

# Natural Gas Integrated Resource Plan

Technical Advisory Committee (TAC) # 1

February 16, 2022

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### Agenda

Item	Time
Meeting Guidelines and reminders	9:00am – 9:10am
2023 IRP Topics and Timeline	9:10am – 9:30am
2021 IRP Review	9:30am – 9:45am
Weather Planning Standard	9:45am – 10:00am
Break	10:00am – 10:10am
RNG Supply Overview	10:10am – 11:00am
Climate Protection Plan (CPP) Overview	11:00am – 12:00pm



### **Meeting Guidelines**

- IRP team is working remotely and is available for questions and comments
- Stakeholder feedback form
  - Responses shared with TAC at meetings, by email and in Appendix
  - Would a form and/or section on the web site be helpful?
- IRP data posted to web site updated descriptions and navigation are in development
- Virtual IRP meetings on Microsoft Teams until able to hold large meetings again
- TAC presentations posted on IRP page
- This meeting is being recorded and an automated transcript made



### **Virtual TAC Meeting Reminders**

- Please mute mics unless speaking or asking a question
- Raise hand or use the chat box for questions or comments
- Respect the pause
- Please try not to speak over the presenter or a speaker
- Please state your name before commenting for the note taker
- This is a public advisory meeting presentations and comments will be documented and recorded



### **Integrated Resource Planning**

The Integrated Resource Plan (IRP):

- An IRP is submitted every 2 years in Idaho, Oregon and Washington
- Guides resource strategy over the next twenty + years
- Current and projected load & resource position
- Resource strategies under different future policies
  - Supply side resource choices
  - Conservation / demand response
  - Customer growth
- Market and portfolio scenarios for uncertain future events and issues



### **Technical Advisory Committee**

- The public process piece of the IRP input on what to study, how to study, and review of assumptions and results
- Wide range of participants involved in all or parts of the process
  - Please ask questions
  - Always soliciting new TAC members
- Open forum while balancing need to get through topics
- Welcome requests for new studies or different modeling assumptions.
- Available by email or phone for questions or comments between meetings



- Weather forecast
  - Peak Weather
- 2021 IRP Action Items
- Climate Protection Plan (CPP)
- Renewable Natural Gas (RNG)



- Natural gas market overview
- Natural gas price forecast
- Transportation contracts
- Current supply side resources
- Future supply side resource options
- Climate Commitment Act (CCA)
- Electrification



- Clean energy survey study
- Conservation potential assessment
  - AEG (ID and WA)
    - Performing a low income and transportation customer study for Oregon
  - ETO (OR)
- Demand Response (AEG)
- Plexos model overview
- Distribution system planning



- Preferred Resource Strategy
- Portfolio scenario analysis
- Risk assessment and stochastics
- Carbon Pricing
  - Social cost of carbon (OR and WA)
- Action Items for next IRP
- Other items of interest



### 2023 – Avista Natural Gas IRP







# Avista 2021 IRP Review





Avista Natural Gas Service Areas, Gas Fields, Trading Hubs and Major Pipelines





### **LDC - Total System Average Daily Load**





### **Existing Resources vs. Peak Day Demand**

Expected Case – Washington/Idaho (DRAFT)



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### **Existing Resources vs. Peak Day Demand**

**Expected Case – Klamath Falls (DRAFT)** 





### **Existing Resources vs. Peak Day Demand**

**Expected Case – La Grande (DRAFT)** 





### **Carbon Reduction scenario**

- Carbon reduction goals to meet 2035 targets of 45% below 1990 emissions
- Any actual availability of physical RNG resources and rate impact by year can be further studied in future Integrated Resource Plans
- Actual projects will be considered on an ad-hoc basis to determine which costs and environmental attributes may make different RNG types a least cost solution
- Exact 1990 emissions are not known and are estimated based on prior 10k's
- Many of the rules from EO 20-04 will be coming out after this IRP is submitted
- Allowances are not considered



