

# NW Natural 2022 Integrated Resource Plan

Oregon Public Utility Commission Public Meeting Presentation  
November 15, 2022



# Today's Agenda



- Timeline
- Key Changes in 2022 IRP
- Community and Equity Advisory Group
- The Planning Environment
- Defining Resource Needs
- Resource Options
- Results
- Action Plan

2020

2020

2021

2022

2023

Nov

Feb

May

Aug

Nov

Feb

May

Aug

Nov



2018 IRP Update #3

Feb 2 ▶ TWG 1- 2018 IRP Update #3

Mar 21 ▶ 2018 IRP Update #3 Filed

Jun 3 ▶ Supplemental TWG - Planning Standard

Sep 2 ▶ IRP Update #3- Public Meeting

Sep 8 ▶ IRP Update #3- Order 21-274 Issued

Oct 8 ▶ Workshop- Avoided Costs

2022 IRP Timeline

Dec 1 ▶ Petition for Temp Exemption

Jan 13 ▶ Petition Granted - Order 21-013

Sep 29 ▶ Supplemental TWG - Load Considerations

Dec 9 ▶ Supplemental TWG - Emissions Considerations

Jan 14 ▶ TWG 1 - Planning Environment & Environmental Policy

Feb 11 ▶ TWG 2 - Load Forecasting

Mar 28 ▶ TWG 3 - Supply-Side Resources

Apr 13 ▶ TWG 4 - Avoided Costs & Demand-Side

Apr 25 ▶ TWG 5 - Distribution System Planning

May 2 ▶ Stakeholder Requested Meeting

Jun 1 ▶ TWG 6 - Low Carbon Gas Evaluation Methodology and Emissions Compliance Mechanisms; System Resource Planning Model

Jul 18 ▶ Meeting for the Public

Jul 19 ▶ Petition for Temp Exemption

Jul 28 ▶ Petition Granted- Order 22-288

Jul 29 ▶ Draft 2022 IRP Filed

Sep 8 ▶ TWG 7- Portfolio Results and Actions

Sep 23 ▶ Final 2022 IRP Filed

# Key Process Changes for 2022 IRP



- Development of Community and Equity Advisory Group (CEAG)
- Recording of Technical Working Group (TWG) Stakeholder Workshops and posting on NW Natural website
- Posting TWG presentations on NW Natural website
- Established online workpaper depository for stakeholder review and held workpaper tour workshop
- Post-filing office hours to field stakeholder questions

# Key Analytical Changes in 2022 IRP



- Switching to the PLEXOS software for system planning optimization
- State specific emissions compliance planning
- Utilization of stochastic risk analysis as the primary tool for developing the Action Plan
- More detailed assumptions about low-GHG emitting resources
- Change in how load forecasting models are deployed
- Including transportation schedule loads in our optimization modeling
- Inclusion of implementation workbook for low carbon gas evaluation methodology
- Inclusion of customer bill impacts in addition to system costs
- Results presented in comparison to a “reference case”



# Community & Equity Advisory Group (CEAG) NW Natural®

## Background & Development

- NW Natural has a long history of community involvement throughout its service territory & has a commitment to diversity, equity, and inclusion
  - Summer 2021- Summer 2022: Development of a Community & Equity Advisory Group (CEAG) to advise on system planning processes, & other key company programs and initiatives
  - Broad panel of representatives from Community-Based Organizations (CBOs)
    - Representatives from OR & WA
    - 10-15 representatives; compensated
- Impetus for advisory group arose from previous IRP processes and conversations with stakeholders
  - IRP will be one touch point for CEAG
  - 2022 IRP timing does not fully align with timing for inaugural CEAG utilization
    - Opportunity for CEAG to evaluate 2022 IRP process and provide feedback for future

# Community & Equity Advisory Group (CEAG) NW Natural®

## Role of the CEAG & Relationship to the IRP

### Serves 3 primary functions

#### Discussion

- Participate in (facilitated) discussions regarding NW Natural's energy system planning, programs, investments, and other topics related to the operations of the Company

#### Perspective

- Provide advice, experience, and perspectives on social, economic, racial, tribal, and environmental equity, and assist in identifying best practices/ solutions for improving and expanding equity

#### Learning

- Understand (at a high level) the environment in which NW Natural operates, programs and other topics brought forward for discussion.

### NW Natural Commitments:

#### Approach from a place of learning

- Broaden perspective through partnership
- CBOs are experts in/knowledge of the experiences of underrepresented communities

#### Intentional, Iterative, Non-Extractive

- Use of a third-party facilitator
- Build upon best practices & experiences from peer utilities
- Timing determined, in part, by needs of CBOs

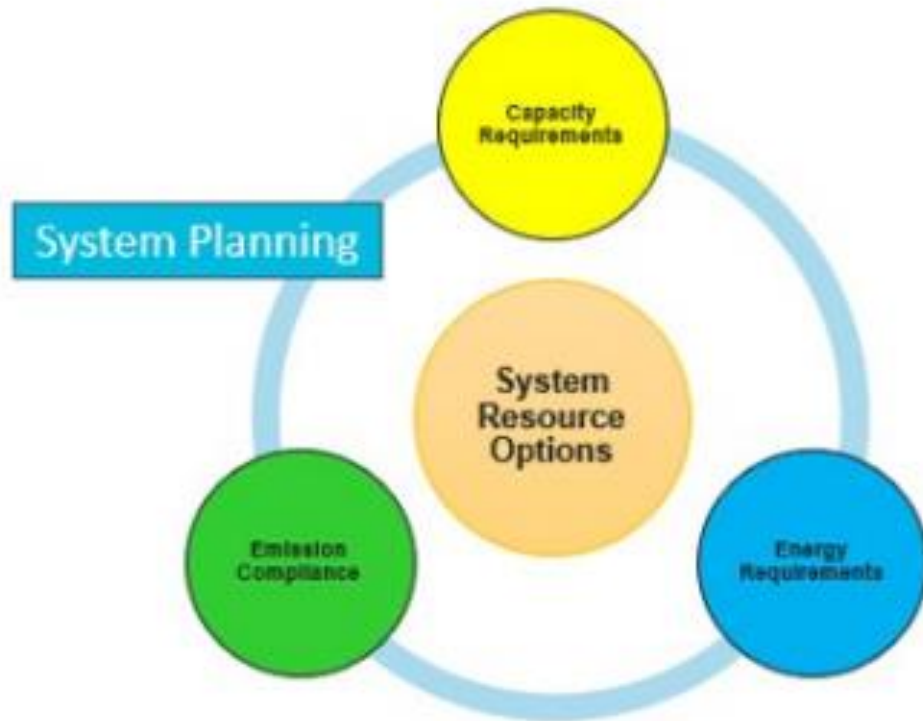
#### Accountability with respect to CEAG feedback and recommendations

