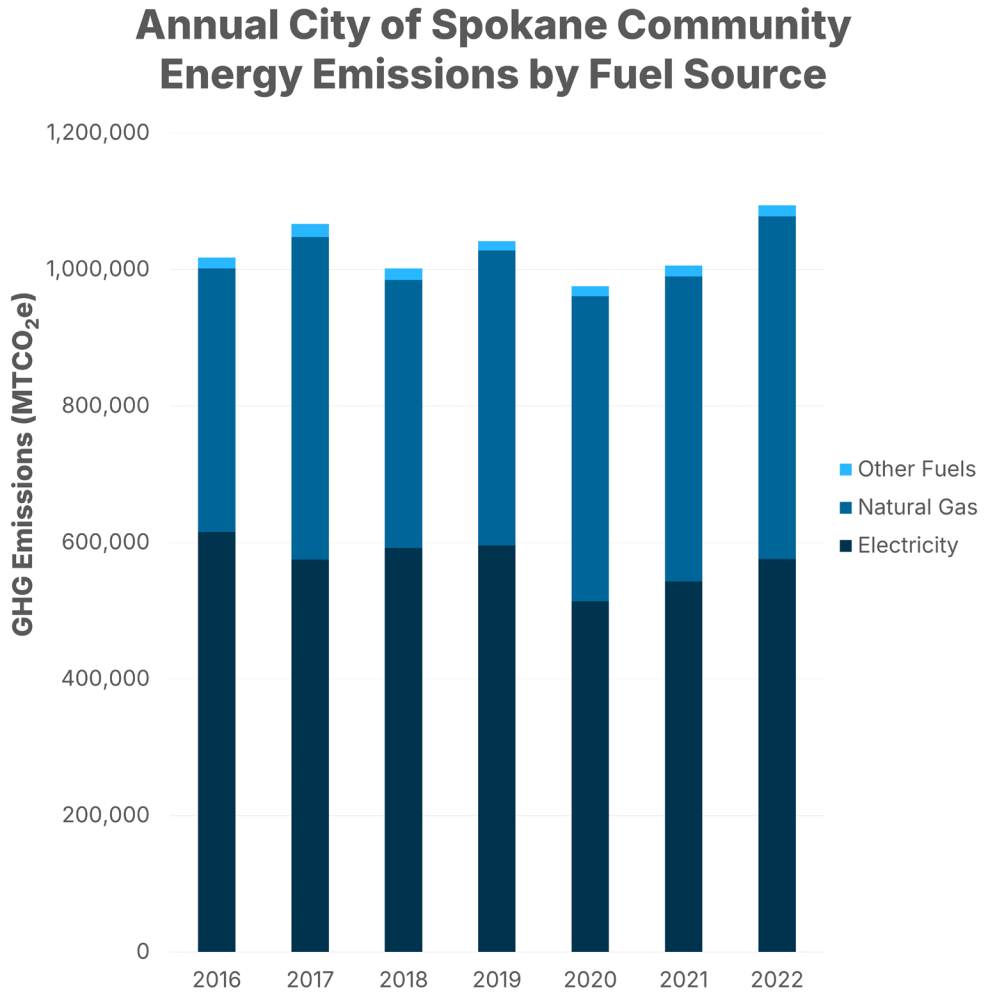

Electricity Renewable Fuel Mix

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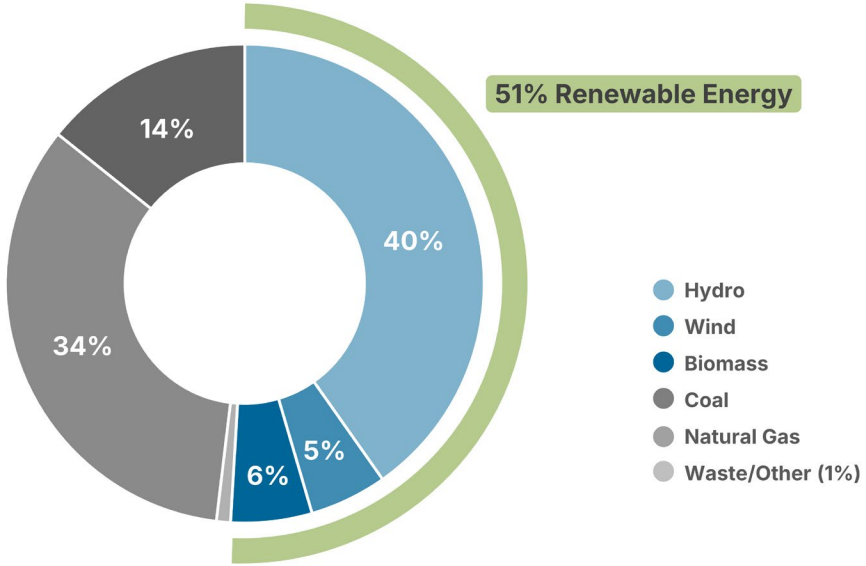

Data Source: Washington State Department of Commerce, Washington Electric Utility 2023 Fuel Mix Disclosure Report, For calendar year 2022, published June 3, 2024

Energy Access and Poverty Assessment

- Secure Energy

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- Sustainable Energy

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- Affordable Energy

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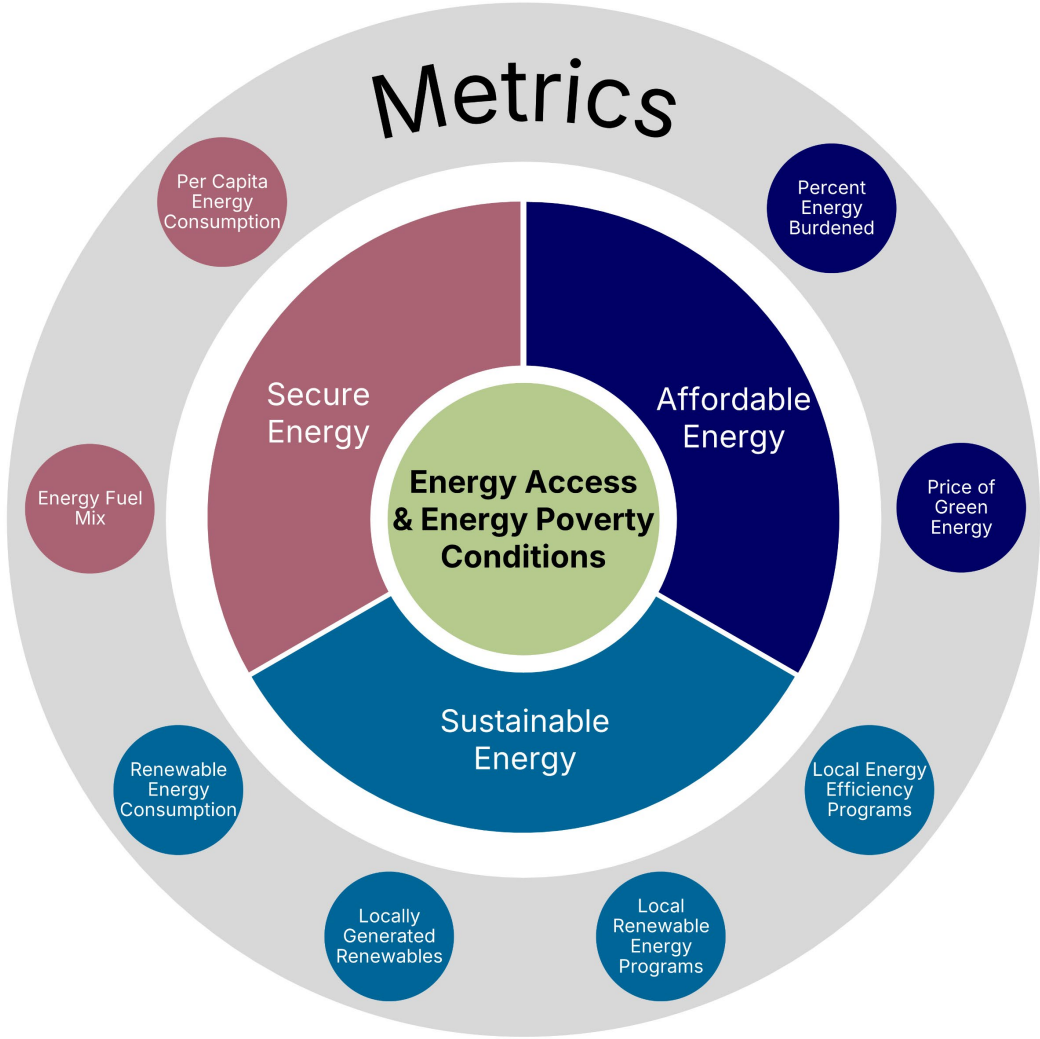

