Clackamas County Climate Action Plan

CATF Presentation
16 January 2023

SSG

Agenda

1. Background on the draft Climate Action Plan - 30 min
2. Roundtable questions - 1 hour 20 min

   What do you like about the report or think is particularly effective?
   What gives you pause?
   What's missing from a definition or explanatory standpoint, to help explain the document to the reader?
   What would you like to see more emphasis on that's already in the report? / What can we remove (if anything)?

3. Public Comment - 5 min

4. Next Steps - 5 min

   Please fill out the online feedback survey
   Public feedback period: February 1 - March 1

Operating Values: How we will work together

1. We will work in rounds - a speakers list will be placed in the chat. Everyone will have a chance to respond.
2. All points of view are welcome. Feel free to build on what is said or take things in a different direction.
3. Your comments are being taken as notes, but not attributed to you, to maintain anonymity.
4. Please stay on mute when not responding to help with background noise.

Photo: Naomi Devine

CLIMATE ACTION IMPERATIVE

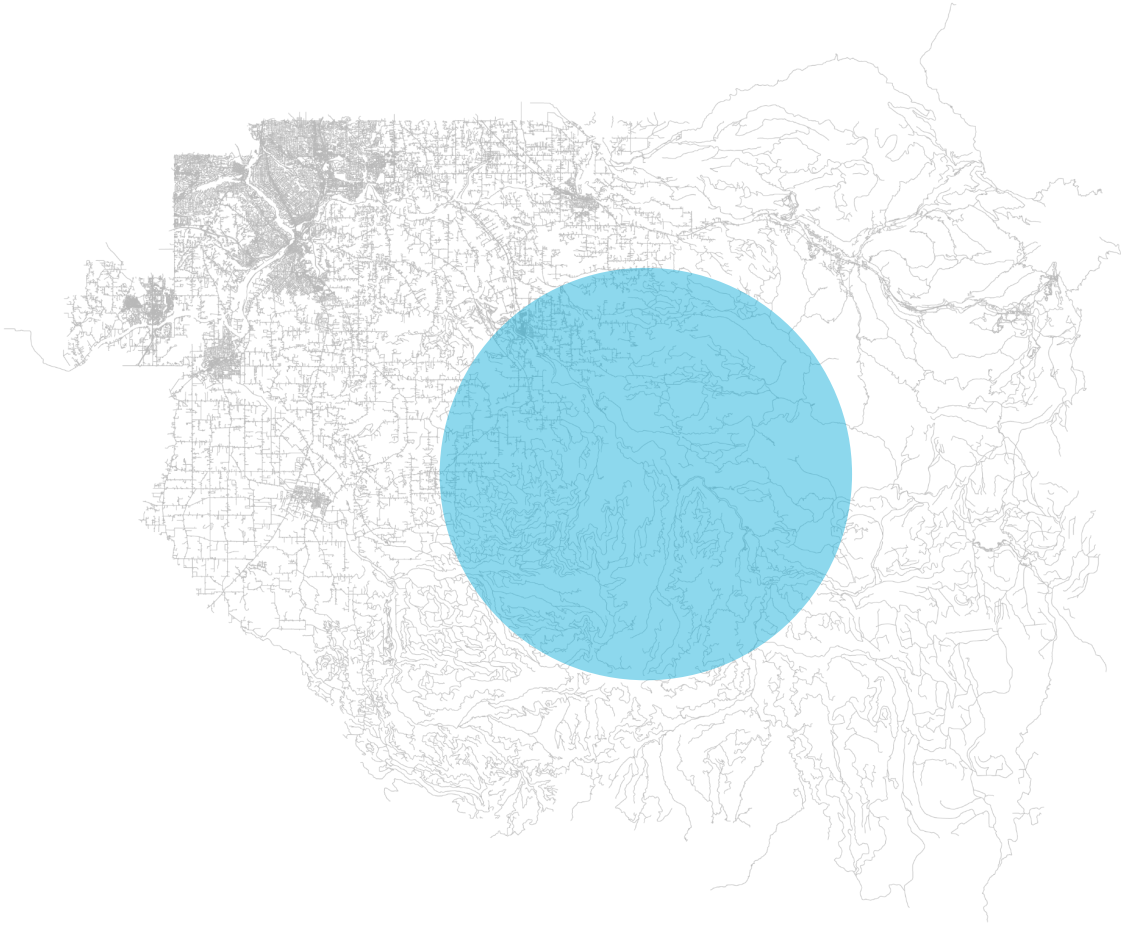
Climate Action in Clackamas County Means...