# IRP Analysis Process





# Two Planning Types in IRP

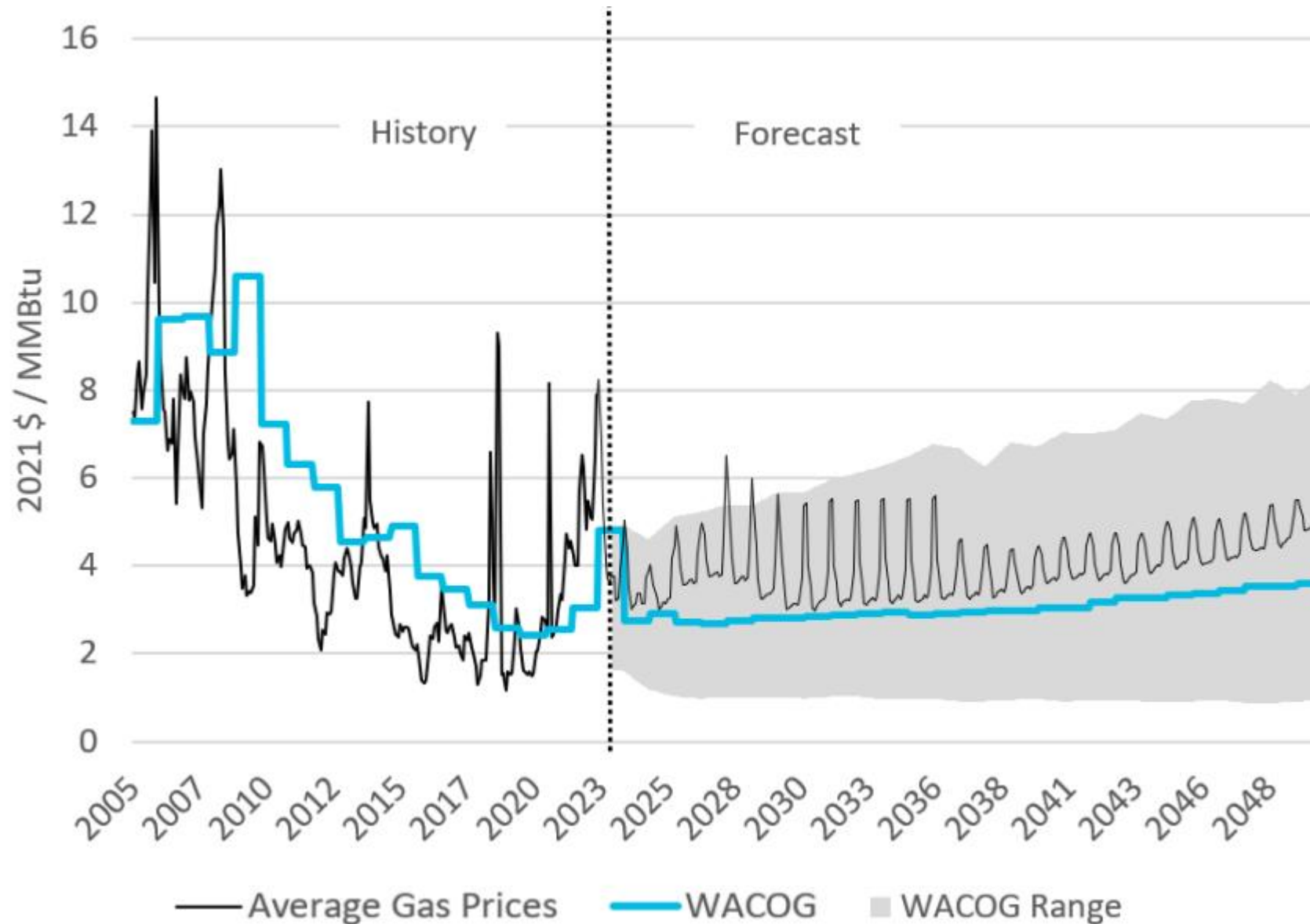


# A Lot Has Changed Since the Last IRP

## PLANNING ENVIRONMENT



# Conventional Gas Prices

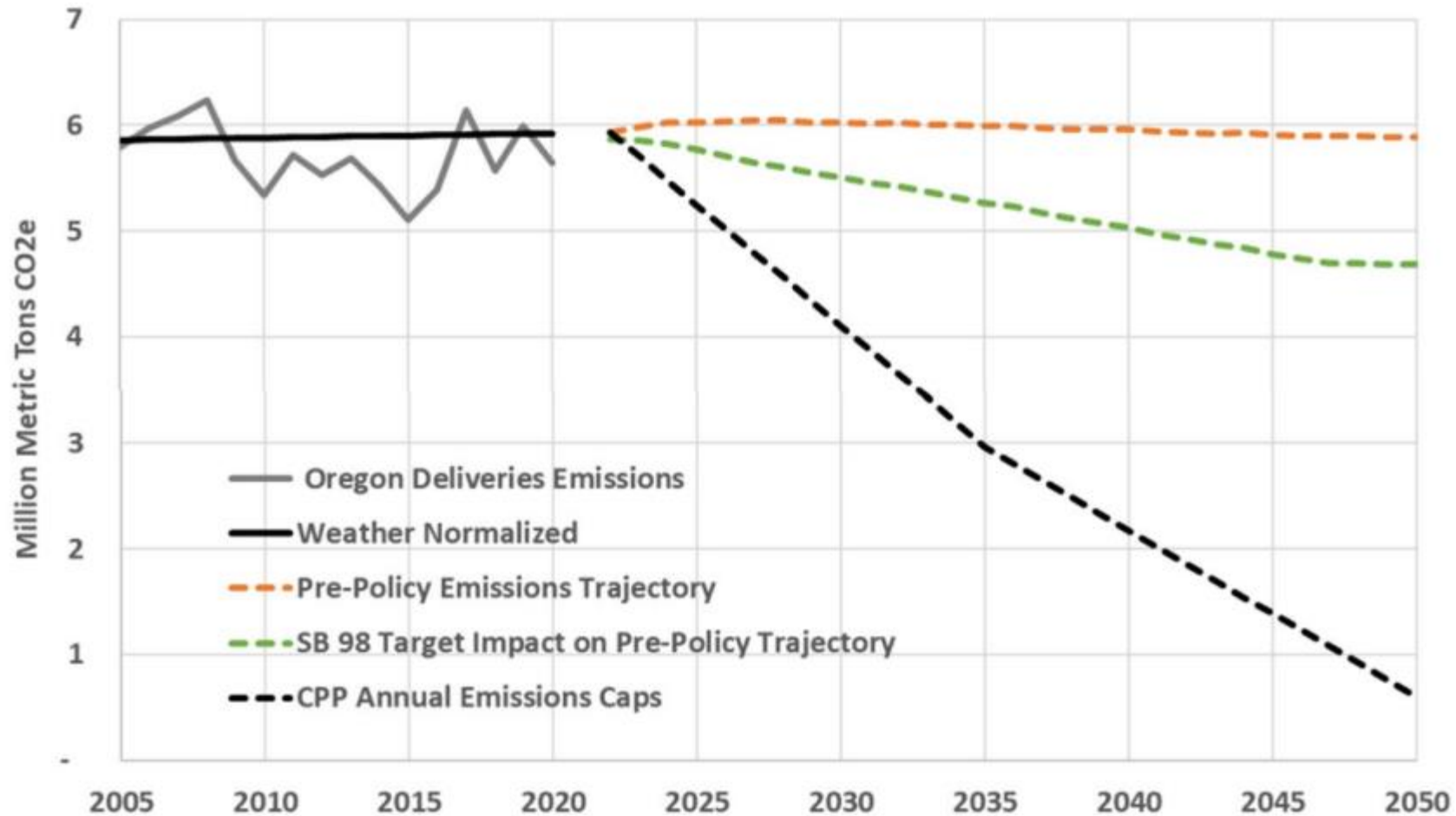


# Renewable Natural Gas (RNG) Market Growth



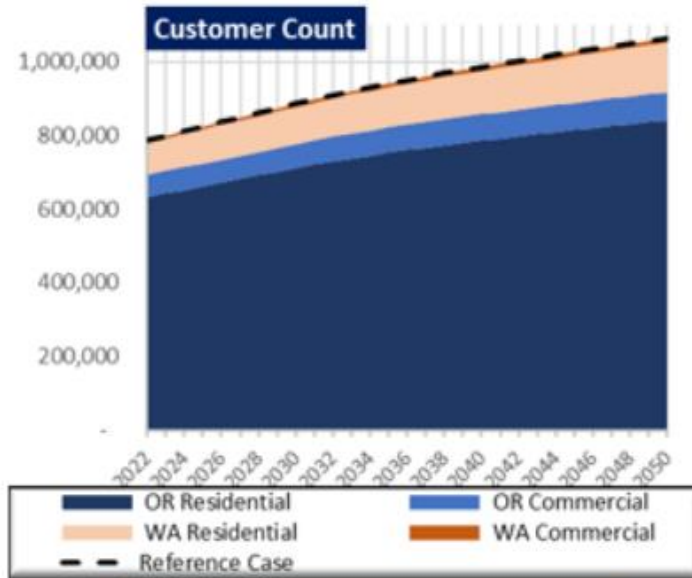
Source: RNG Coalition. <https://www.rngcoalition.com/infographic>