Community Transportation Emissions

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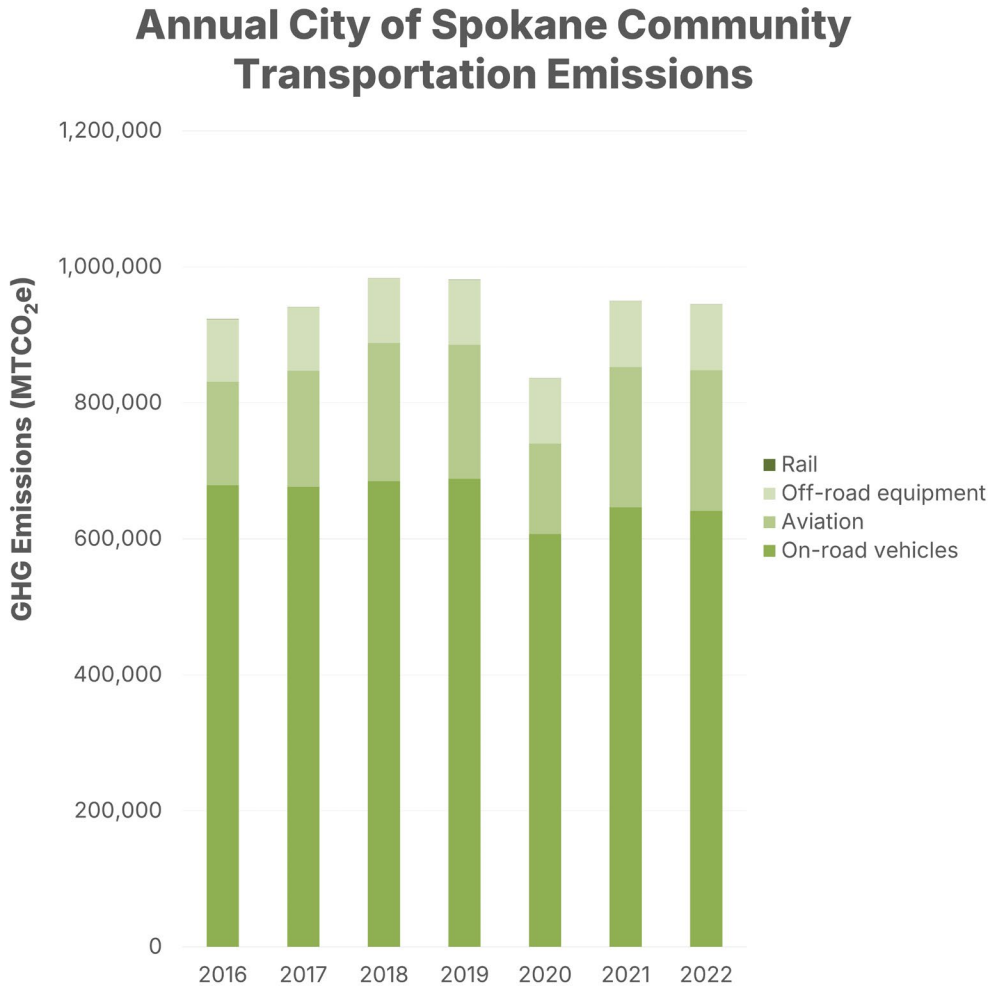

Community Vehicle Miles Traveled

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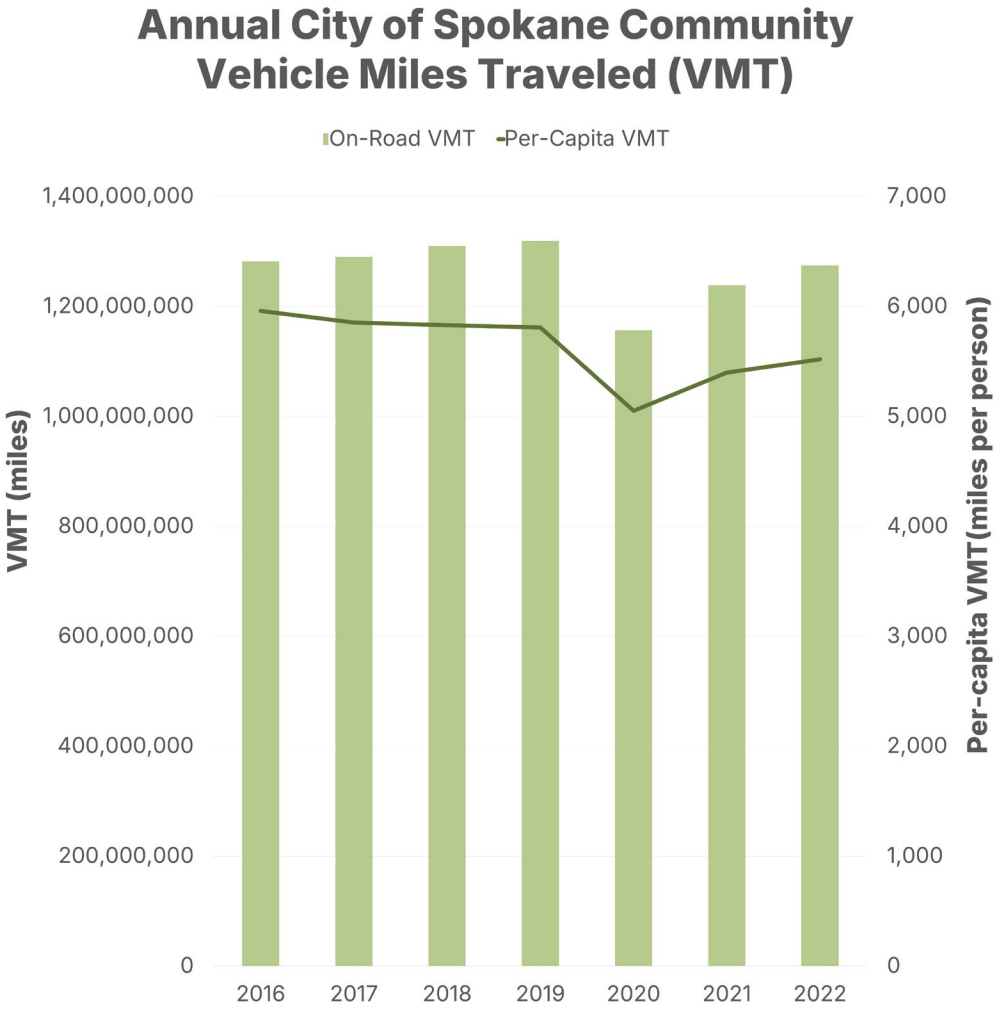