### **Major Changes since last IRP**

- CCA (WA)
- CPP (OR)
- Clean Energy Costs
- Risk of Customer growth



### **2021 IRP Action Items**

Action Item	Commission
Recommendation 1: In the next IRP, use at least five years of historic data for modeling use per customer	OPUC
Recommendation 2: Include a No Growth scenario in the next IRP	OPUC
Recommendation 3: In future IRPs, provide a comparison between the current CPA and the last CPA, including a narrative explanation of major changes in the potential	OPUC
Recommendation 4: Discuss demand response as a demand side resource option at a TAC meeting before filing the next IRP	OPUC
Recommendation 5: Discuss long-term transport procurement strategies at a TAC meeting before the next IRP	OPUC
Host a workshop within two months of the publishing of DEQ's Clean Power Plan Rules, to discuss challenges and opportunities to incentivize near-term actions to reduce GHGs to meet Clean Power Plan targets, including consideration of SB 98 and SB 844 programs.	OPUC
Recommendation 7: Provide a workshop in the next IRP development process to discuss the possibility of using the social cost of carbon to help inform carbon risks in its portfolios	OPUC
Recommendation 8: Include a non-zero carbon risk value for its Idaho customers	OPUC
Recommendation 9: Prior to the next IRP, conduct market research to reflect the willingness of Oregon customers to pay for various carbon reduction strategies. Present results at a TAC meeting	OPUC
Recommendation 10: Work with stakeholders and Staff to identify information that should be included in an RNG project pipeline update and provide an update on the Company's RNG project pipeline as part of the next IRP Update, including, but not limited to consumer risks and costs assessment associated with buy vs build RNG options	OPUC



### **2021 Action Items cont.**

Action Item	Commission
Recommendation 11: In the next IRP, provide an analysis of the capabilities of Avista's system to accommodate	
hydrogen, where upgrades would be required to accommodate hydrogen, and estimated costs of those upgrades	OPUC
Recommendation 12: In the next IRP, describe the assumptions for changes to renewable technologies and their impact on future levelized costs in the text of the next IRP	OPUC
Recommendation 13: Work with TAC to develop a scenario with a future large scale supply interruptions, like the October 2018 Enbridge incident	OPUC
Recommendation 14: In the next IRP, Avista should continue to keep the Commission apprised of the Sutherlin and Klamath Falls city gate projects. The Company should also provide a list of areas or projects where the Company is	
monitoring for capacity or pressure issues.	OPUC
Further model carbon reduction in Oregon and Washington	All
Investigate new resource plan modeling software and integrate Avista's system into software to run in parallel with	
Sendout	All
Model all requirements as directed in Executive Order 20-04	All
Avista will ensure Energy Trust (ETO) has sufficient funding to acquire therm savings of the amount identified and	
approved by the Energy Trust Board	All
Explore the feasibility of using projected future weather conditions in its design day methodology	All
Regarding high pressure distribution or city gate station capital work, Avista does not expect any supply side or	
distribution resource additions to be needed in our Oregon territory for the next four years	All





# Weather Planning

### **Weather Trend**



Heating Degree Day (HDD) begins at 65° F

24

Anything less than this beginning value would be 1 HDD for each degree of Fahrenheit reduction (e.g. 65-64=1 HDD)





### Weather Trend cont.



*ANISTA* 

Roseburg **Klamath Falls** 5,000 7,500 7,000 4,500 6,500 4,000 HDD HDD 6,000 3,500 5,500 5,000 3,000 4,500 2,500 4,000 **-**20y **----**30y

25

### **20-Year Average Daily Weather**





### Idaho - Washington

Peak Day -11° F





**ANISTA** 

### Medford

#### Medford Peak Day 16° F

![](_page_27_Figure_2.jpeg)

![](_page_27_Figure_3.jpeg)

![](_page_27_Picture_4.jpeg)

### **Klamath Falls**

Peak Day -7° F

![](_page_28_Figure_2.jpeg)

![](_page_28_Figure_3.jpeg)