The Scope of Emissions for this Project

Scope 1
Emissions

Scope 2
Emissions

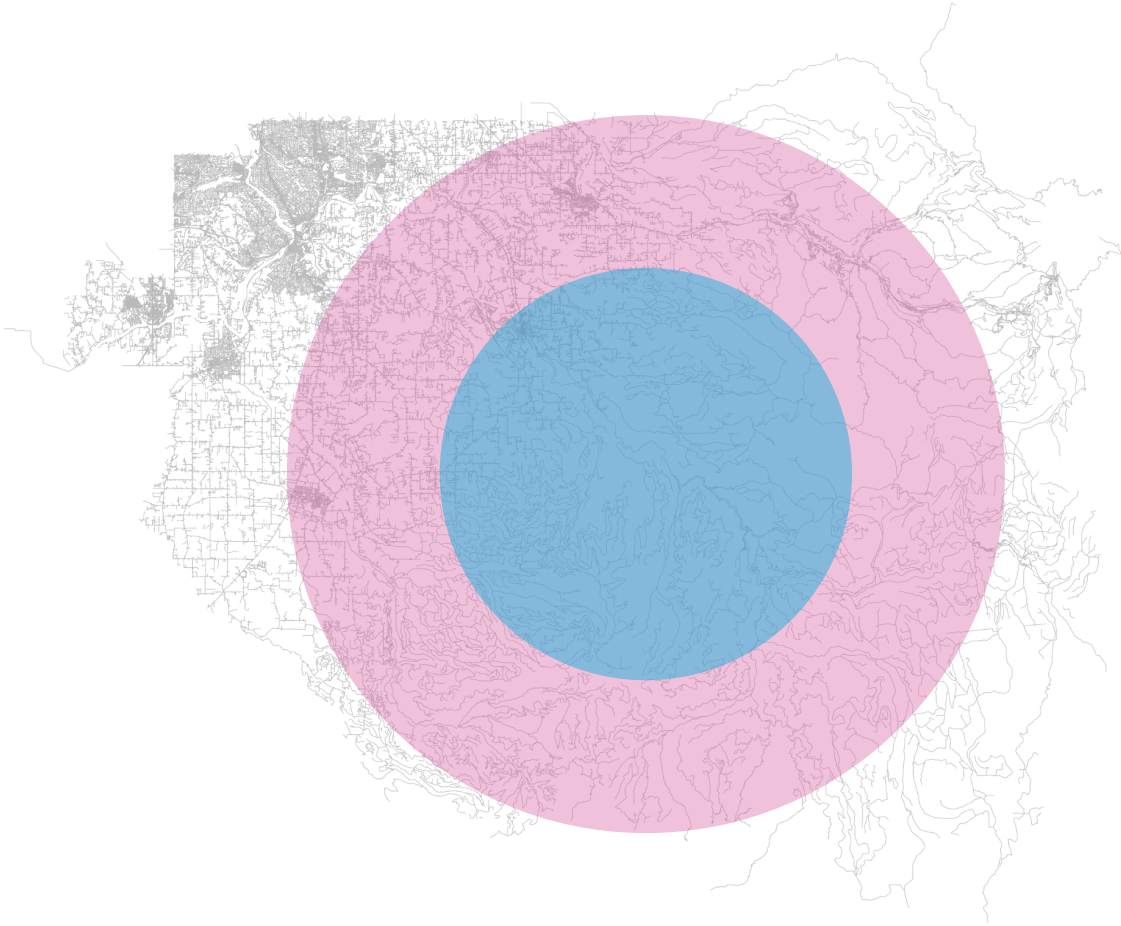
Scope 3
Emissions



Scopes of Emissions

Scope 1
Emissions

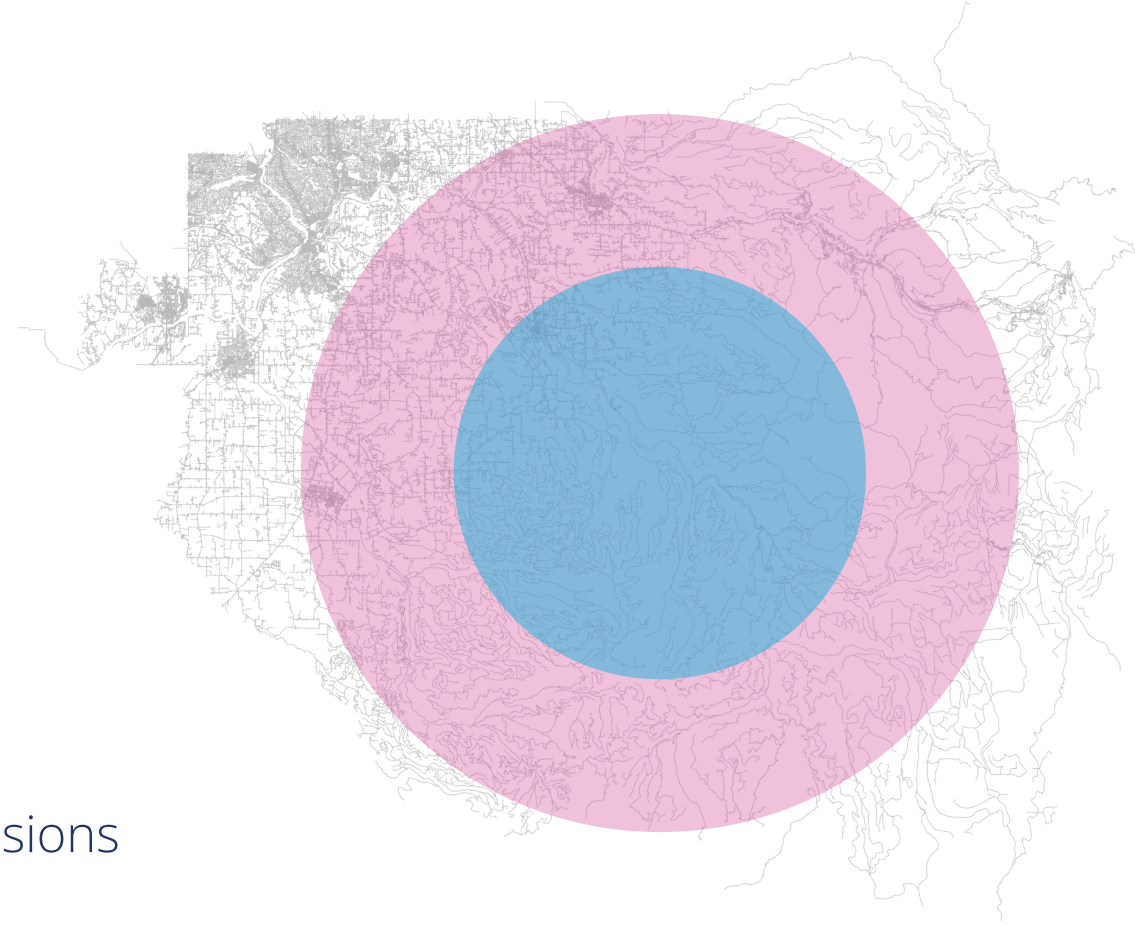
Scope 2
Emissions



Low-Carbon Actions

Scope 1
Emissions

Scope 2
Emissions



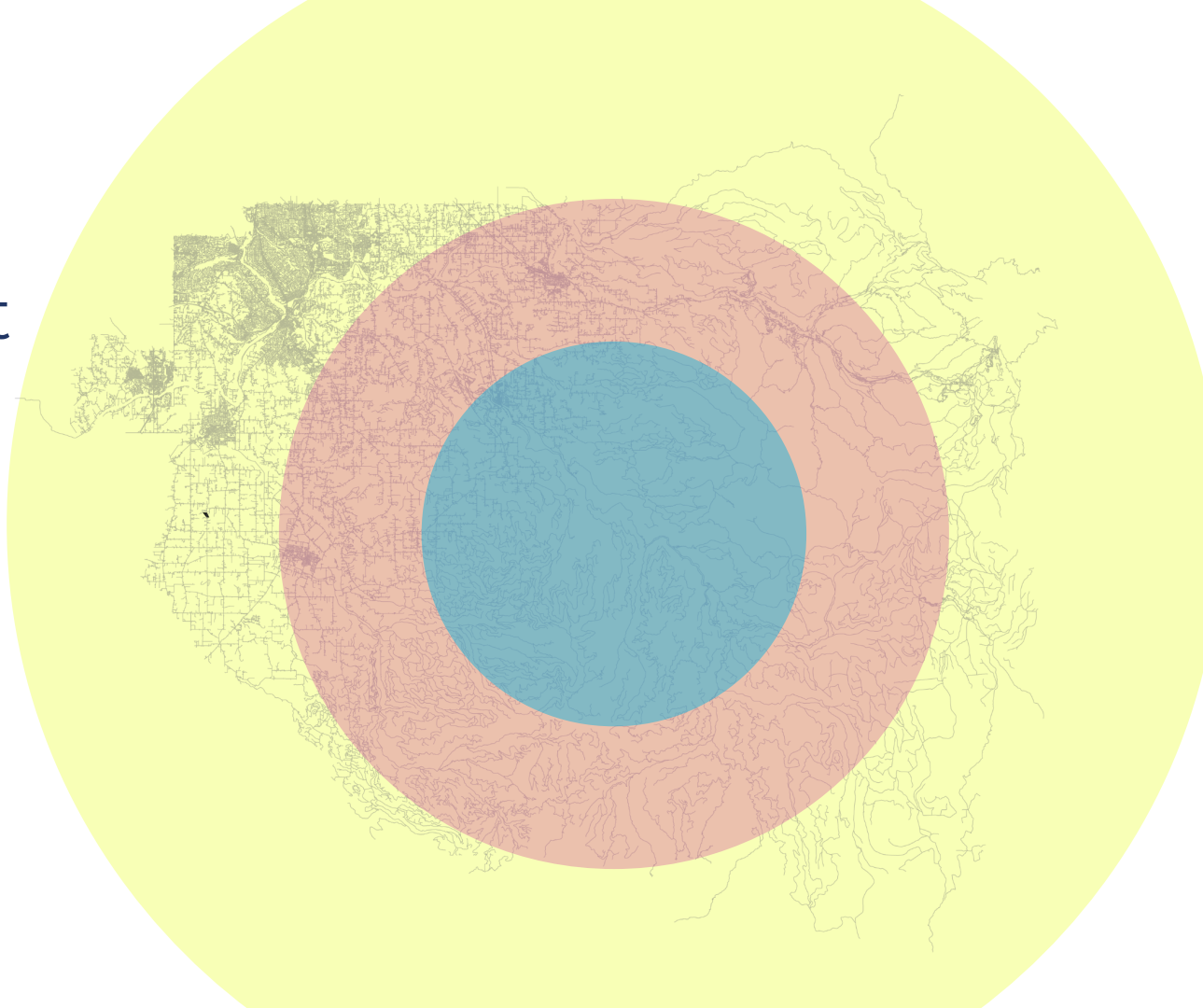
4.2 MtCo2e
Community wide emissions

The Scope of Emissions for this Project

Scope 1
Emissions

Scope 2
Emissions

Scope 3
Emissions



Upstream Activities | Reporting Entity | Downstream Activities

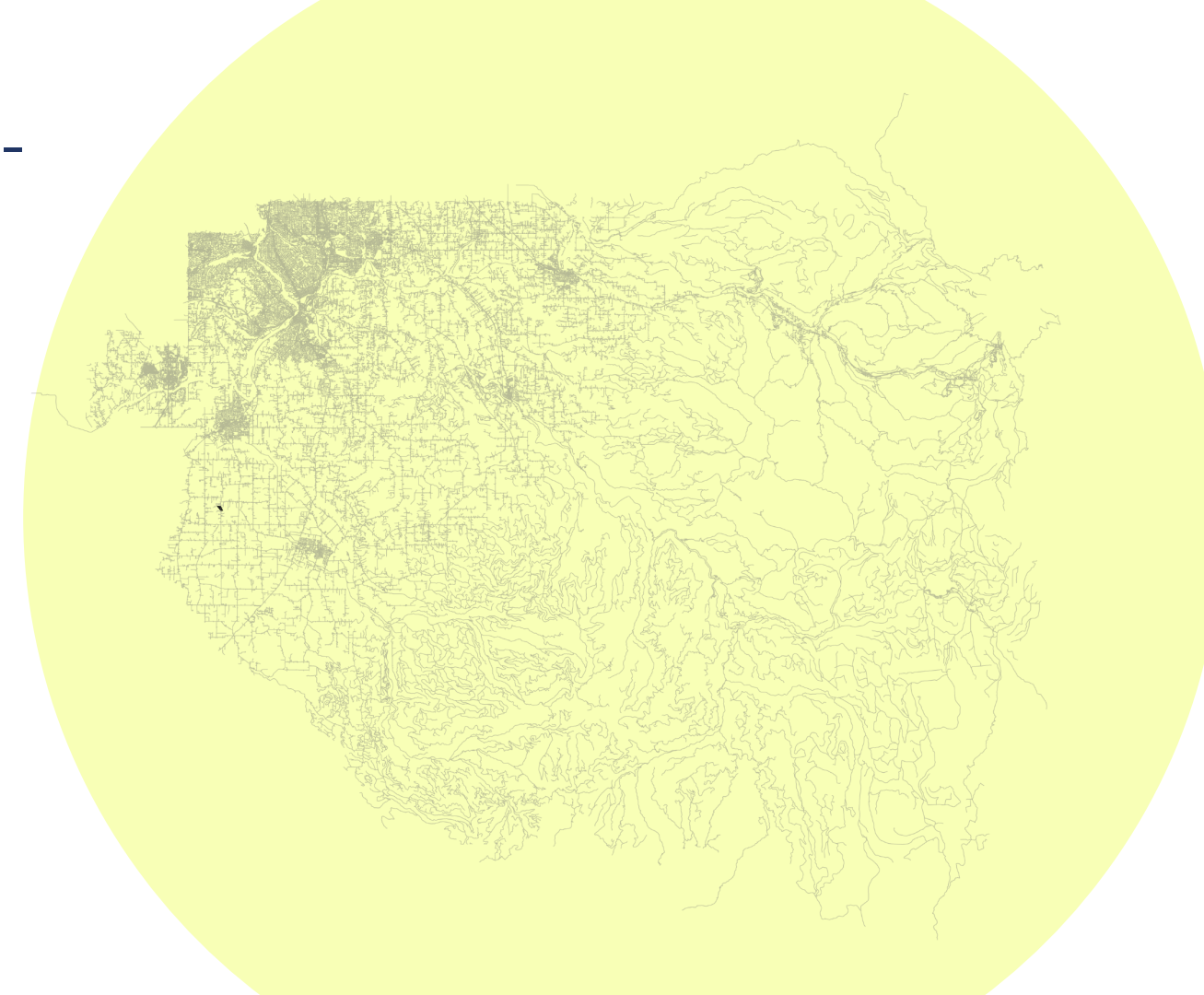

F
34
St

Consumption-based emissions

Requires additional planning with other jurisdictions and interventions.

Scope 3
Emissions

7.2 MtCo2e
Consumption based emissions



OUR RESPONSE TO CLIMATE ACTION

Clackamas County' Climate Action Plan

Strategic-level Plan vs. Feasibility Plan

A strategic-level plan is a high-level document that outlines an organization's overall goals and objectives, and the strategies and actions that will be taken to achieve them. It typically covers a longer time horizon and provides a broad overview of the organization's direction and plans.

A feasibility study, on the other hand, is a detailed analysis of a specific project or proposed course of action to determine if it is viable and likely to be successful. It typically includes a thorough examination of the technical, economic, and operational aspects of the project, as well as an assessment of any risks or challenges that may need to be addressed.

The bottom line: a strategic plan is a high-level view of the overall direction and objectives of an organization, while a feasibility study is a detailed examination of a specific project or proposal to determine its viability.