Community Refrigerants Emissions

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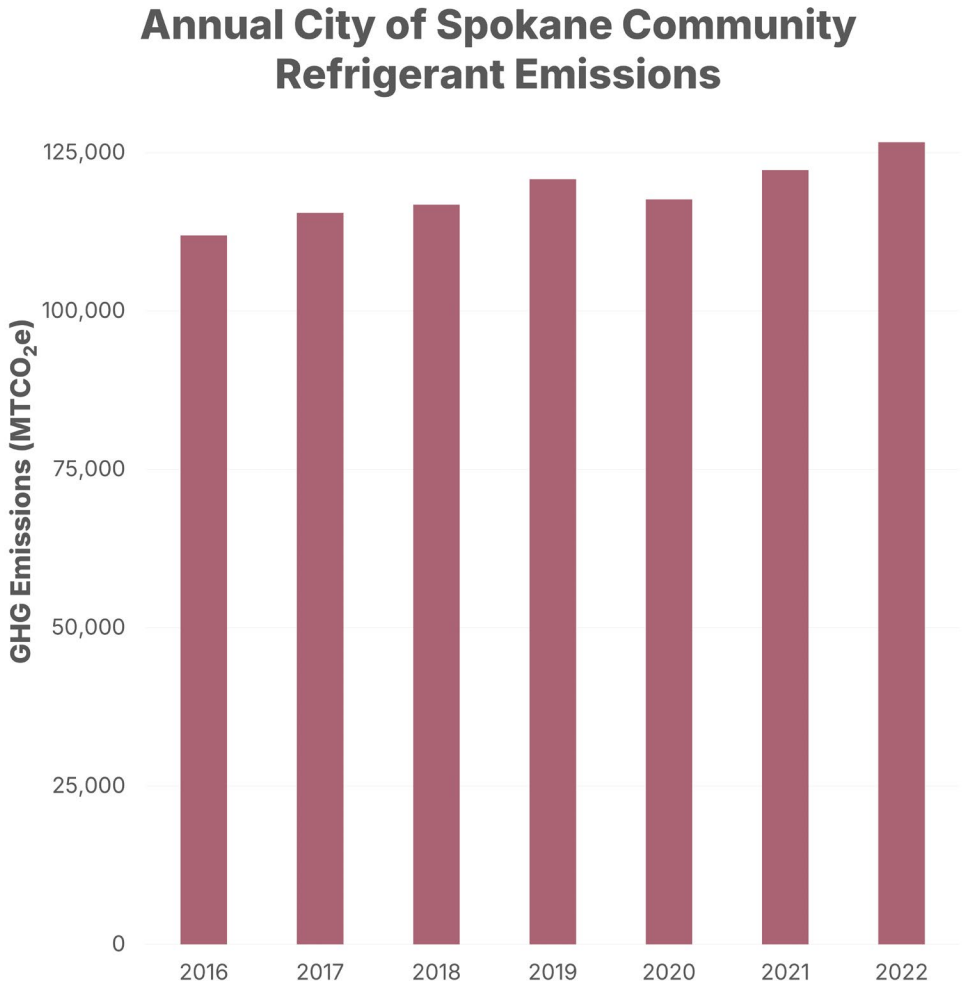

Community Solid Waste Emissions

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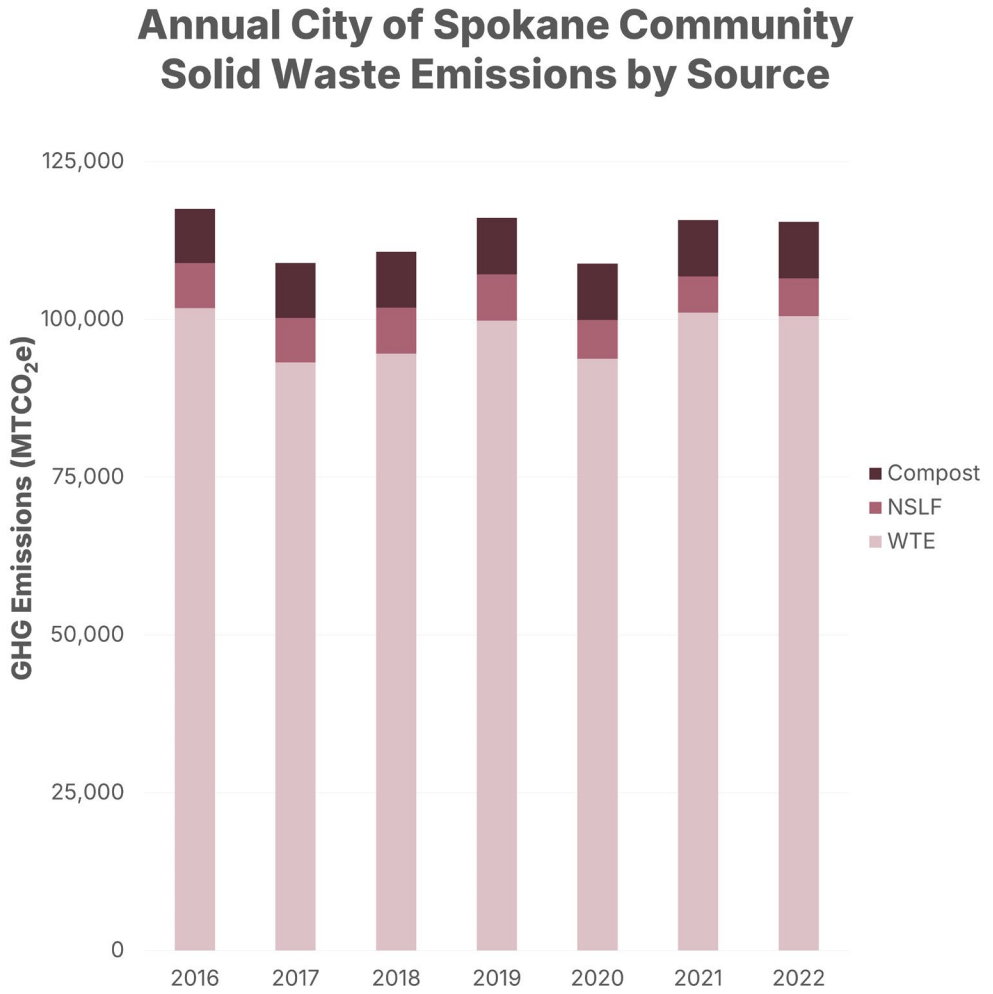

Community Wastewater Emissions

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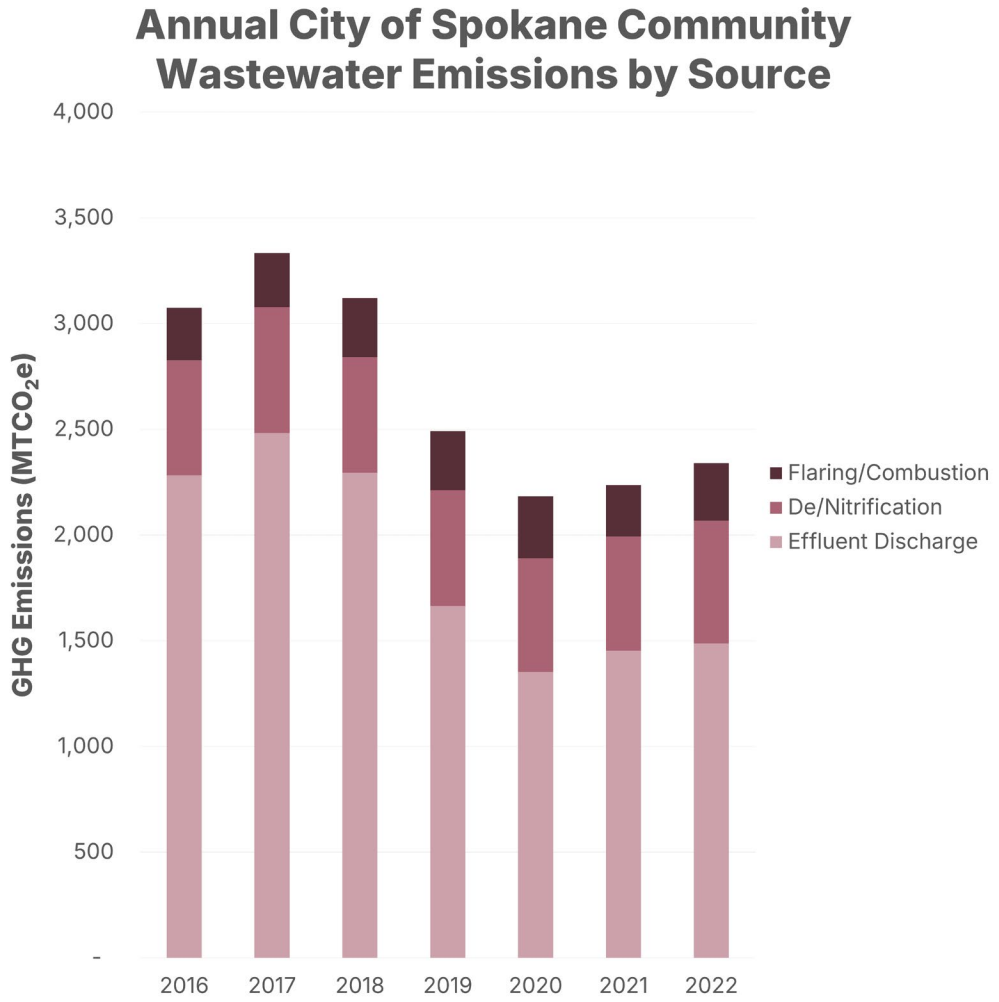