![](_page_28_Picture_4.jpeg)

![](_page_28_Picture_5.jpeg)

### Roseburg

#### Peak Day 19° F

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![](_page_29_Figure_3.jpeg)

![](_page_29_Picture_4.jpeg)

30

### La Grande

Peak Day -7° F

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![](_page_30_Figure_3.jpeg)

![](_page_30_Picture_4.jpeg)

**VISTA** 

### **Weather Summary**

- Average daily weather by planning region for the past 20 years
- A peak event by planning region based on the past 30 years of the coldest average day, each year, combined with a 1% probability of a weather occurrence
- We are currently evaluating options for using projected weather in our forecasting

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![](_page_32_Picture_0.jpeg)

![](_page_32_Picture_1.jpeg)

### **Renewable Natural Gas (RNG)**

Michael Whitby, RNG Manager

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### **Advancing RNG at Avista**

Avista has been actively pursuing RNG. This section covers the following items:

- RNG: A Climate Change Solution
- RNG Procurement
- RNG Pathways & Technologies
- Build vs Buy
- RNG Project Development (Lessons learned)
- RNG Procurement & Potential Project Pipeline
- Voluntary RNG Customer Programs
- Decarbonization Pathways Analysis
- Steps to Decarbonization
- Decarbonization Pathways & CC&R Potential
- Industry Reports
- Policy

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### **RNG: A Climate Change Solution**

#### **RNG** is a drop-in fuel that has many benefits over alternative solutions

- RNG "Decarbonizes" the gas stream
- RNG is not a fossil fuel and does not add carbon emissions to the atmosphere
- RNG is seamless to our customers and does not require changes to appliances or equipment
- RNG is interchangeable with conventional gas and does not require utilities to make any changes to the existing infrastructure
- RNG leverages an efficient energy delivery system. From production to customer = 91% efficient
- RNG is a here and now solution, however further advancements & supportive policy to expand low carbon fuel pathways through innovation
- RNG supports and enhances the resiliency and reliability of our energy system and is more affordable than electrification scenarios
- RNG leverages the existing infrastructure's energy storage capabilities that alternative electrification solutions cannot compete with.
- In the right applications, direct use of natural gas is best use
- Natural gas generation provides critical capacity as renewables expand until utility-scale storage is cost effective and reliable
- RNG promotes customer fuel choice over choice elimination

### **RNG Procurement**

#### **Exploring the Procurement Options**

To make informed decisions on RNG procurement, Avista set out to understand the known and emerging procurement pathways available for RNG. This has included undertaking a process to research and seek out potential projects, as well as identify technologies and explore innovations that can help to achieve meaningful decarbonization.

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### **RNG Pathways & Technologies**

As Avista seeks to identify pathways to decarbonize our gas supply we have been exploring a range of technologies

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Technology	Attributes/Comments
Conventional RNG	Amine scrub, membrane separation, H2o wash, pressure swing absorption
Pyro Catalytic Hydrogenation (PCH)	Woody waste to synthetic RNG
Thermal gasification	Plasma Enhanced Melter - Municipal waste to synthetic RNG
Mobile RNG Solution	Small scale remote RNG production & transport without a pipeline
Proprietary biocatalyzed methanation	Unconventional RNG that boosts RNG volumes
Carbon Capture & Recycle (CC&R)	Carbon Reduction
Carbon capture & recycle (CC&R) w/ proprietary biosynthesized methanation	Carbon Reduction & Synthetic RNG
Solar to hydrogen	Green hydrogen in support of CC&R & proprietary methanation

![](_page_36_Picture_4.jpeg)

### **Build vs. Buy**

#### **RNG Development Projects (Build)**

Avista has been pursuing several RNG projects with a variety of feedstock types to build a pipeline of potential RNG projects. The following list represents the pathways in the order in which they have been pursued:

- Conventional
- Unconventional (proprietary biocatalyzed methanation)
- Innovative Carbon Capture & Recycle (CC&R) solutions

#### Building RNG projects is complex and comes with a host of challenges.

- RNG projects can be delivered at a lower cost since they do not include the profit margins
  associated with the California market, however competition for, and influence on the biogas
  cost still exists.
- Having pursued RNG projects and having purchased RNG, Avista recognizes the value of developing projects on a utility cost of service model, which on a like to like basis is the best value for our customers.