This document is a strategic-level plan that will guide the implementation of actions and provide guidance for future feasibility studies related to actions where viability needs to be determined for implementation to be successful.

Is the baseline the 2018 emissions? What is the baseline 2018 MtCO2e ? Is it this?

The total = Community Wide GHG (Sector emissions) + Consumption Based GHG??

The total =

4.2 MtCo2e Community wide GHG +

7.2 MtCo2e Consumption based GHG

= 11.4 MtCo2e?

TOTAL COMMUNITY WIDE GHG emission targets down 83% from 4.2 Mt CO2e to less than .7 MT (2050)

SECTOR EMISSIONS

- BUILDINGS - down 98% - now 2 million MtCo2e to .1 million MtCo2e 2050
    - residential buildings down 98% from 1000 to 14 thousand MTCO2e
    - industrial operations (buildings + processes) down 56% from 600 to 270 thousand MTCO2e
    - commercial, institutional and County owned buildings down 99% from 470 to 4.5 thousand MTCO2e
- TRANSPORTATION - down 93% - from 1750 to 128 thousand MTCO2e
- WASTE - up 65% - from 74 to 122 thousand MTCO2e

No targets for reduction?

- AGRICULTURE - down 10% from 151 to 136 thousand MTCO2e

SEQUESTRATION is expected to do the rest?? How much MtCo2e is sequestration expected to handle?

CONSUMPTION BASED EMISSIONS - up 11% from 7.2 MtCo2e to 8 MtCo2e

How does this get us to zero net emissions?

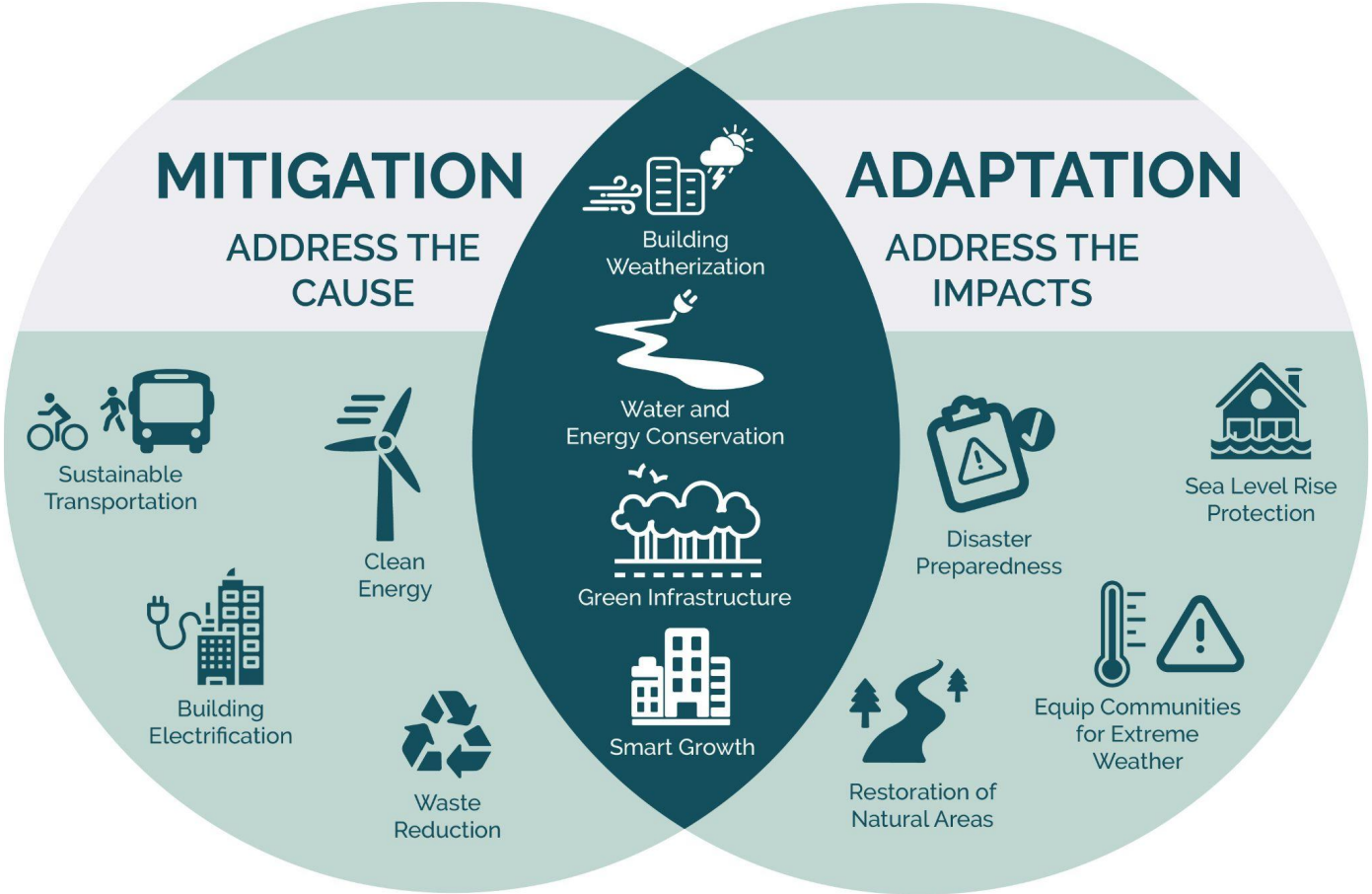
Climate Action Plan (CAP)

***Climate Action Plan* (CAP) is designed to set the stage to achieve the following community-wide outcomes:**

- Reduce GHG emissions to carbon neutral by 2050;
- Reduce community-wide consumption-based emissions; and
- Adapt to climate change and reduce climate-related risk.