Actions and Resources

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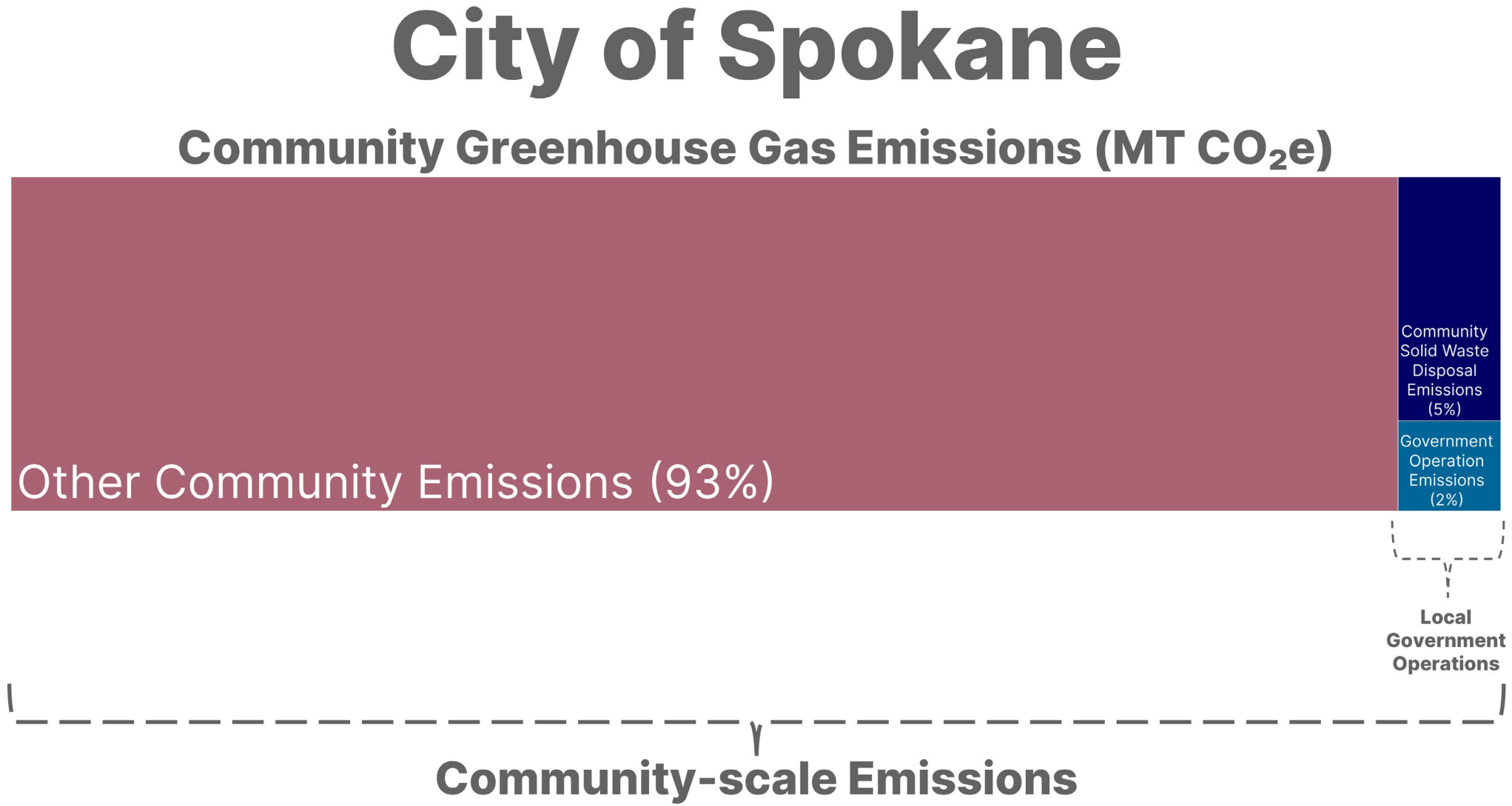
We want to hear from you!

Government Operation Emissions



Government Solid Waste Emissions

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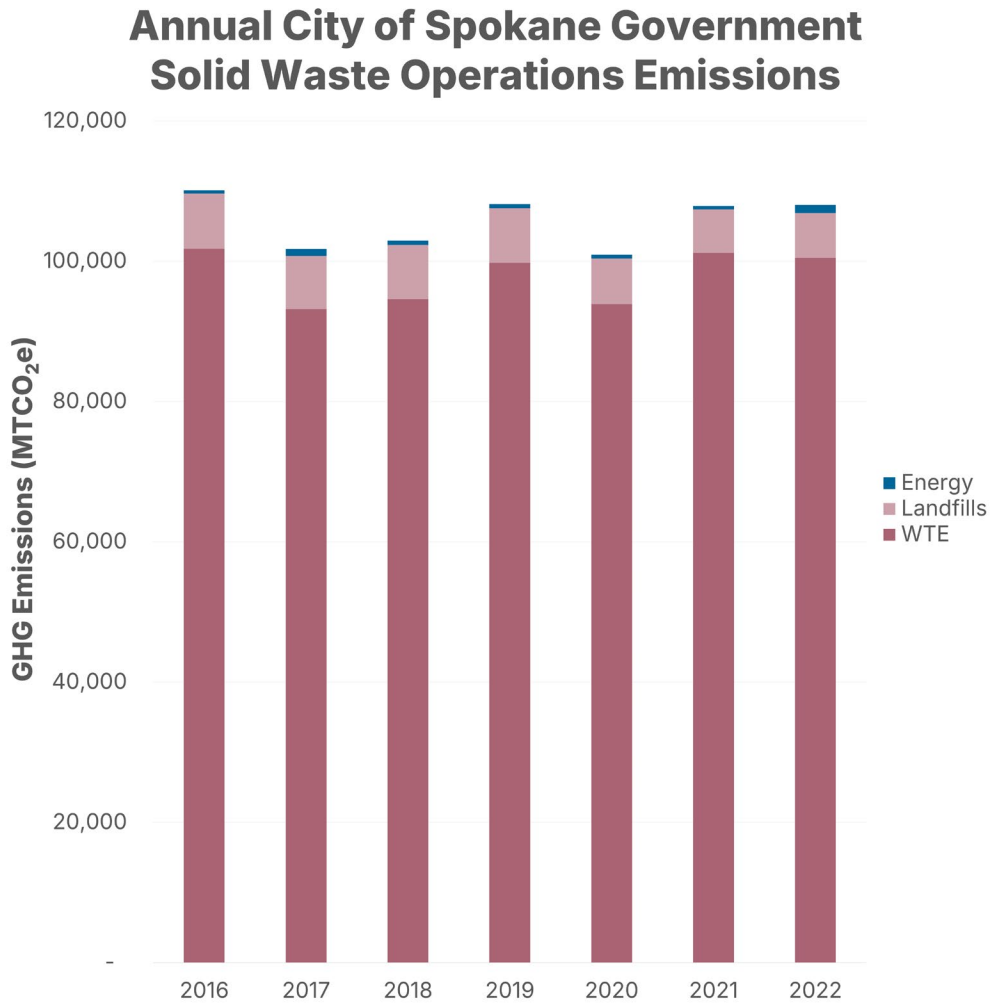
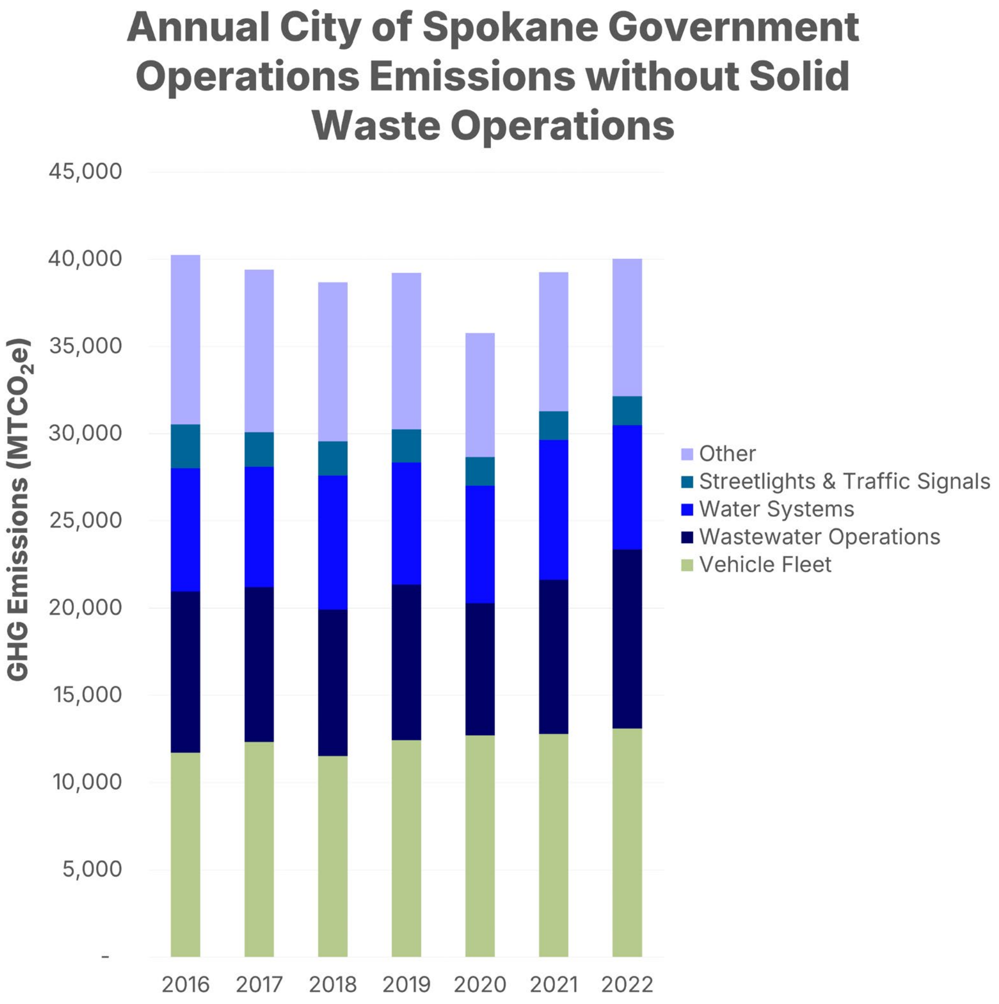