# ODEQ Climate Protection Program Compliance

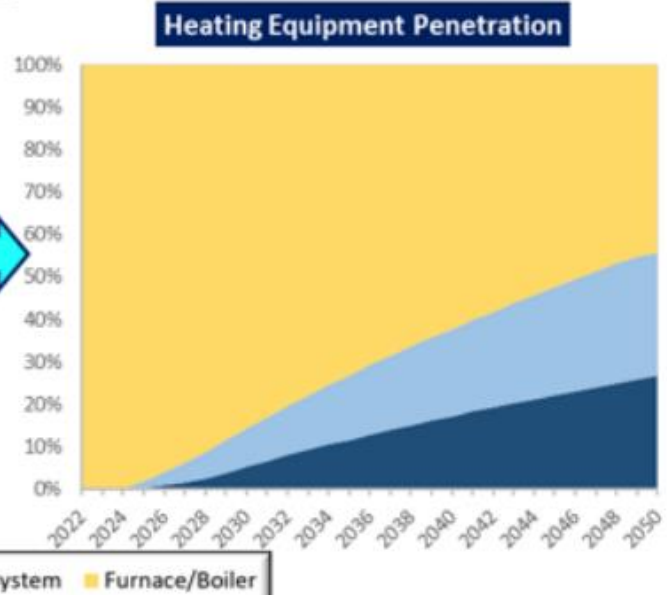
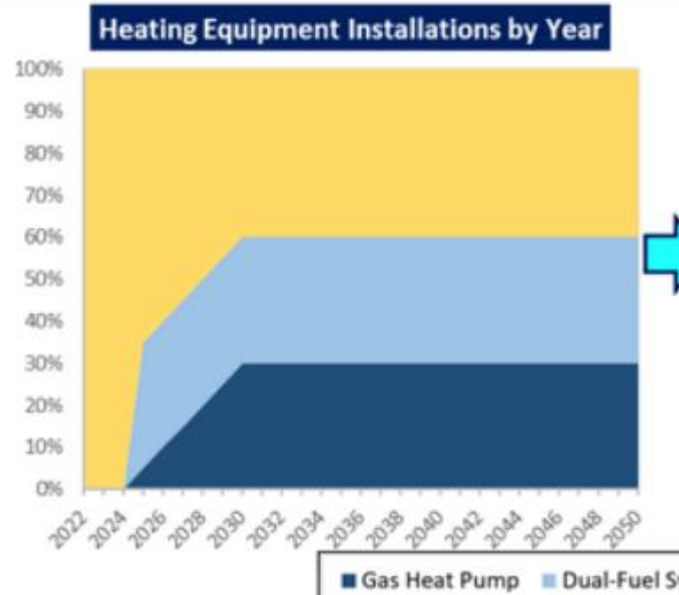