Clackamas County's target is to reach carbon neutral emissions by 2050

Understanding Mitigation and Adaptation



CAP Development Process

Targeted engagement with interested and affected parties (stakeholders) engagement, both with County staff and the community

Data analysis and some technical modeling to inform targets, pathways, and recommendations

Review the local context including current plans, policies, legislation, demographics, and climate action readiness and a review of best practices

Broad public engagement.

THE OUTCOMES

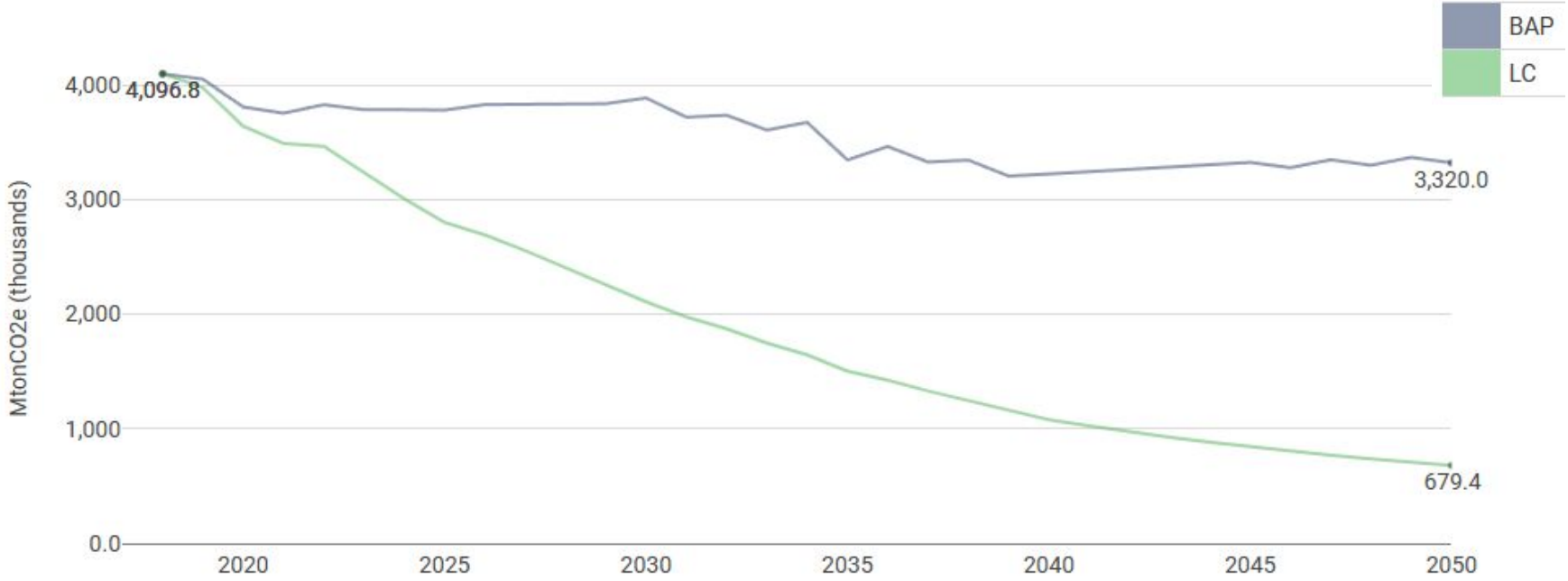
Outcome One: Reduce Community Wide Emissions

Outcome One: Reduce Community-Wide Emissions

This section of the report focuses on how Clackamas County can act to reduce community-wide emissions from the **major non-consumption-based** sectors in the community:

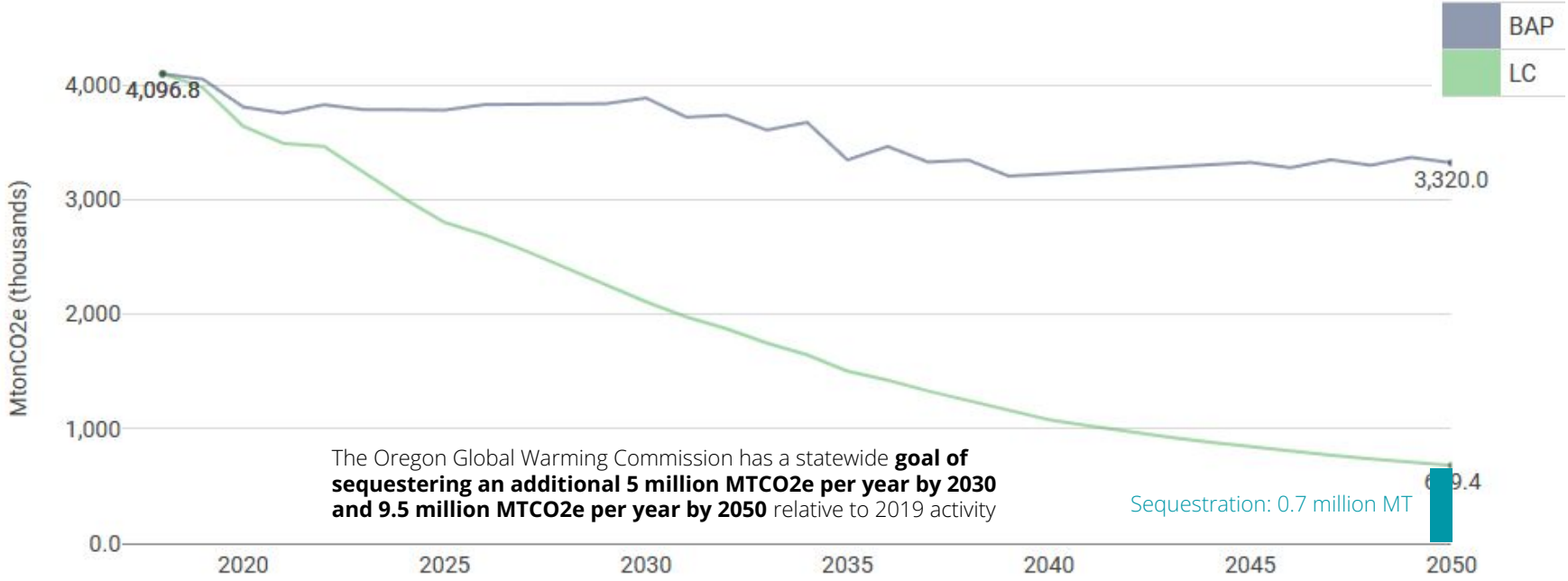
- buildings (residential, institutional, commercial, and industrial buildings),
- transportation, and
- waste.

Understanding the Challenge



The opportunity of the low-carbon pathway (sequestration not included).

Understanding the Challenge



The opportunity of the low-carbon pathway with sequestration.

A Future Clackamas County Without Further Climate Action: Business As Planned

The BAP illustrates a likely scenario of community energy use and GHG emissions between 2018 and 2050 based on the community taking no additional action on climate change beyond current policies and practices that are in place or are guaranteed through government plans and committed funding.