Government Operation Emissions



Operational Efforts

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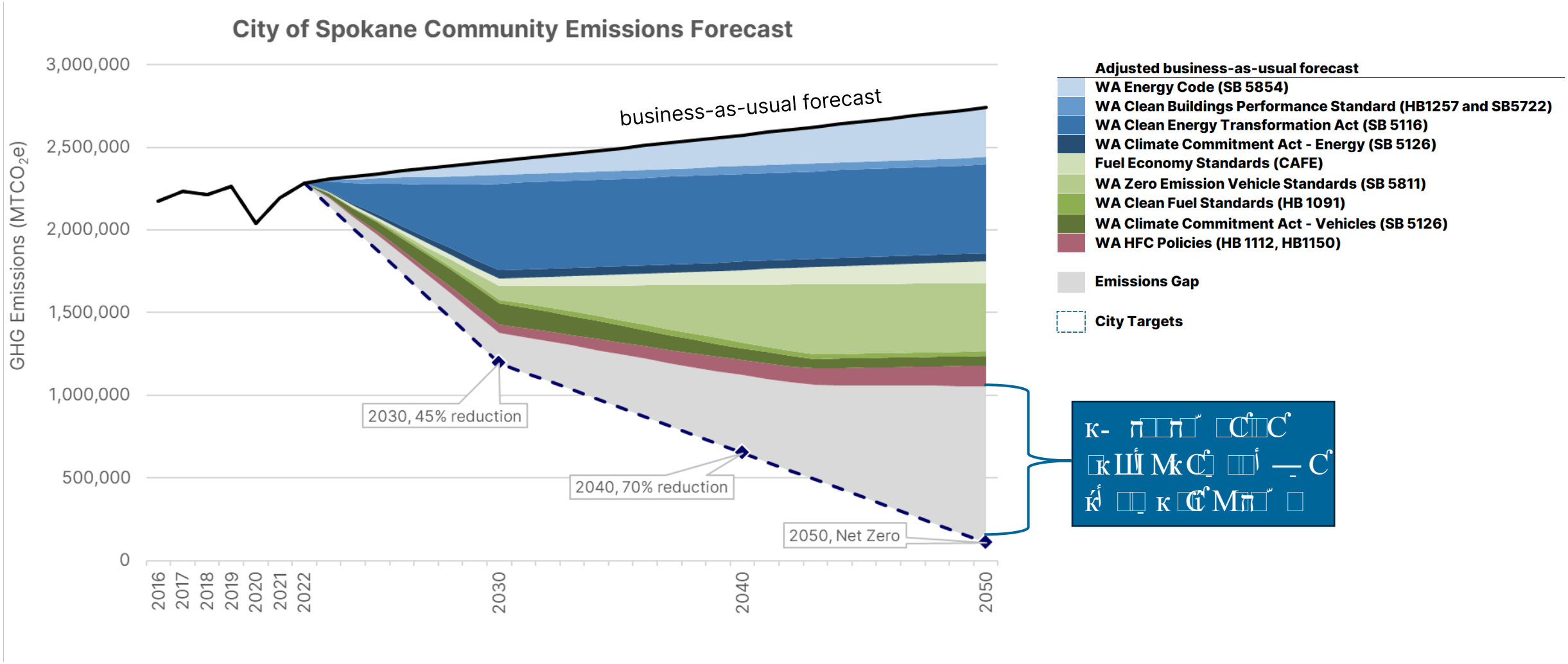
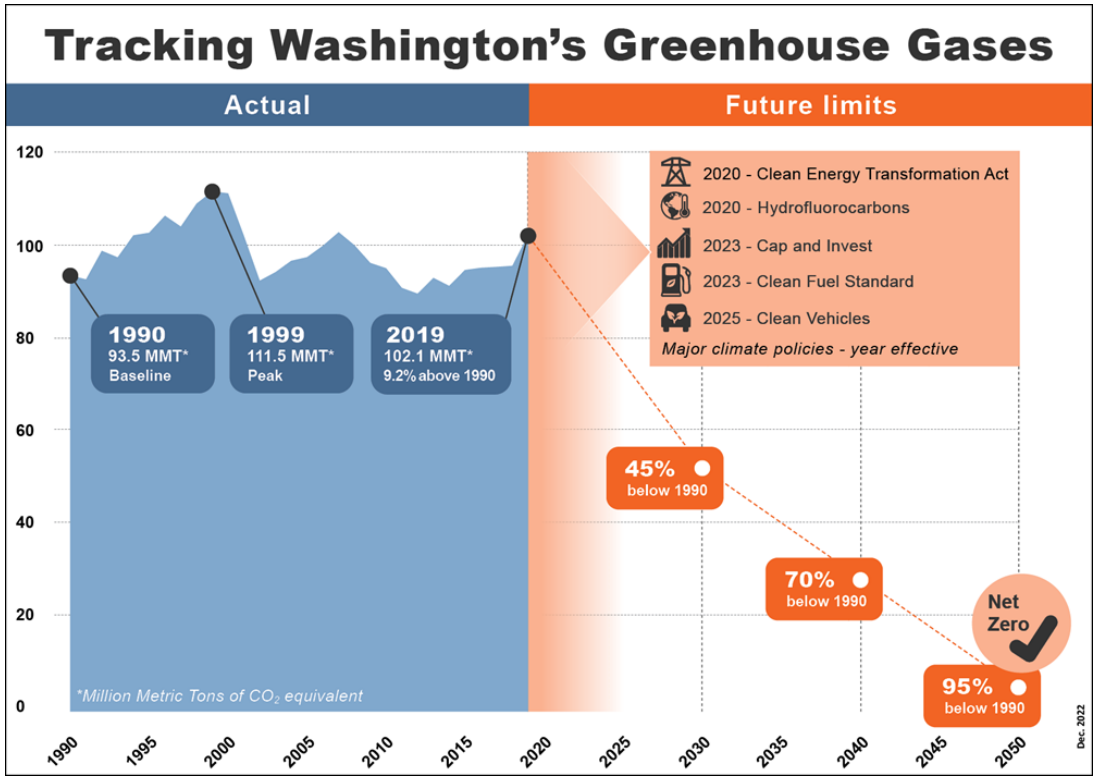
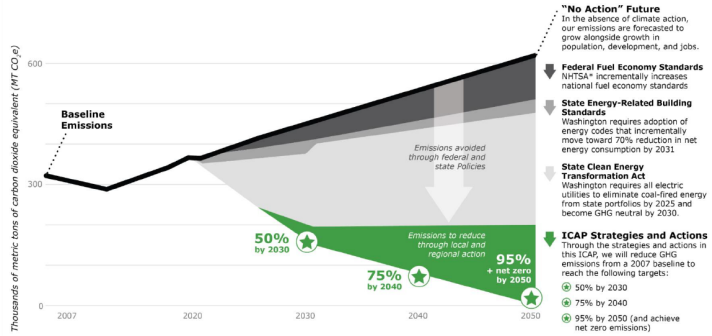
CommunityEmissions Forecast