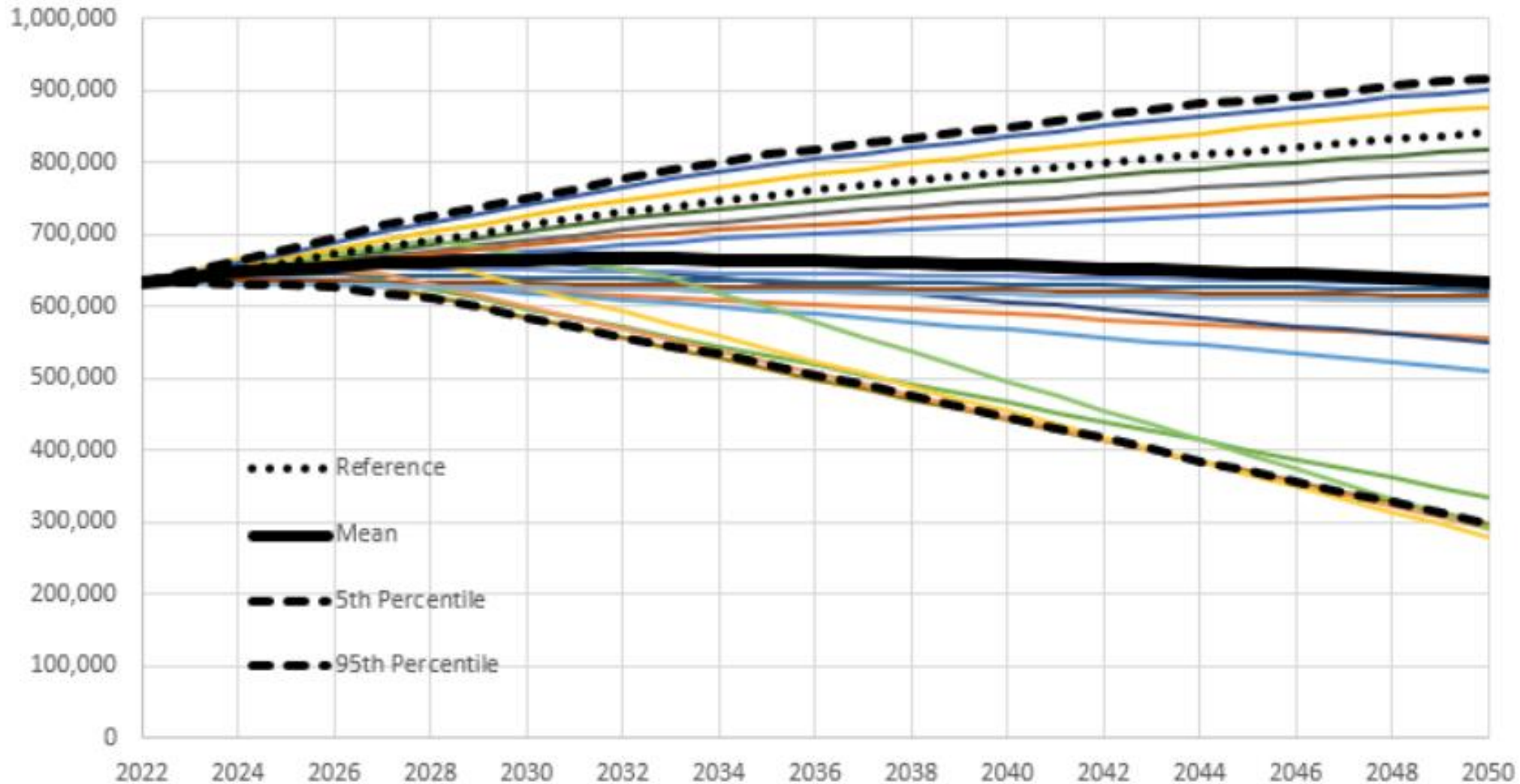
# Analysis Example- Scenario 1



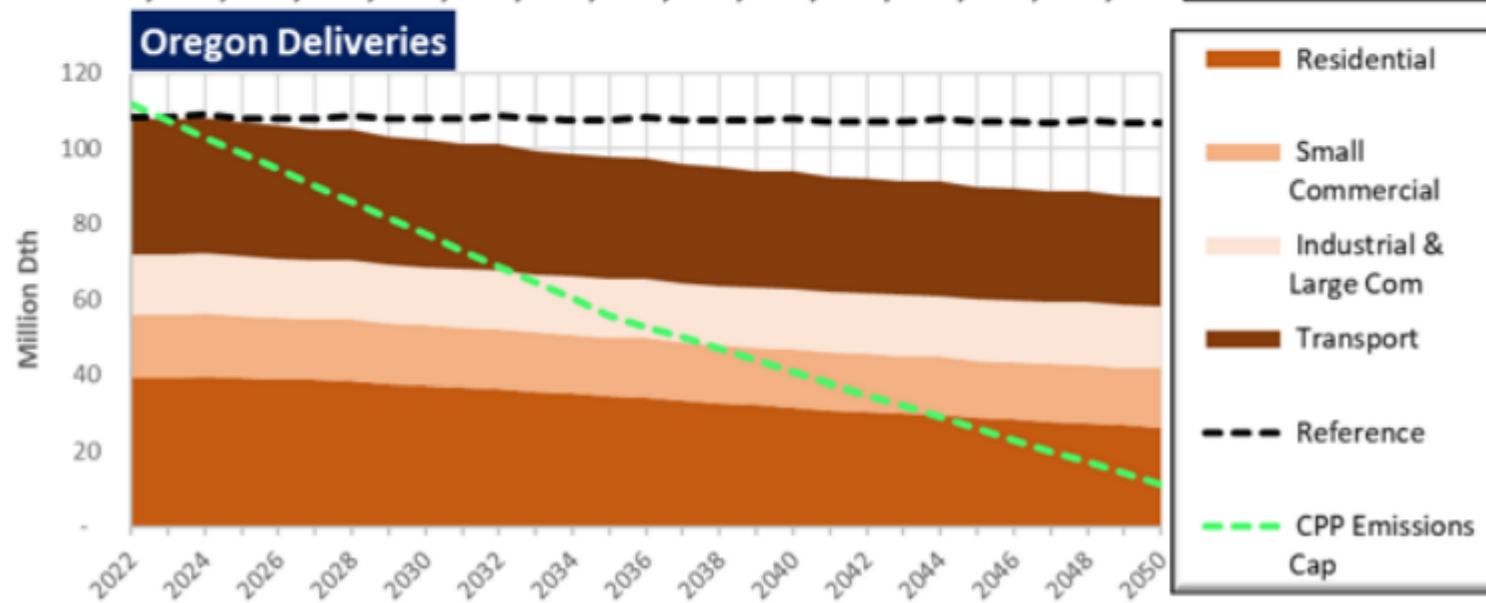
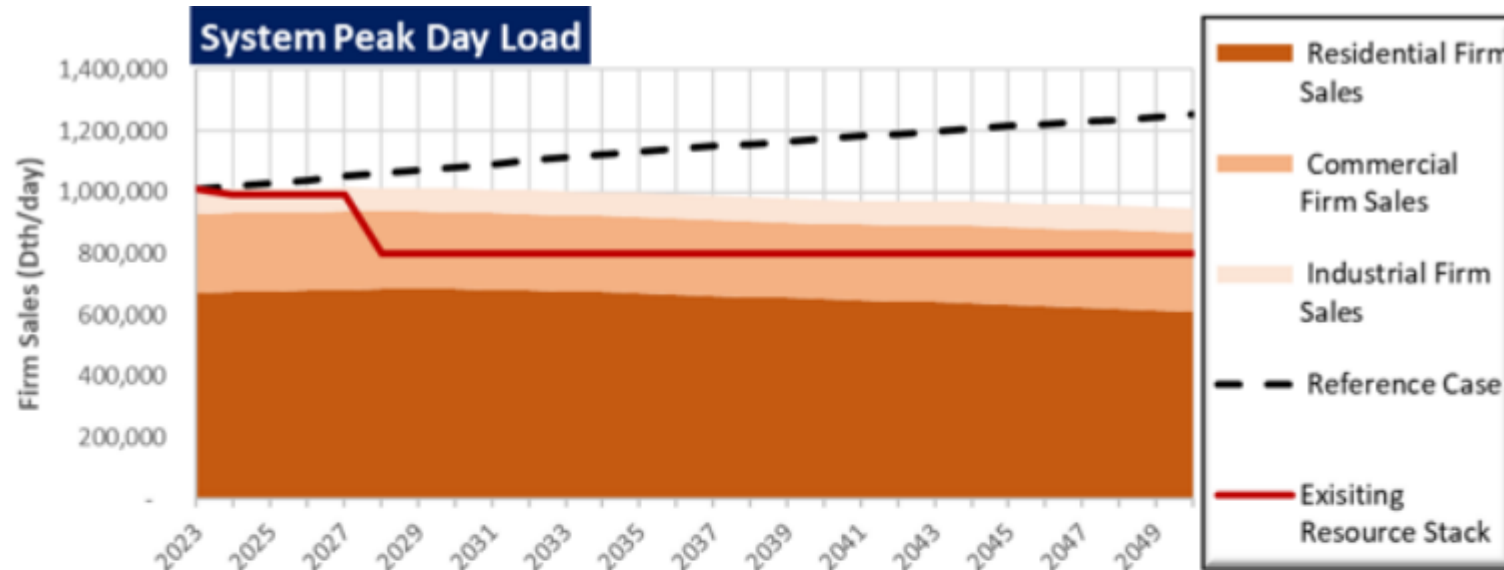
Demand-Side Assumptions	
Sales Customer Energy Efficiency	Energy Trust of Oregon projection of savings, at \$5.06/therm of first year savings
Transport Customer Energy Efficiency	Applied Energy Group projection of savings at \$1.79/therm of first year savings
Gas Heat Pump Cost	\$4,000 total cost to utility for a residential heating system, \$13,000 for a Commercial heating System; \$1600 for residential water heater
Dual-Fuel System Costs	Net cost of \$400 to utility



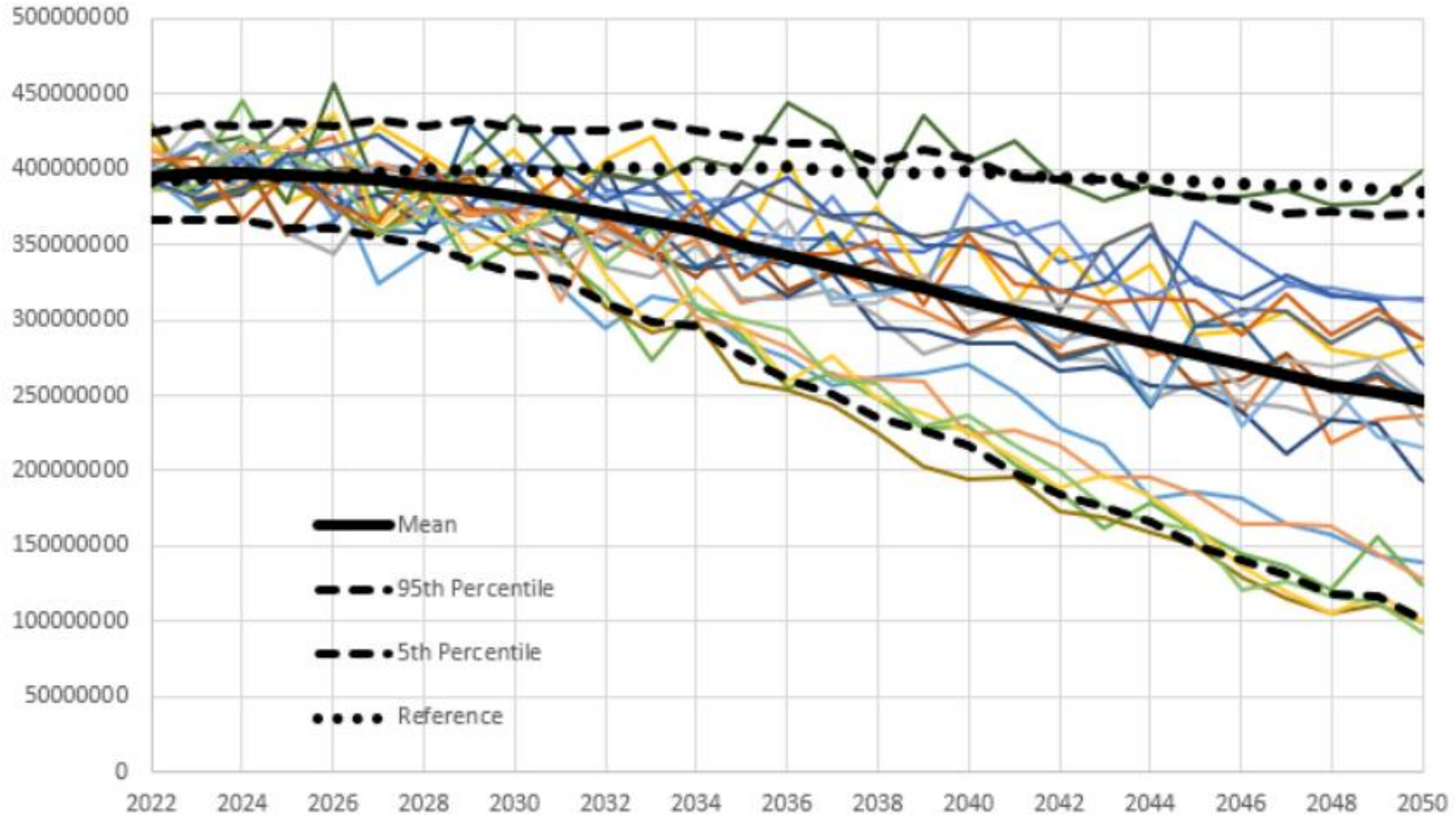
# Risk Analysis- Residential Customer Count Example