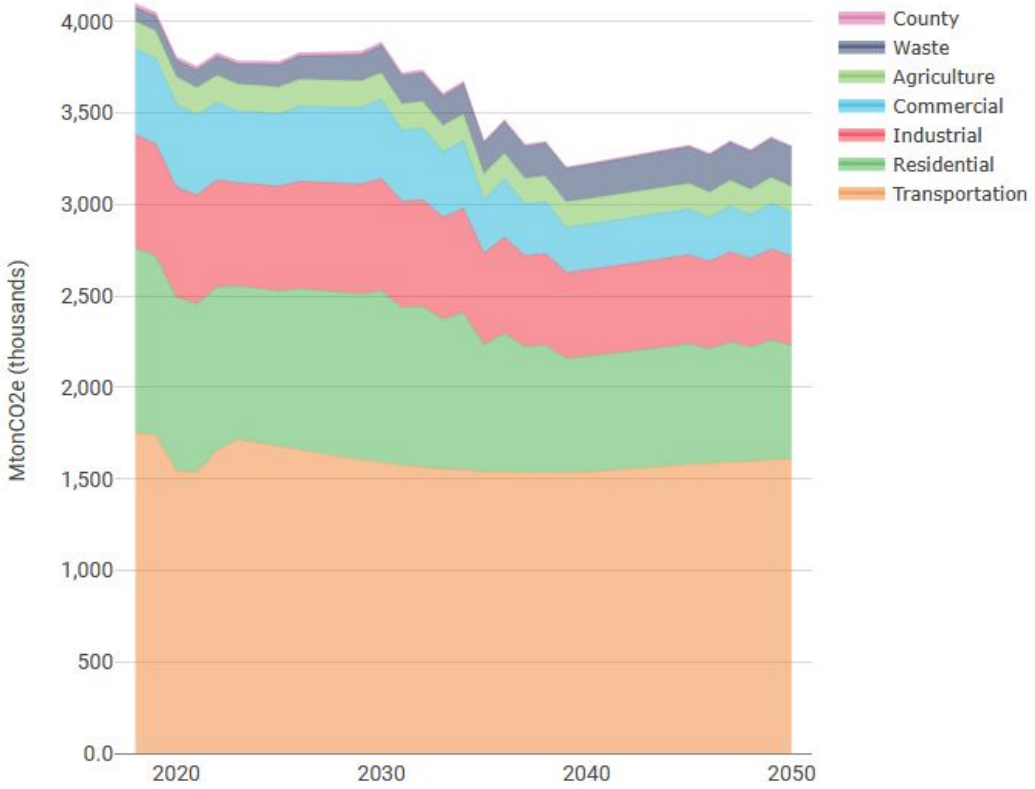
The scenario accounts for the County's population and demographics trends, and estimates and uses energy and emissions data and information from local, state, and federal governments to inform modeling assumptions about buildings, transportation, energy generation, and solid and liquid waste.

The BAP assumptions were reviewed by County staff and the Community Advisory Task Force (CATF) before being modeled.

Clackamas County's BAP shows declining GHG emissions in the community, with emissions expected to decrease by 19%, from approximately 4.1 million metric tons of carbon dioxide equivalents (MtCO2e) in 2018 to approximately 3.3 million MtCO2e. Energy use is expected to increase slightly from 49 million MMBTUs to 52 million MMBTUs, or six percent, over the same period.

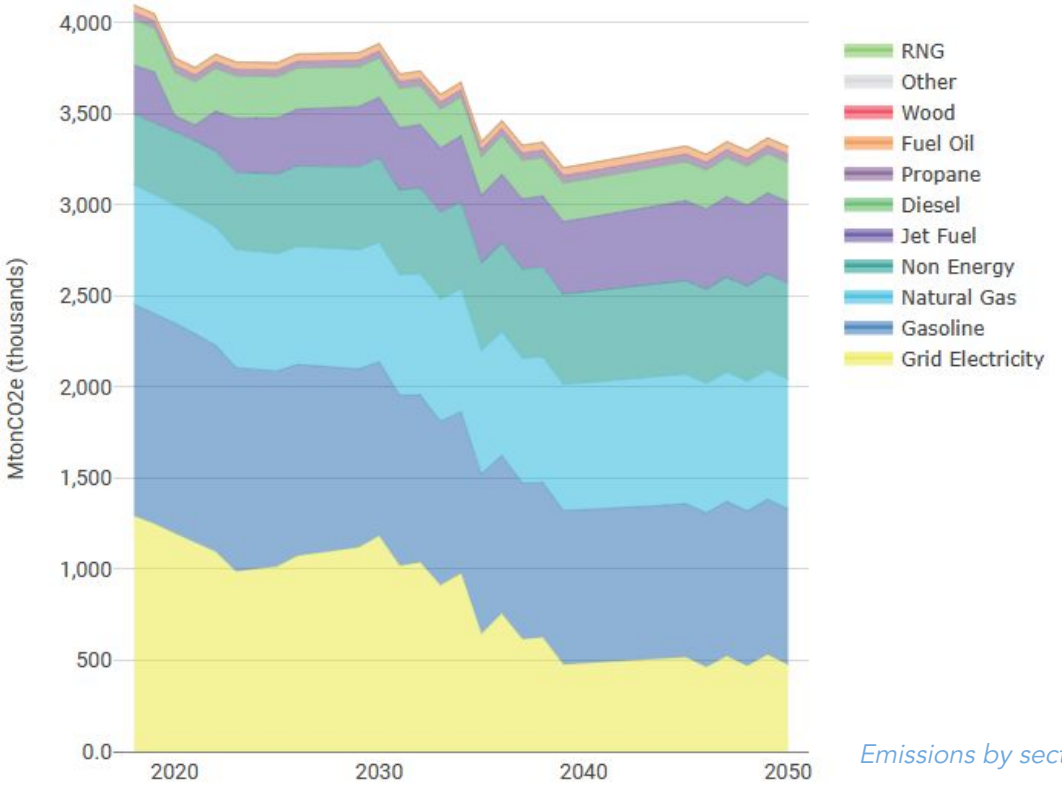
These opposing trends indicate that there will be a partial shift toward energy sources that are less emissions-intensive, resulting in fewer emissions per unit of energy used.

Business As Planned Emissions



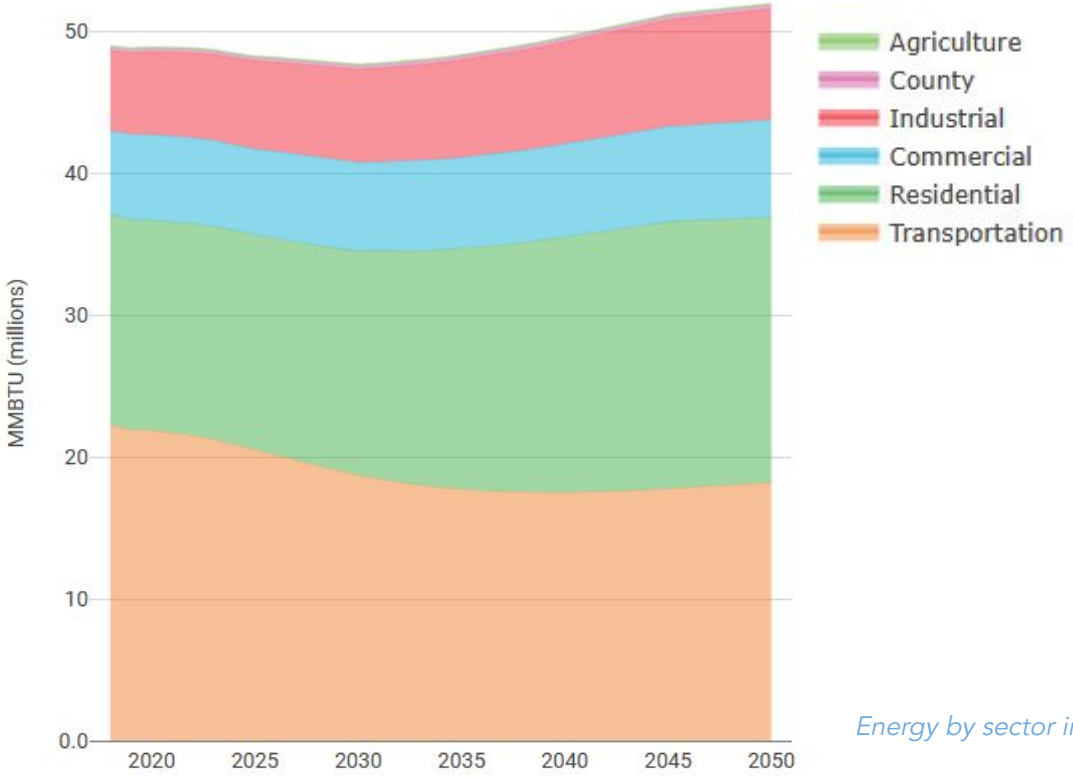
Emissions by sector in the business-as-planned scenario

Business As Planned Emissions Cont.