Wedge Analysis



Similar Across All of Washington





*NHTSA = National Highway Traffic Safety Administration, in charge of regulating light- an

Kenmore is joining peer communities around King County in setting **aggressive GHG emissions reduction targets** that meet or exceed state and federal targets. Specifically, Kenmore has pledged to uphold the ambitious, yet achievable targets set forth by K4C, which will be used to track the City's progress over time. Refer to Appendix C for K4C emissions reduction commitments and targets. The figure below illustrates the emissions path Kenmore is currently on, anticipated emissions reductions from federal and state policies, and the gap that remains in meeting our reduction targets (to be addressed through the CAP).

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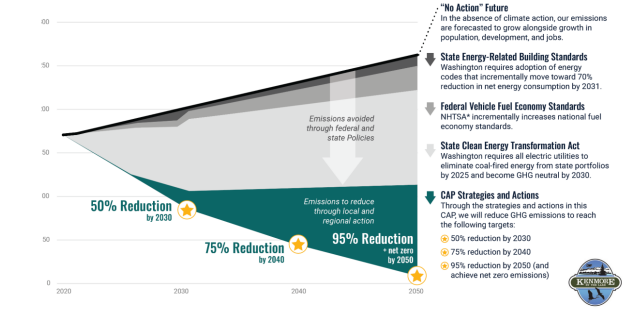

*NHTSA = National Highway Traffic Safety Administration, in charge of regulating light- and heavy-duty vehicle fuel economy standards.

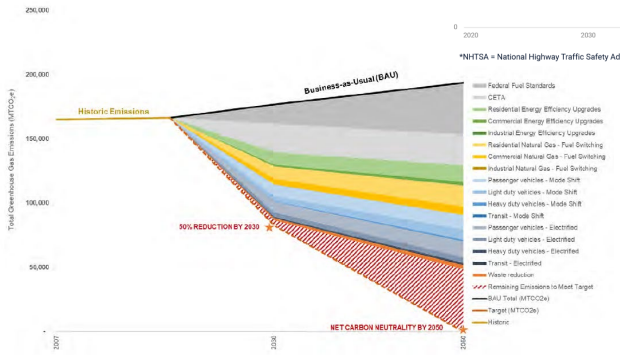

Figure d. Burien's emissions forecast details future emissions and how they may change given current federal and state policies, and what reductions are needed at the local level. Credit: City of Burien

Emission Reductions Needed

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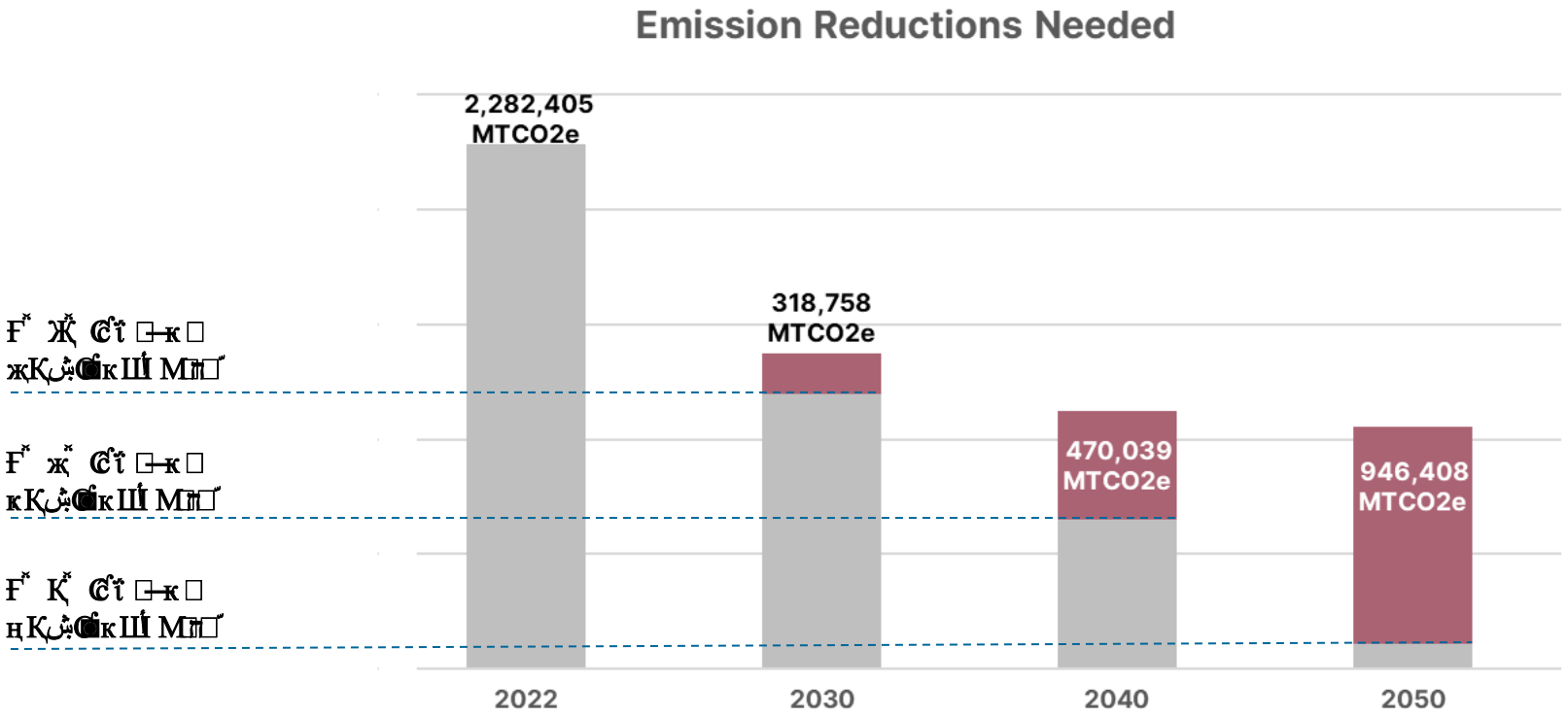
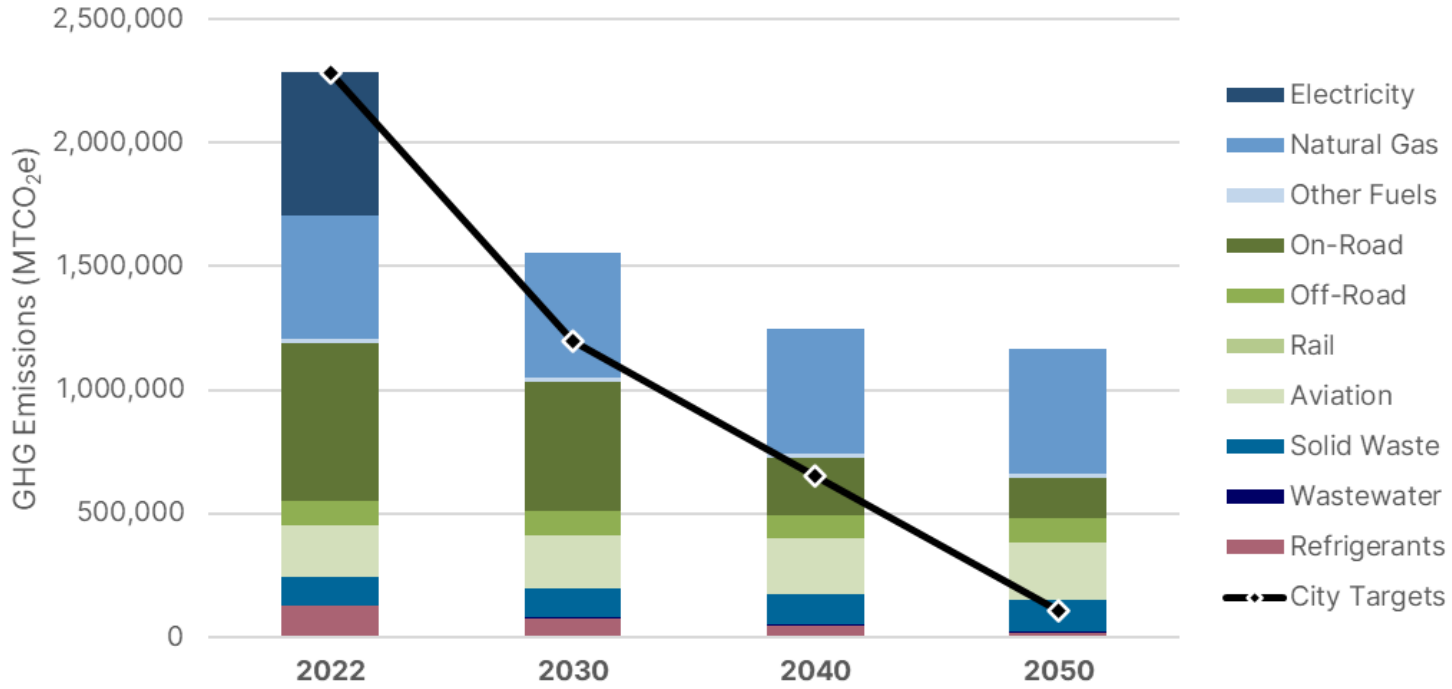