![](_page_37_Picture_9.jpeg)

![](_page_38_Picture_0.jpeg)

![](_page_38_Picture_1.jpeg)

#### **Purchasing RNG (Buy)**

- This pathway is widely available with a lot of variations with respect to volumes, costs, and sell back/cost sharing options, however the pricing is influenced by the California transportation sector (Federal RIN & CA LCFS markets).
- Avista has procured an RNG supply for Avista's first ever Voluntary Customer RNG Program in the State of Washington.

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### **RNG Project Development Challenges**

![](_page_39_Picture_1.jpeg)

#### Lessons learned from pursuing RNG projects directly with feedstock owners:

- Competition
- The California transportation market dominates the supply
- Federal RIN & California LCFS markets influence commercial terms
- Reaching commercial terms is challenging
- The utility cost of service model is a foreign concept
- Every RNG project is unique
- Economies of scale
- New RNG Projects can take 2-3 years to develop
- Limited feedstock supply
- Partnering strategy
- Picking partners

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### **RNG Procurement & Potential Project Pipeline**

#### Avista has been pursuing RNG projects with a host of feedstock owners for the past few years. The table below captures these efforts by type & volume

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#	Project Pathway Type	In Service Avista Territory (Y/N)	Partnering Considered	Estimated Supply (Dth/YR) (Avista only)	Est. Online Date
1	<b>Conventional RNG</b>	Yes	Yes	~ 200K - 350K	2024
2	Unconventional RNG	Yes	Yes	~ 150K - 250K	TBD
3	Unconventional RNG	Yes	Yes	~ 70K - 120K	2024-25
4	Conventional RNG	Yes	Yes	~ 30K - 50K	TBD
5	<b>Conventional RNG</b>	Yes	Yes	~ 20K - 30K	TBD
6	Innovative CC&R RNG	Yes	Yes	~ 50K - 80K	2024-25
7	Thermal Gasification	Yes	Yes	~ 70K - 200K	TBD
8	Conventional RNG	Yes	Yes	~ 60K - 140K	TBD
9	Pyro Catalytic Hydrogenation	Yes	Yes	~ 70K - 150K	TBD
10	Purchased RNG	Yes	No	~ 5K - 10.8K	2022

### **Voluntary RNG Customer Programs**

# Q1 2022 - Avista's first ever Voluntary Customer RNG program launched in Washington

- This voluntary RNG subscription is much like Avista's My Clean Energy program, in which customers can elect to purchase pre-defined 'blocks' therms of energy generated from renewable sources.
- The M-RETS system has been selected to track RNG environmental attributes.
  - I Renewable Thermal Certificate (RTC) = 1 Dekatherm (Dth) of RNG
  - Transparent electronic certificate tracking

#### Market related challenges & opportunities:

- Customers lack understanding of RNG since it is a new product
- Customers like the environmental aspects of RNG
- Customers like to choose their level of participation to manage costs predictably

# Q2 2022 - Avista will seek approval for a voluntary RNG tariff in Oregon & Idaho

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### **Decarbonization Pathways Analysis**

Avista engaged Guidehouse to evaluate and compare various pathways. The takeaway is that a mix of pathways will be needed to reach decarbonization goals and mandated targets

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![](_page_42_Figure_3.jpeg)

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### **Steps to Decarbonization – A mix of pathways**

The Guidehouse analysis shows the logical decarbonization progression from energy efficiency to the deployment of low carbon fuels

Net Zero is not Achievable Without CCS & Low Carbon Fuels Expansion of EE programs, increasing renewable generation, and push to electrify buildings requires timely response to demonstrate alternative pathways exist to achieve GHG goals.