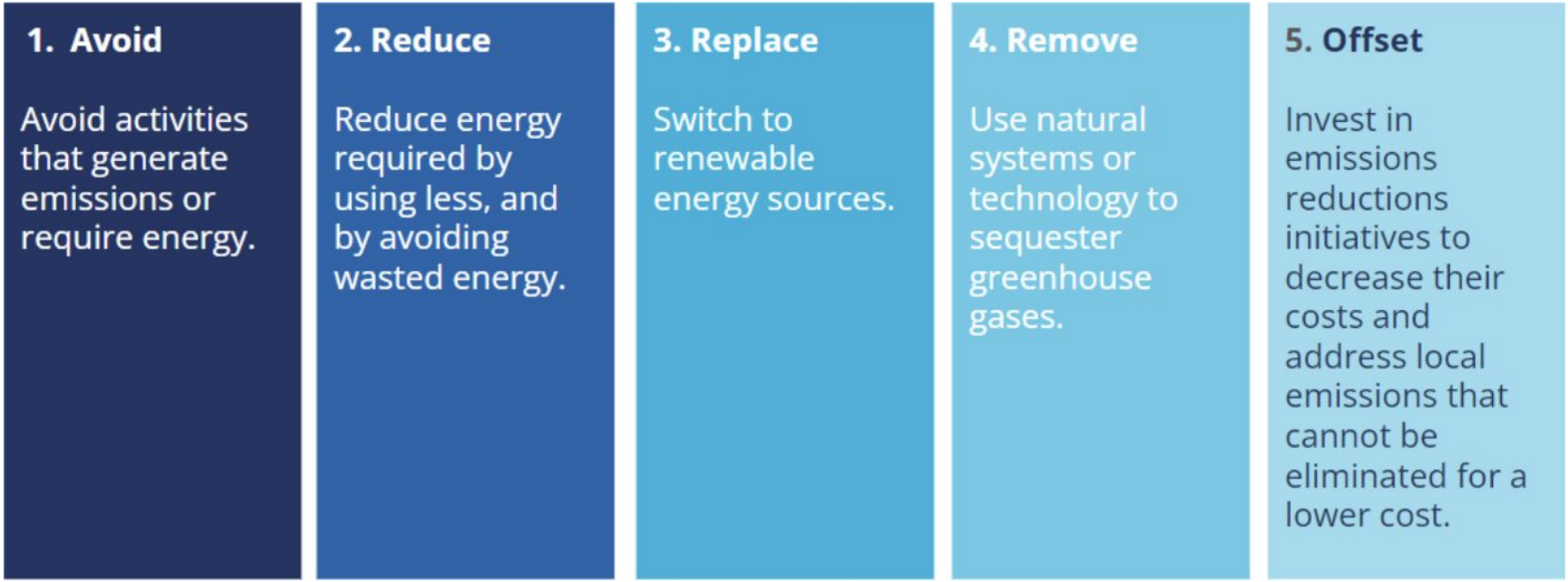
Emissions by sector in the business-as-planned scenario

Business As Planned Energy



Energy by sector in the business-as-planned scenario

Pathway to a Carbon Neutral Clackamas County



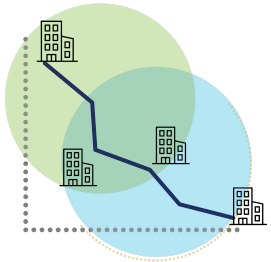
The emissions reduction hierarchy.

OUTCOME ONE: REDUCE COMMUNITY WIDE EMISSIONS

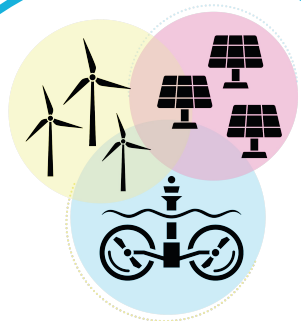
Critical Sectors for Decreasing Emissions in Clackamas County