Projected Emissions by Sub-Source

Emissions Sub-Source	2050	% of 2050 emissions
Electricity	-	0%
Natural Gas	503,379	43%
Other Fuels	16,066	1%
On-Road	161,247	14%
Off-Road	99,636	9%
Rail	160	0%
Aviation	232,760	20%
Solid Waste	130,019	11%
Wastewater	2,638	0%
Refrigerants	18,122	2%



Key Takeaways

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Top 3 projected emissions in 2050 by source (86%)

43%
Natural Gas

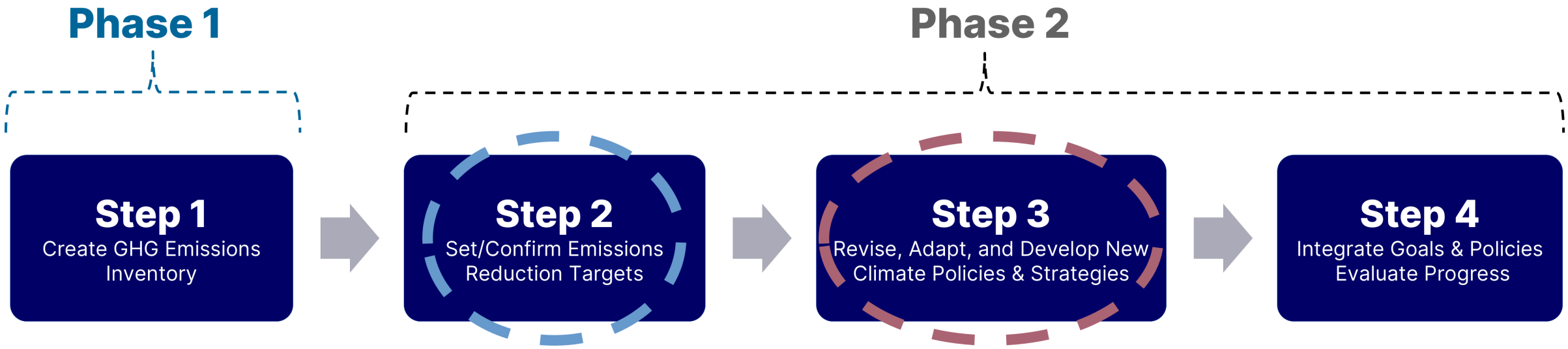
23%
Vehicles

20%
Aviation

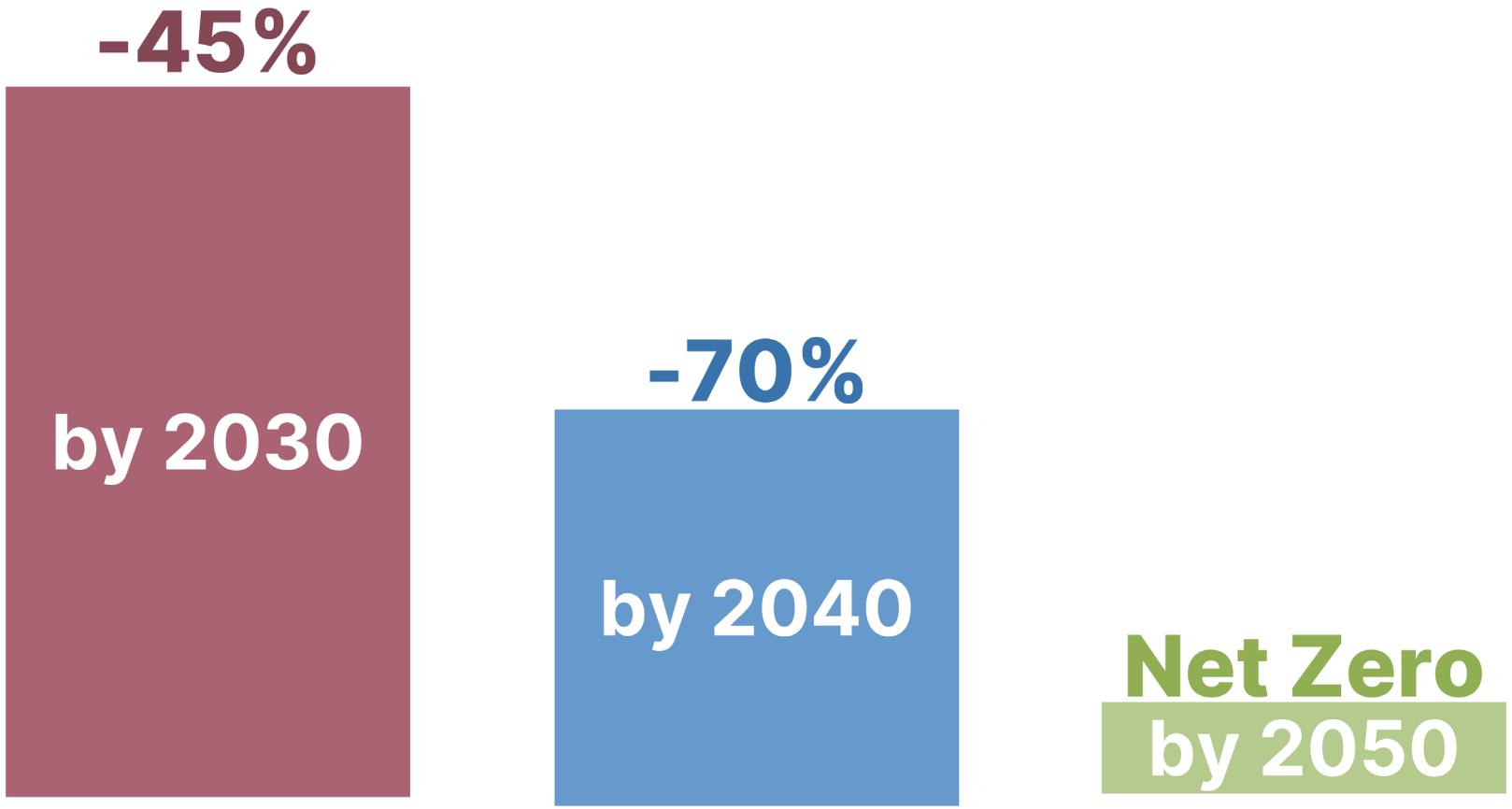
Focusing on decarbonizing and reducing **natural gas & transportation fuel use,** and **vehicle miles traveled**, is critical to achieving GHG reduction goals