# Analysis Example- Scenario 1



# Risk Analysis- Residential Load Example

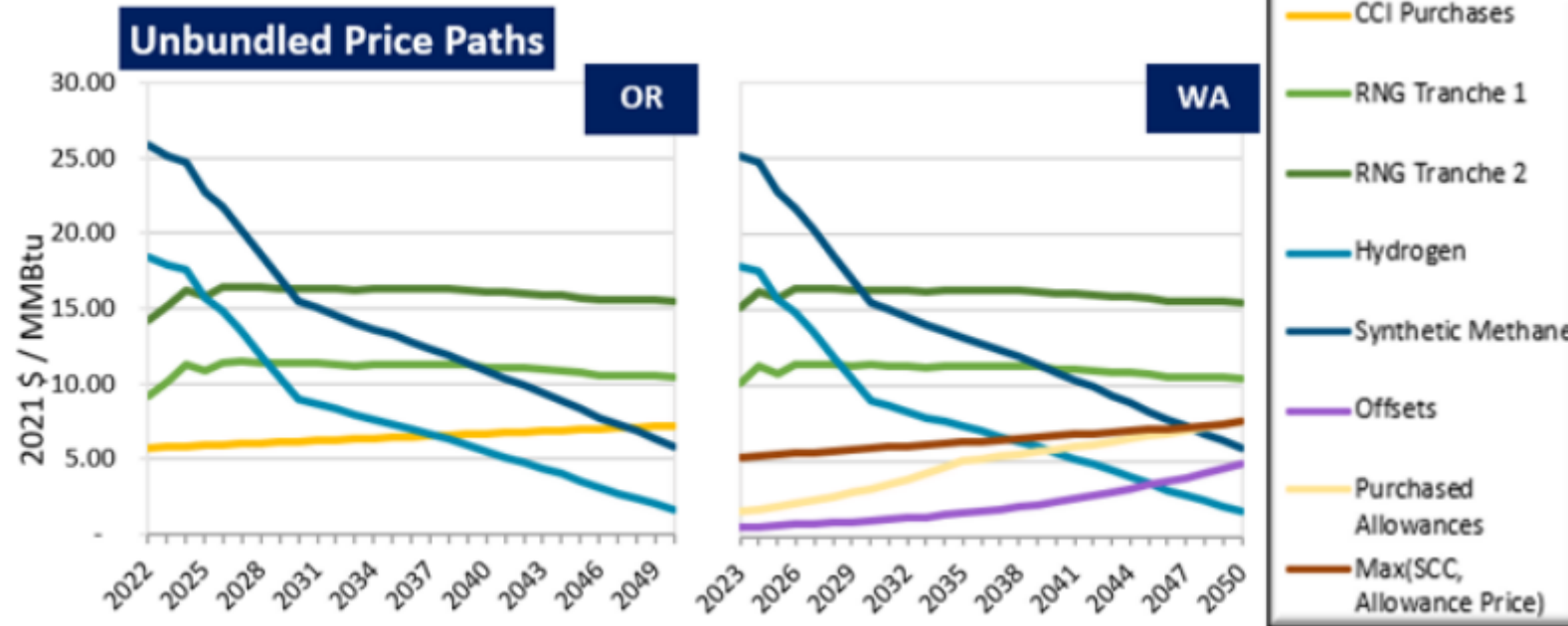
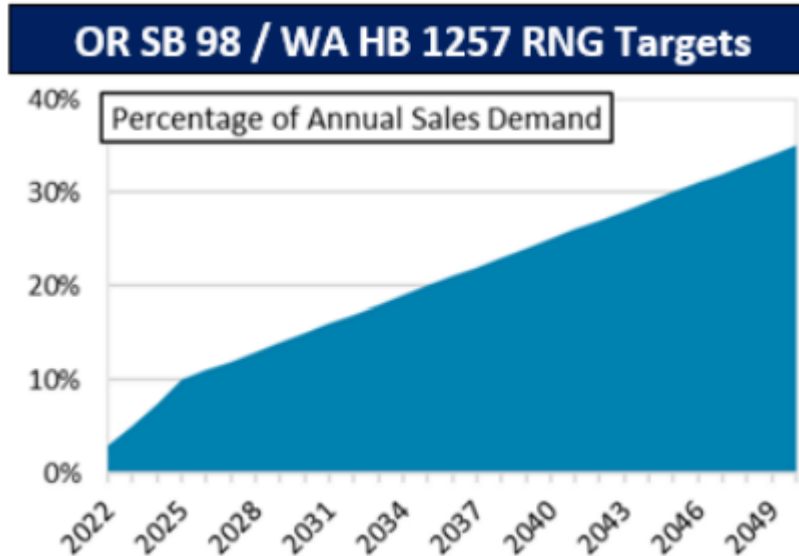