Critical Sectors

Building Retrofits

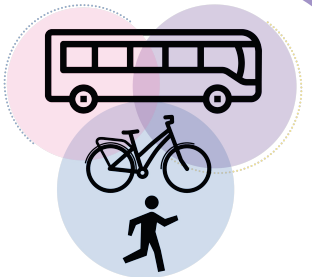


Net-Zero New Construction

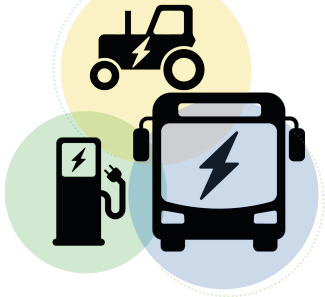


Renewable energy generation

Critical Sectors



Increasing Active Transportation and Transit Use



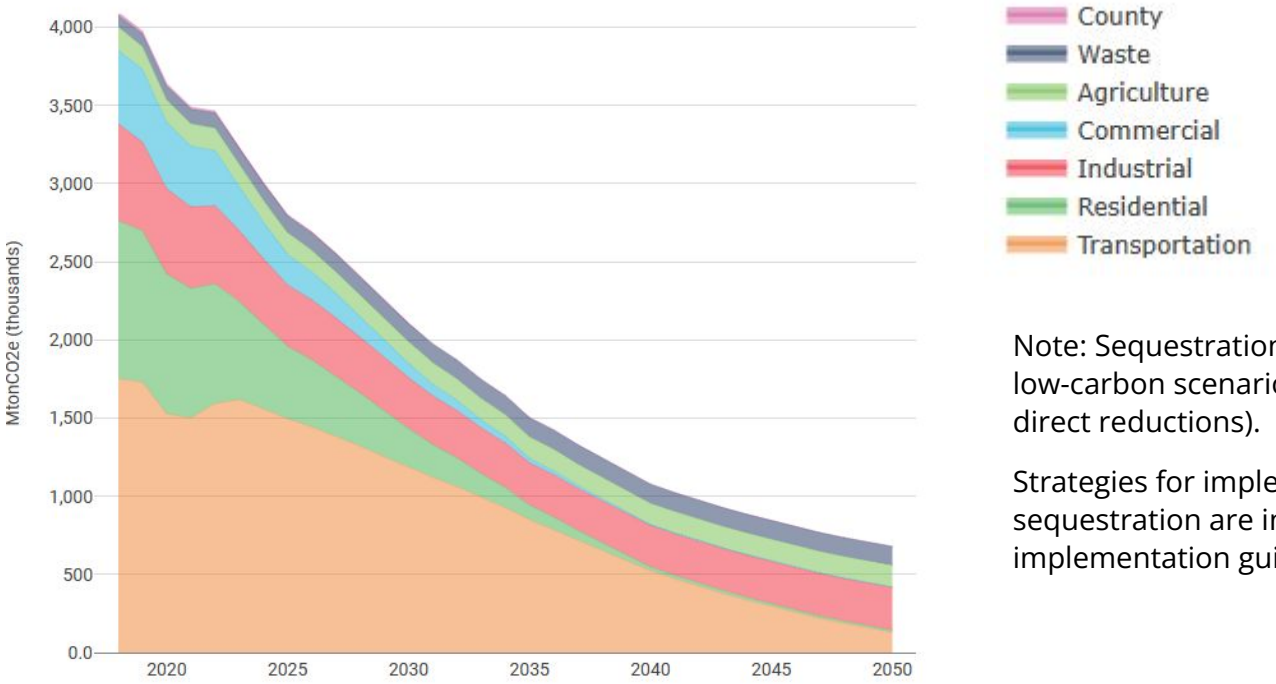
Reducing Vehicle Emissions

Reducing Waste Emissions

OUTCOME ONE: REDUCE COMMUNITY WIDE EMISSIONS

Low Carbon Scenarios

Low Carbon Scenario: Emissions

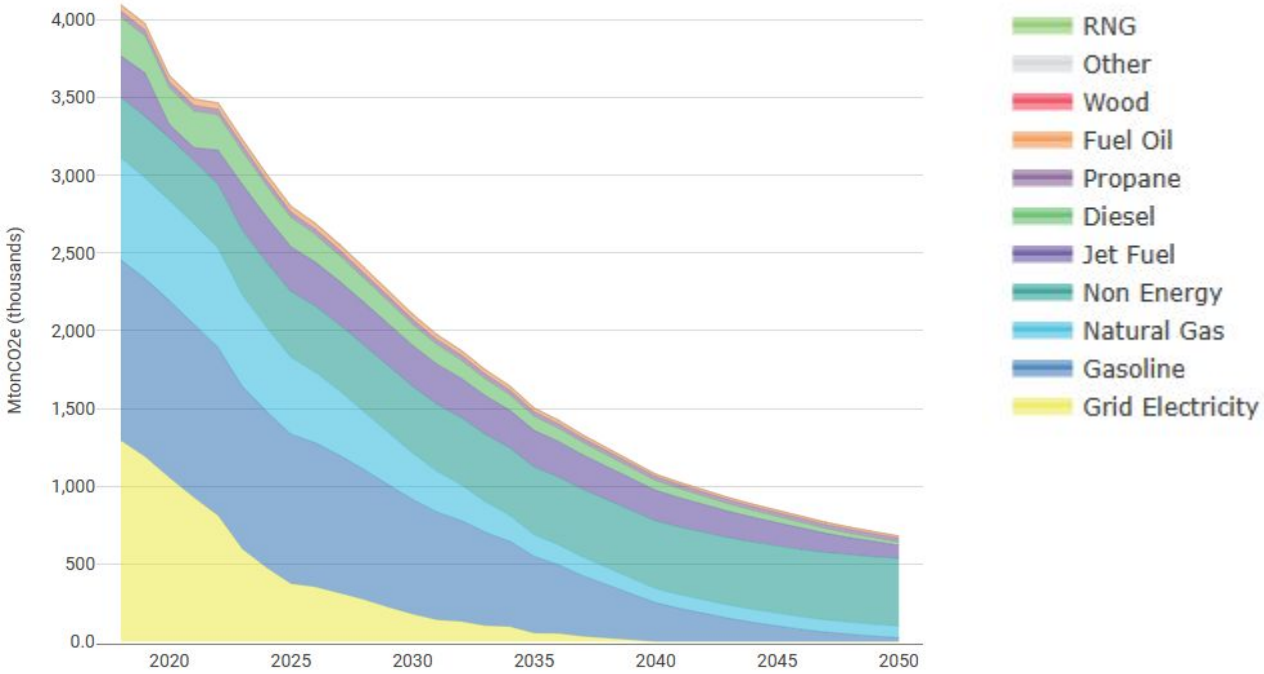


Emissions by sector in the low-carbon scenario

Note: Sequestration not modeled in the low-carbon scenario (which only modeled direct reductions).

Strategies for implementation related to sequestration are included in the implementation guide

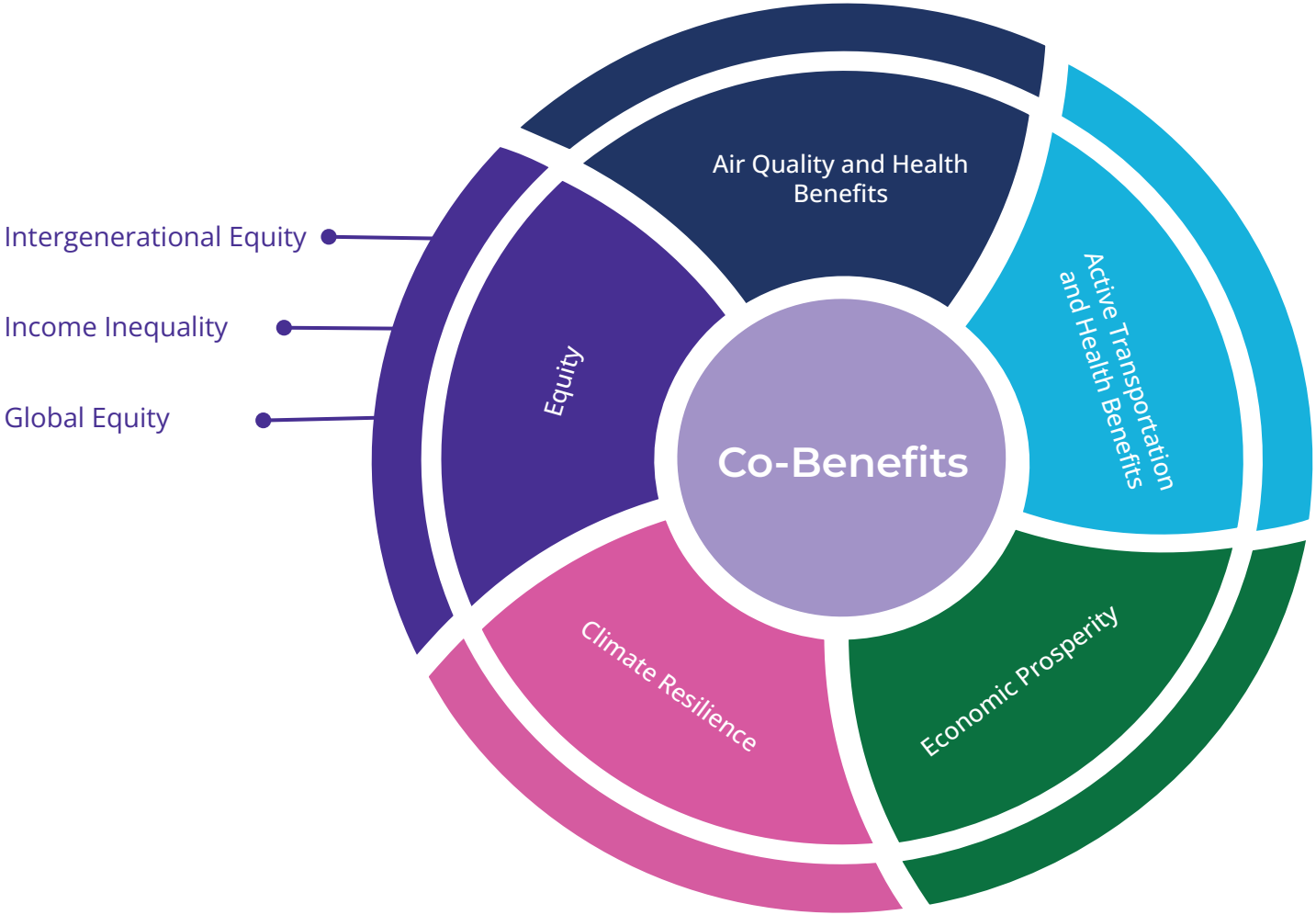
Low Carbon Scenario: Emissions by fuel type



Emissions by sector in the low-carbon scenario

OUTCOME ONE: REDUCE COMMUNITY WIDE EMISSIONS

Low Carbon Co-Benefits


Intergenerational Equity
Income Inequality
Global Equity
Air Quality and Health Benefits
Active Transportation and Health Benefits
Economic Prosperity
Climate Resilience
Equity
Co-Benefits

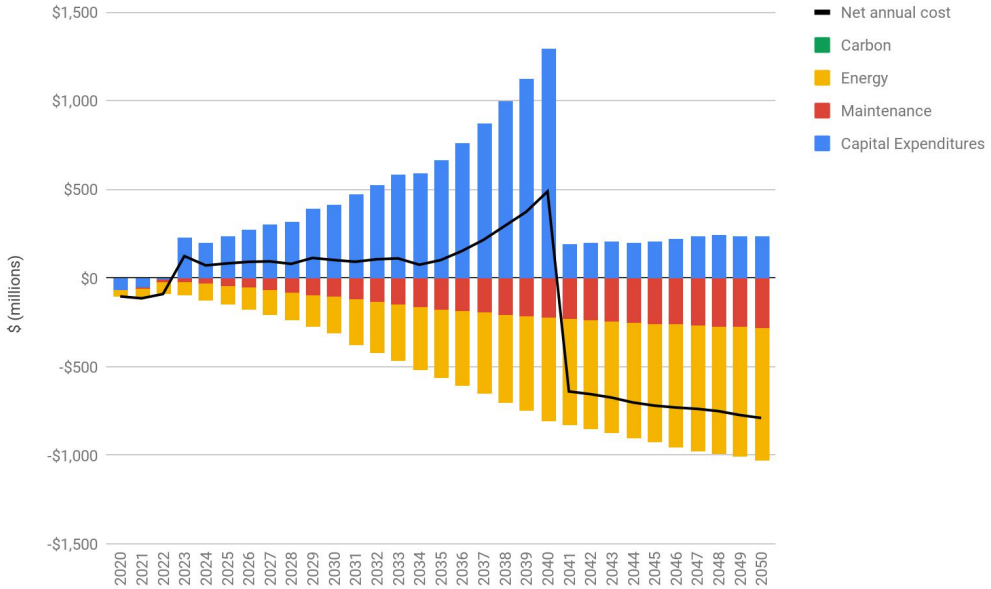
OUTCOME ONE: REDUCE COMMUNITY WIDE EMISSIONS