Emissions Reduction Targets

GHG Sub-element Phase 2 Tasks



Current Emissions Reduction Goals



** relative to a 2016 baseline*

Comparison of Different Target Methods

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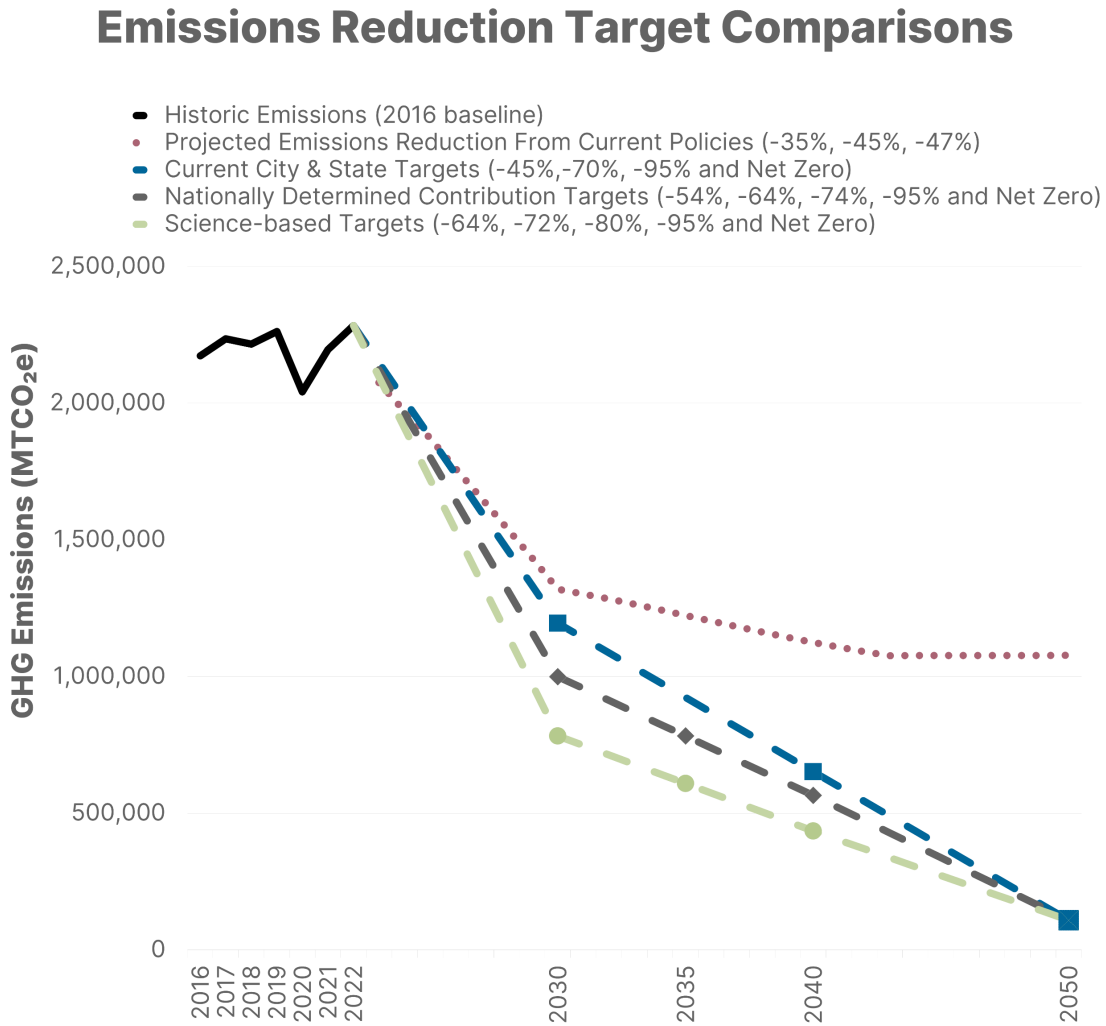

Discussion

Next Steps

Climate Planning - Phase 1 Tasks

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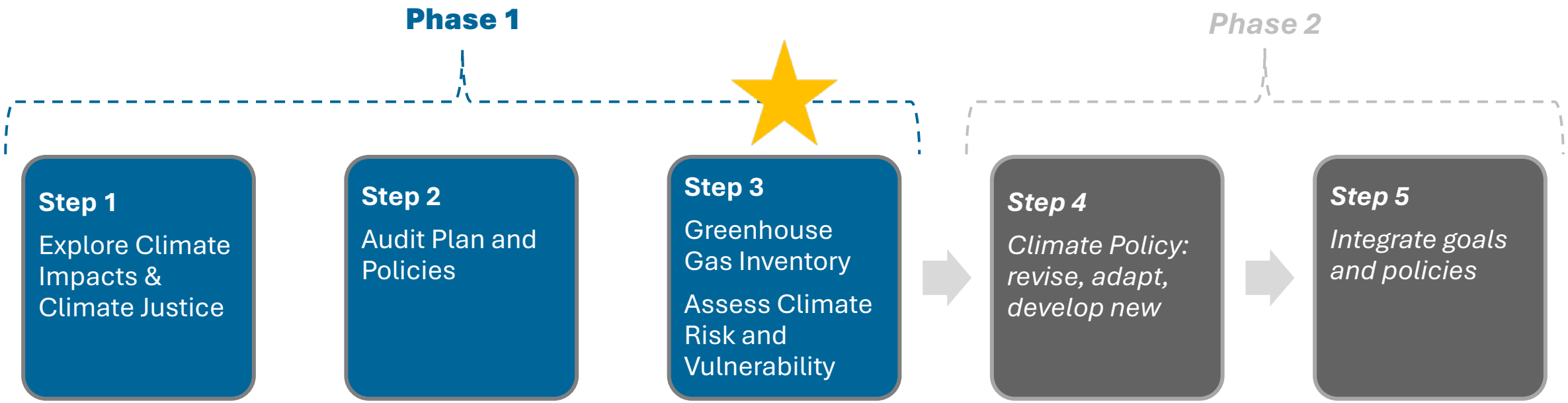
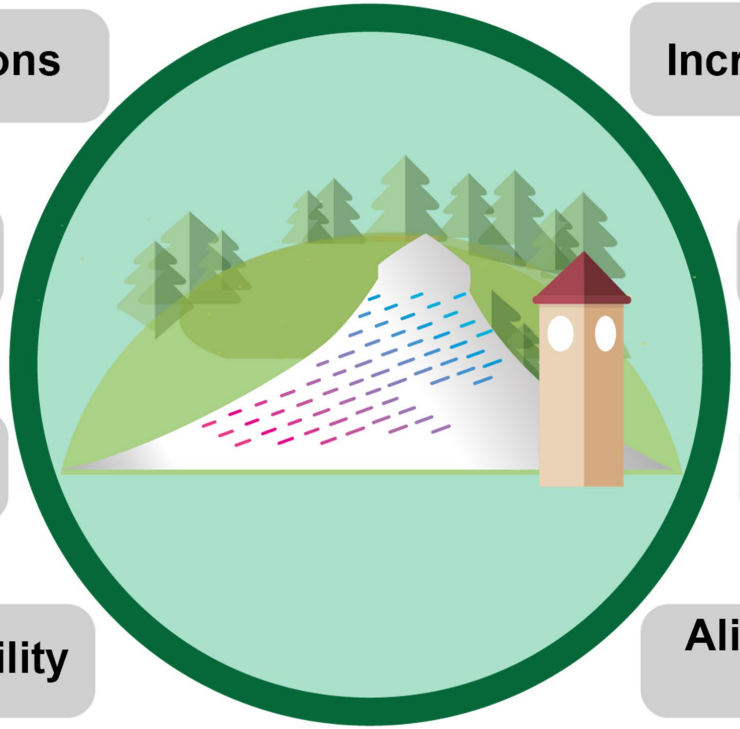


Climate Informed Planning Process

Benefits of Data-informed Policymaking

- Evidence-Based Decisions
- Effective Planning
- Prioritized Resource Allocation
- Strengthened Adaptability



- Increased Public Trust
- Improved Risk Management
- Fostering Community Innovation
- Alignment with Global Efforts

Earth Day Climate Planning Workshop

Join The Conversation!

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climateplanning@spokanecity.org

PlanSpokane Monthly Newsletter

Engage.Spokane.gov

Appendix

Definitions

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Definitions based on the US Climate Toolkit and RCW 70A.65.010

Definitions

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Definitions based on RCW 36.70A.030