# Analysis Example - Scenario 1

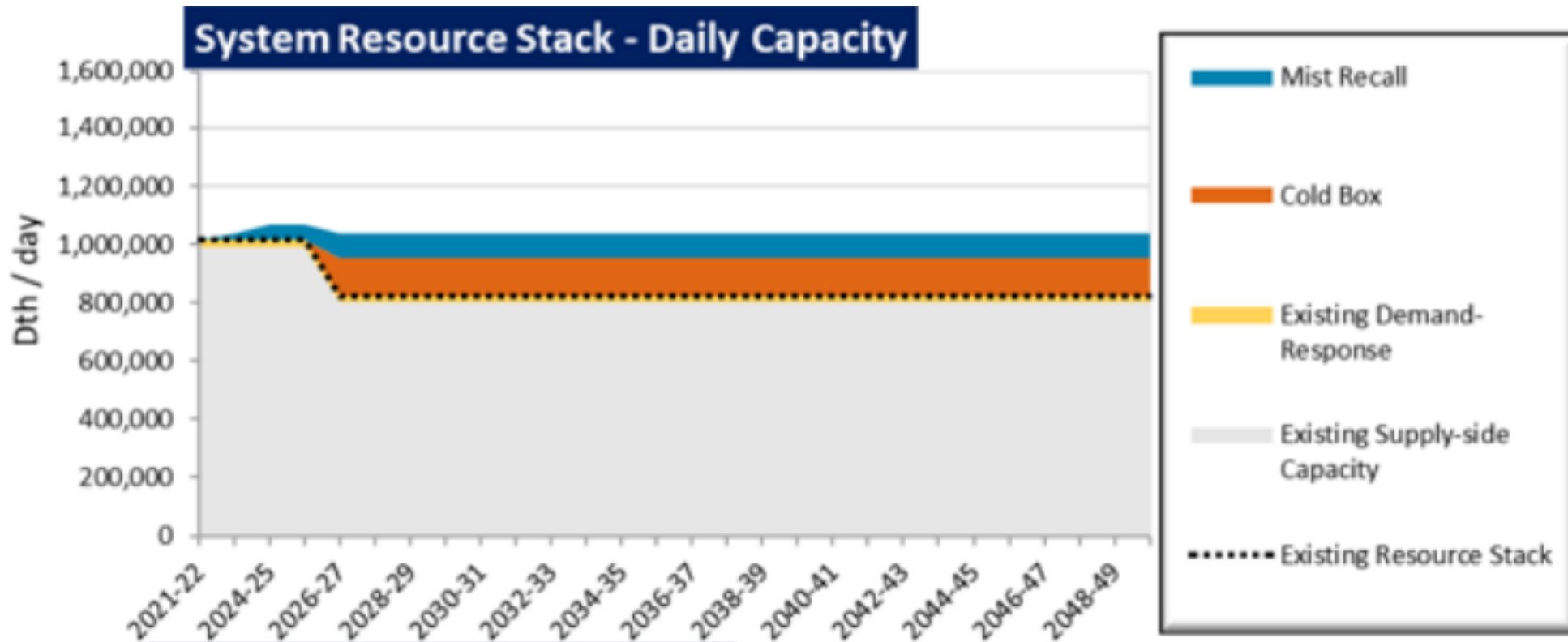


Quantity Available	
Option	Limit
RNG Tranche 1	13,000,000 Dth / year
RNG Tranche 2	27,000,000 Dth / year
Hydrogen	20% of Deliveries by Energy
Synthetic Methane	Unbounded
CCIs	OR Compliance Period 1: 10% OR Compliance Period 2: 15% OR Compliance Period >=3: 20%
Allowances	Unbounded
Offsets	WA Compliance Period 1: 6% WA Compliance Period >=2: 8%