Capturing an Economic Opportunity

Up-front large investments lead to bigger returns on investment in jobs and long-term low-carbon savings

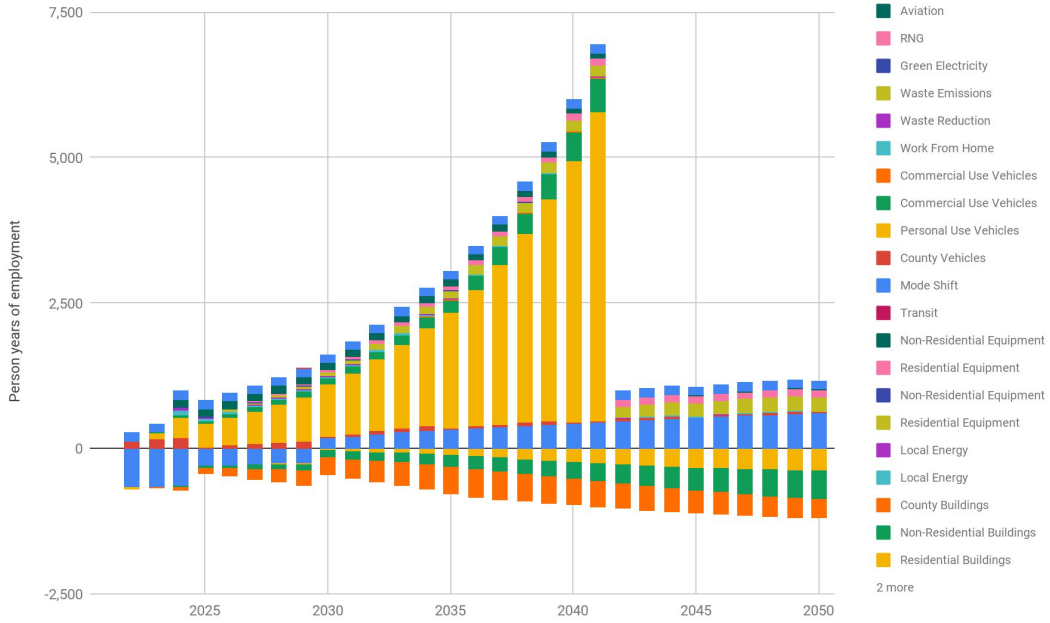
Overall, implementing the low-carbon scenario to address sector-based emissions is projected to generate a net return of $5.6 billion across the county above the business-as-planned scenario.

Low Carbon Scenario: Net Investments and returns



Net investments and returns resulting from the low-carbon scenario.

Low Carbon Scenario: Person-years of Employment



Person years of employment resulting from the low-carbon scenario.

Job Generation 2023-2050

Under Low-Carbon Scenario: Estimated 36,000 person-years of employment

Under Business as Planned: Estimated 34,700 person-years of employment

Financial Scenario Limitations

The financial scenario is a current best-guess estimate of implementing the low carbon actions, but it is very sensitive to change. For example, the introduction of new technology that causes individuals to make currently unexpected changes to reduce emissions can change the financial scenario.

The financial scenario is also sensitive to changes in energy prices. As we have seen in recent years, energy prices can fluctuate widely based on global events such as pandemics and wars. Higher fossil energy prices will mean a low-carbon future for the County will create even more value. These global events cannot be reliably predicted, but if some energy prices were to increase while others remained stable or vice versa, the price of the scenario would change drastically and could push individuals and governments to make different choices about energy sources.

THE OUTCOMES

Outcome Two: Reduce Consumption Based Emissions

To reduce consumption-based emissions, shifts are typically needed in individual choices and other shifts including using less carbon-intensive building and construction materials across the community. Individual choices are out of scope of this project.

When consumption-based emissions are included in the Clackamas BAP, emissions increase by 11% between 2018 and 2050, from 7.2 MtCO2e to nearly 8 MtC02e.

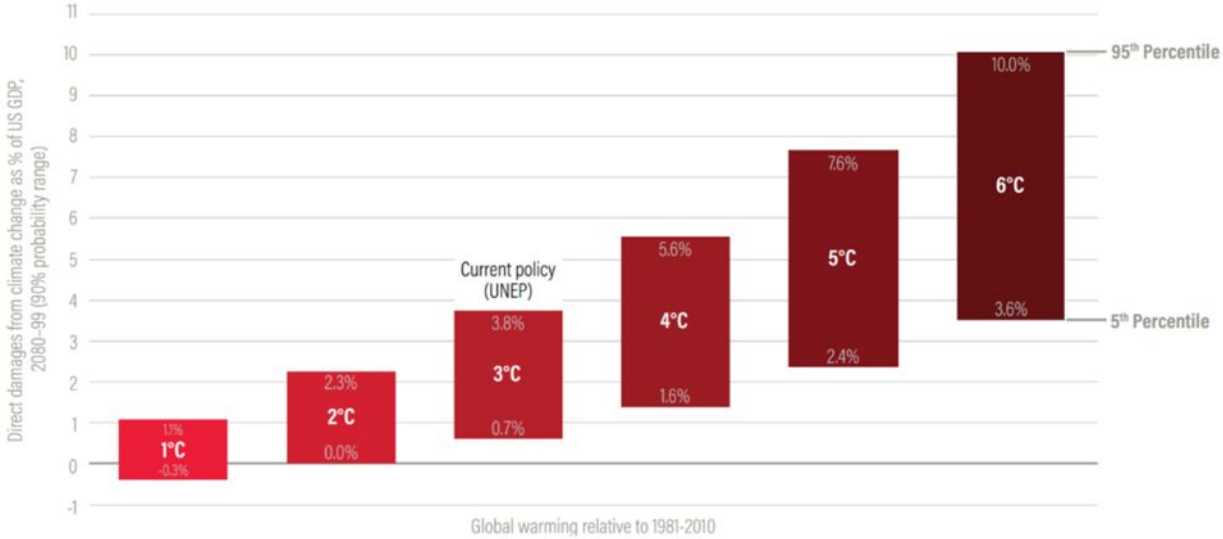
THE OUTCOMES

Outcome Three: Adapt to Climate Change and Reduce Climate-related Risk

Climate Hazards in Clackamas County

- Temperature pattern changes
- Precipitation pattern changes
- Snowpack and runoff
- Extreme heat
- Drought
- Wildfire
- Floods

The Cost of Inaction



US economic damages at different levels of global warming.

Table 3: Billion-dollar events to affect Oregon from 1980 to 2020 (CPI-Adjusted).

Disaster Type	Events	Events/year	Percent Frequency	Total Costs	Percent Of Total Costs
Drought	*13*	*0.3*	*40.6%*	*$2.0B-$5.0B*	*34.6%*
Flooding	*3*	*0.1*	*9.4%*	*$1.0B-$2.0B*	*15.9%*
Freeze	*1*	*0.0*	*3.1%*	*$100M-$250M*	*1.3%*
Severe Storm	*2*	*0.0*	*6.3%*	*$5M-$100M*	*1.0%*
Wildfire	*13*	*0.3*	*40.6%*	*$2.0B-$5.0B*	*47.1%*
All Disasters	***32***	***0.8***	***100.0***	***$5.0B-$10.0B***	***100.0%***

OUTCOME THREE: ADAPT TO CLIMATE CHANGE AND REDUCE CLIMATE-RELATED RISK

Costs of Inaction

CLACKAMAS COUNTY'S CLIMATE ACTION PLAN

Short-Term Implementation

5 Key Steps to Set the Foundation

1. Hire dedicated staff, at the County administration level, to manage and seek funding for the implementation of the CAP.
2. Confirm and apply for funding from federal and state programs aligned with action implementation.
3. Establish an ongoing advisory committee with members from the public to provide ongoing feedback and support of implementation initiatives.
4. Identify and evaluate readiness of key potential partners to assist with implementation of actions not fully within Clackamas County's jurisdictional control.
5. Establish a set of key performance indicators to report on progress and challenges related to implementation.

Roundtable discussion

What do you like about the report or think is particularly effective?

What gives you pause?

What's missing from a definition or explanatory standpoint, to help explain the document to the reader?

What would you like to see more emphasis on that's already in the report? / What can we remove (if anything)?

Public Comment

5 minutes.

Next Steps

1. Please fill out the online feedback survey
    a. Link in the chat and we will email it to you after this meeting.
2. Public feedback period: February 1 - March 1
3. Final CATF meeting in February 2023

THANK YOU

SSG