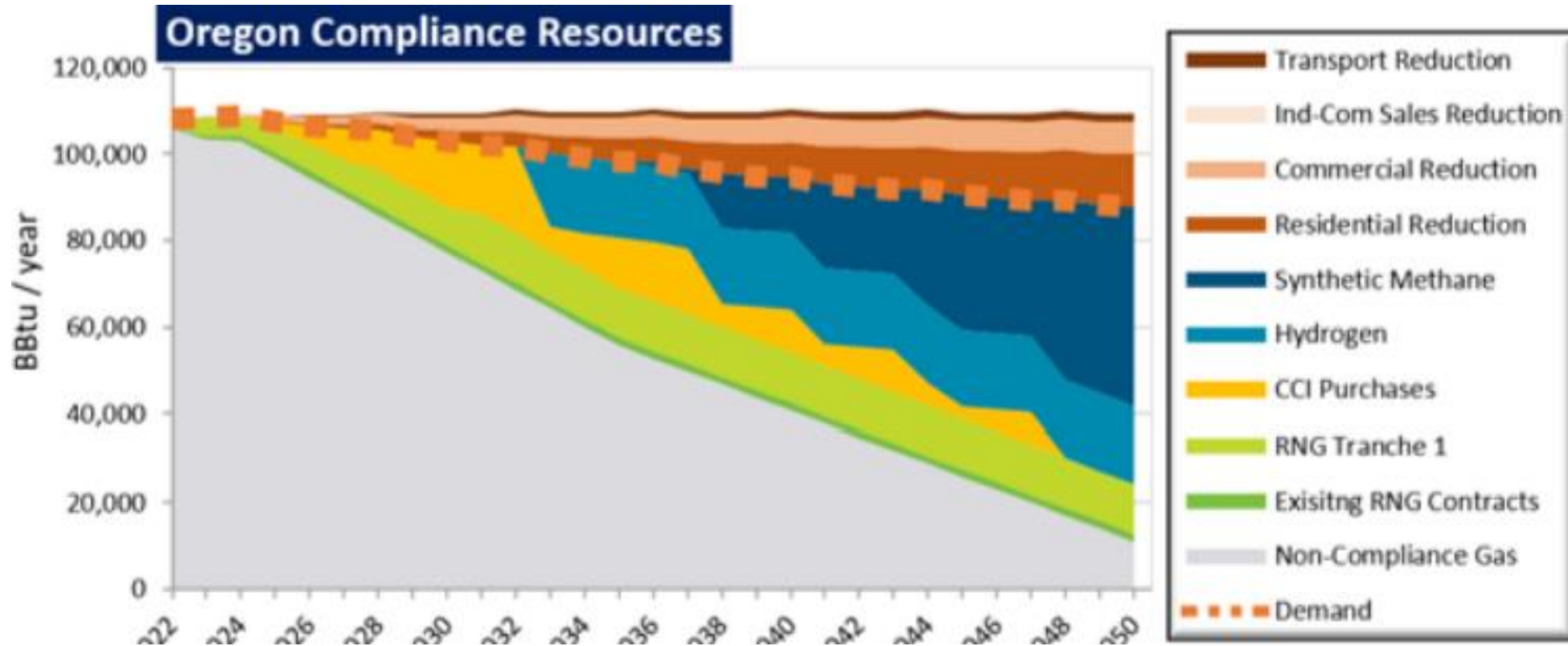




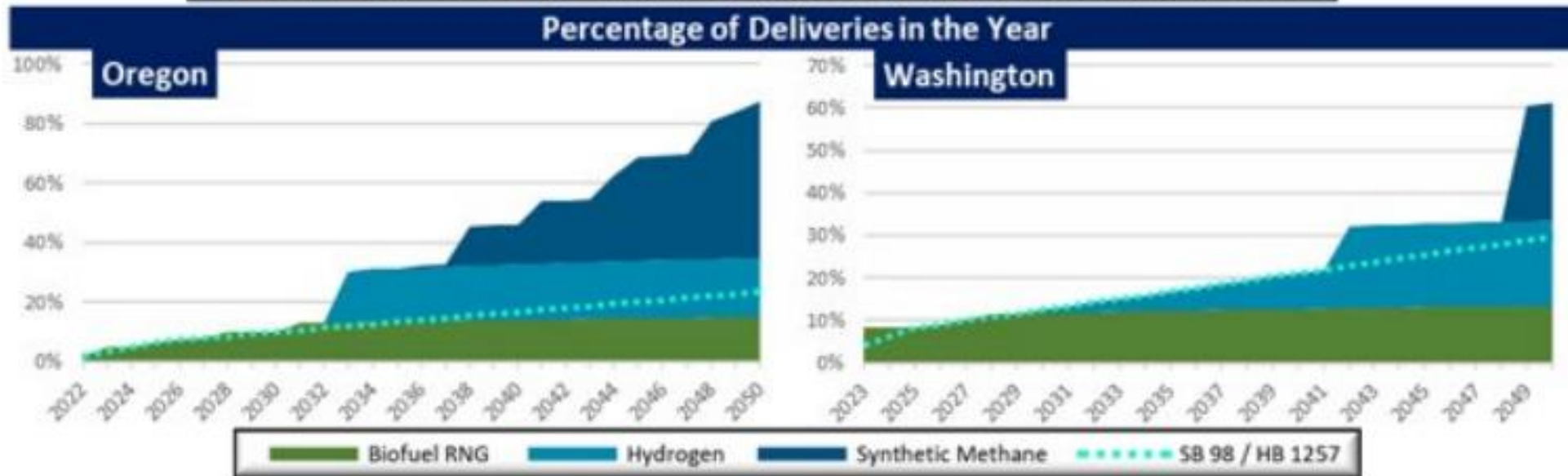
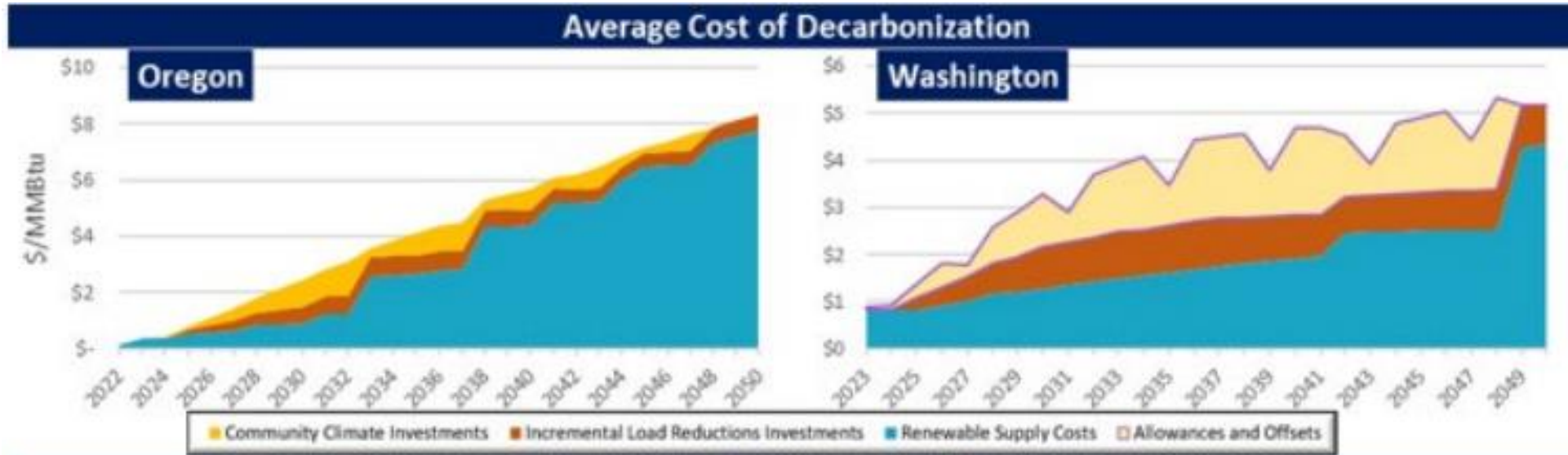
# Analysis Example- Scenario 1



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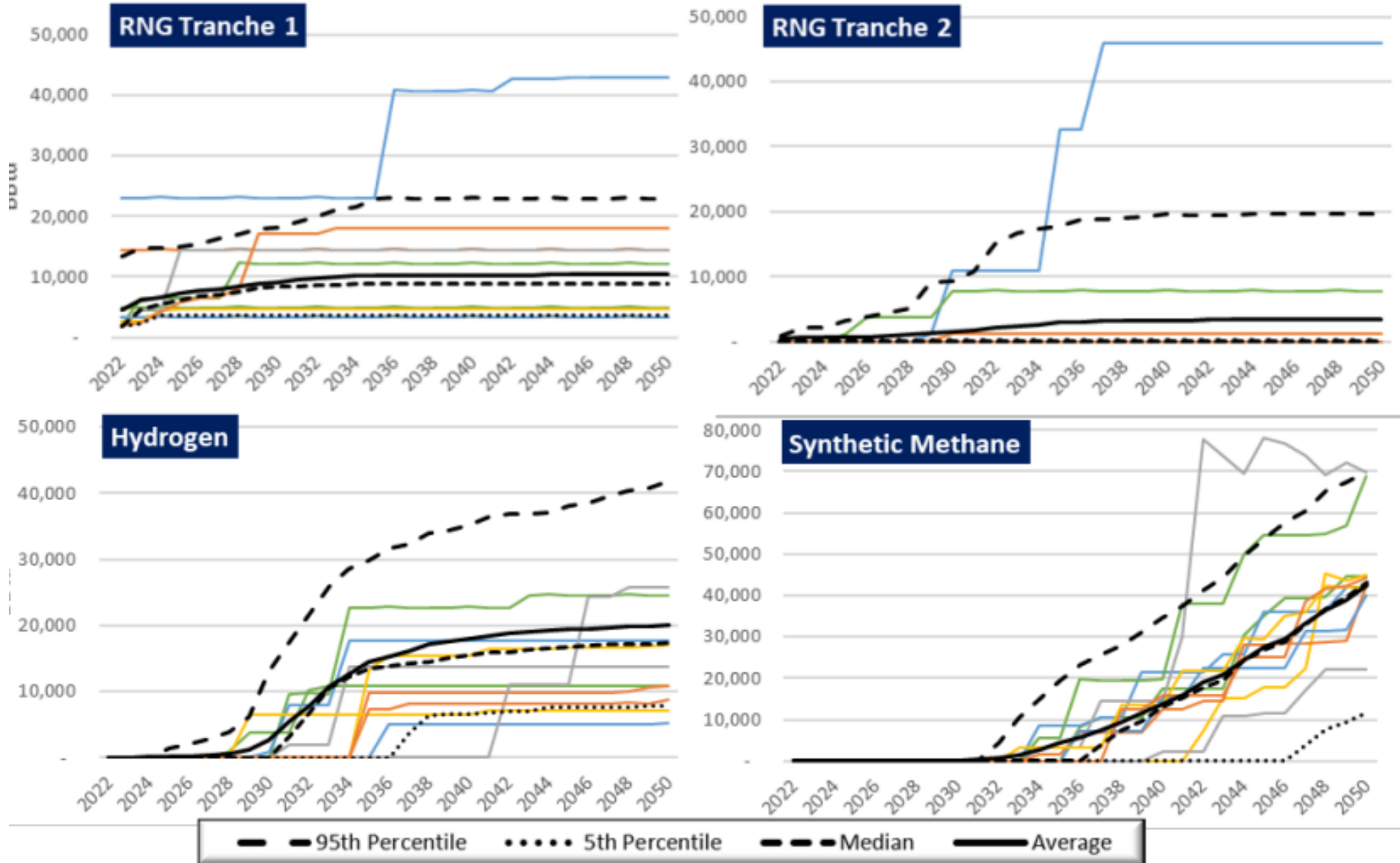
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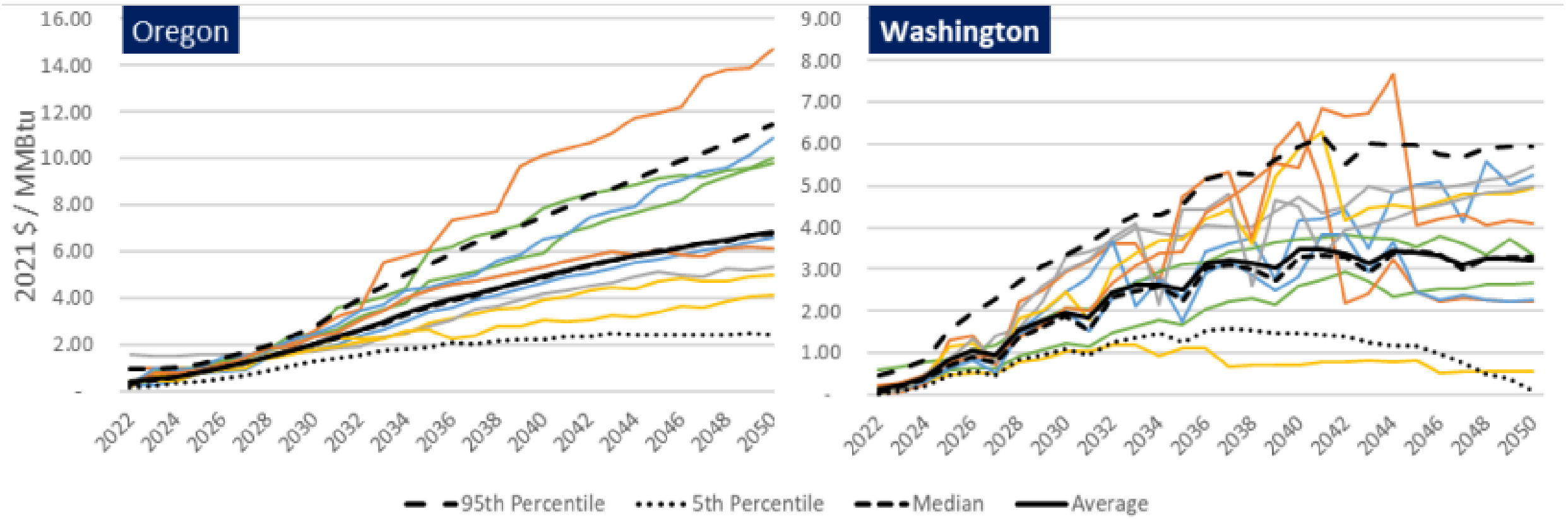


# Risk Analysis Low Emissions Gas Results





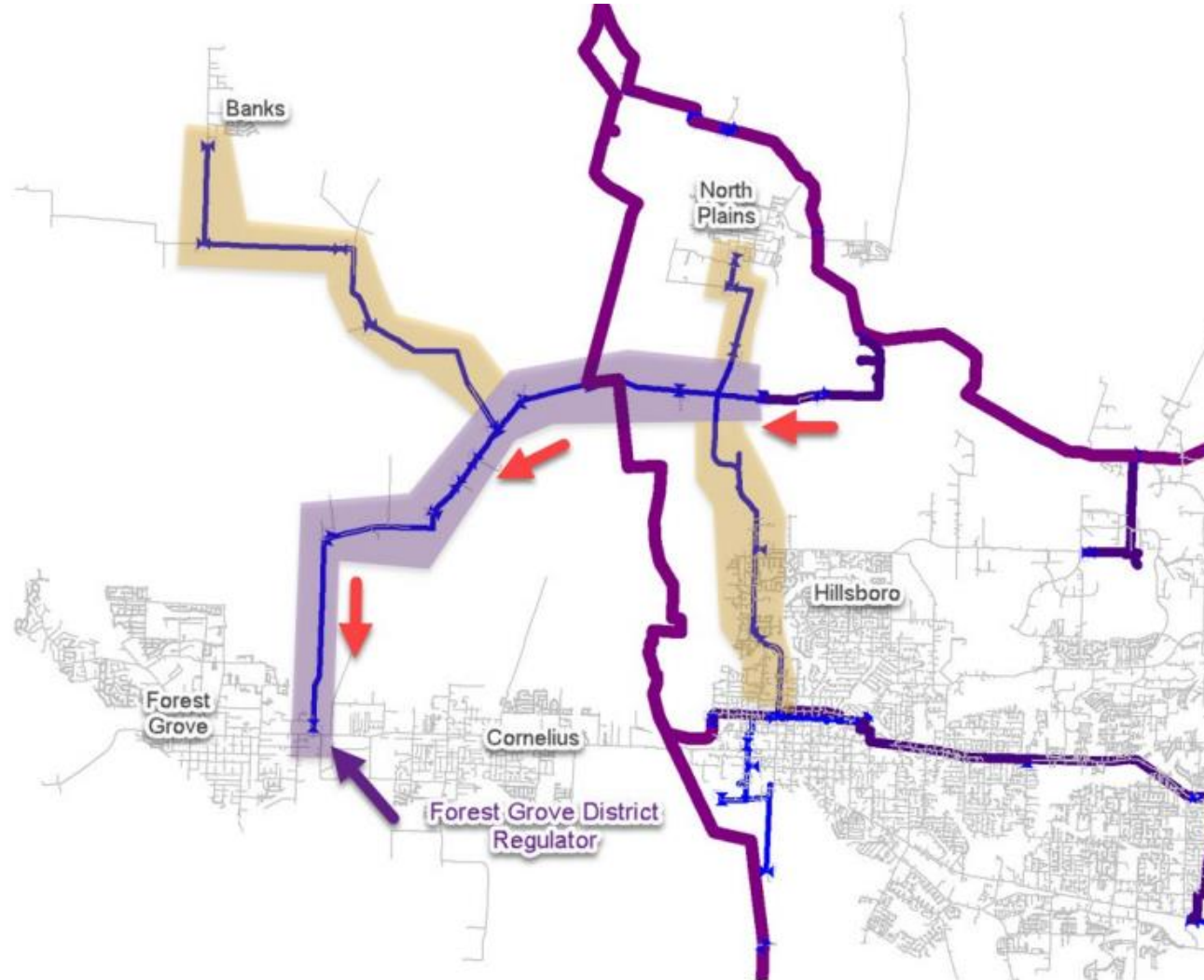
# Cost of Environmental Compliance



## Oregon Emissions Compliance Action Items:

4. Working through Energy Trust of Oregon, acquire 5.7 – 7.8 million therms of first year savings in 2023 and 6.7 – 8.9 million therms of first year savings in 2024, or the amount identified by the Energy Trust board.
5. In Oregon, to achieve SB 98 targets, seek to acquire 3.5 million Dths of renewable natural gas (RNG) in 2024 and 4.2 million Dths of RNG in 2025, representing 5% and 6% of normal weather sales load in 2024 and 2025.
6. Work with Energy Trust of Oregon, the Alliance of Western Energy Consumers and other stakeholders to develop energy efficiency programs for transportation schedule customers by 2024.  
*While this item is a part of our compliance strategy, NW Natural is not asking for acknowledgment from the OPUC of this item as we are already pursuing this action.*
7. In Oregon, purchase Community Climate Investments representing any additional Climate Protection Plan (CPP) compliance needs for years 2022 and 2023 in Q4 2023 and for year 2024 in Q4 2024 based upon actual emissions to ensure compliance with the 2022-2024 compliance period.

# Forest Grove Uprate Project



## Capacity Resource Action Items:

1. Acquire 20,000 Dth/day of deliverability from either recalling Mist, a city gate deal, or a combination of both for the 2023-24 gas year. Based upon updated load forecast in upcoming IRP updates recall Mist capacity as required for the 2024-25 and 2025-26 gas years.
2. Replace the Cold Box at the Portland liquified natural gas (LNG) facility for a targeted in-service date of 2026 at an estimated cost of \$7.5 to \$15 million.
3. Scope a residential and small commercial demand response program to supplement our large commercial and industrial programs and file by 2024.

# Action Plan



The Action Plan turns the results of the IRP analysis into discrete near-term activities that represent the best combination of least cost and least risk over the IRP planning horizon. The action items in this Action Plan are robust in regard to a wide range of potential future outcomes and therefore all represent low regret ways to move forward in the current environment.

## **Distribution System Action Item:**

8. In Oregon, uprate the Forest Grove Feeder (also known as the McKay Creek Feeder) to be in service for the 2025 gas year at an estimated cost of \$3.0 to \$7.0 million.