![](_page_43_Figure_3.jpeg)

![](_page_43_Picture_4.jpeg)

![](_page_43_Picture_5.jpeg)

### **Decarbonization Pathways & CC&R Potential**

The Guidehouse analysis shows a range of pathways and how Low Carbon fuels including CC&R can help to achieve carbon reduction goals

Market Potential for CC&R – Demand Side

Managing the gap between IRP demand forecast and emission reduction goals requires low carbon fuels

![](_page_44_Figure_4.jpeg)

![](_page_44_Picture_5.jpeg)

### **RNG Pathways Analysis**

The Guidehouse analysis included a comparison of Electrification to Low Carbon Fuel pathways as a part of Avista's resource mix.

#### **Scenario Modeling Findings**

CC&R technology has higher CAPEX "price tag" than conventional RNG, but a lowcarbon fuels pathway with CC&R will be less expensive than deep electrification.

> Low-Carbon Fuel Low-Carbon Fuel Electrification **GHG Reduction Interventions** Scenario, Scenario, Scenario Legend no CC&R with CC&R Downstream Electrification ○ <\$5 B Δ (Building heat + HW, EVs, industry) () \$5 B - \$10 B Efficiency О \$10 B - \$25 B (Buildings, transport, industrial process) \$25 B - \$50 B Low Carbon Fuels  $\bigcirc$ >\$50 B (RNG, hydrogen) Electric Capacity (New generation and T&D)

Total CAPEX through 2050 for Oregon, Washington, and Idaho Note: Estimates do not include OPEX. fuel costs. or stranded asset costs

- Scenario modeling indicates that a high electrification scenario will incur a higher CAPEX cost per ton of GHG emissions abated, due to the sharp increase in infrastructure that will be needed for electric generation, transmission, and distribution.
- In comparison, a low-carbon fuel scenario incurs lower total CAPEX cost by utilizing gas infrastructure that is already in place.
- The introduction of CC&R technology increases gas system costs, but not to the order that high electrification would require.

![](_page_45_Picture_11.jpeg)

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### **Industry Reports**

for Gas Utilities

An American Gas Association Study

prepared by ICF

**Executive Summary** 

#### RNG comports with the findings found within AGA's latest report. Net-Zero Emissions Opportunities

AGA Net-Zero Emissions Opportunities for Gas Utilities: Executive Summary

February 2022

Large amounts of renewable and low-carbon electricity and gases, and negative emissions technologies, will be required to meet an economywide 2050 net-zero target

Avista's experience in pursuing

AGA Net-Zero Emissions Opportunities for Gas Utilities: Executive Summary

February 2022

Using a range of different approaches and technologies, gas utilities can meet net-zero GHG emissions targets, and the appropriate mix of measures will vary by region and utility

Supportive policy and regulatory approval will be essential for gas utilities to achieve net-zero emissions

![](_page_46_Picture_9.jpeg)

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<image>

### Policy

RNG leverages existing infrastructure and customer equipment. A mix of solutions including conventional & innovative low carbon fuels will be needed to reach decarbonization goals and targets.

#### **Policy and Regulatory Drivers Impact Regional Operations**

Legislation targets in Avista's service area require CO2 reduction; LDCs must demonstrate the role for low-carbon fuels

Avista's Natural Gas Emissions Reduction Goals		
2030	30% Reduction	
2045	Carbon Neutral	

#### GHG reduction options for Gas LDCs:

- Sell less gas (via efficiency, electrification)
- 2 Reduce carbon intensity of gas system
- 3 Purchase carbon offsets

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![](_page_47_Picture_10.jpeg)

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### **Questions?**

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![](_page_49_Picture_0.jpeg)

# Climate Protection Plan (CPP) Overview

### **CPP Purpose and Scope**

- Signed into Law on March 10, 2020 by Governor Kate Brown via Executive Order 20-04
- The purposes of the Climate Protection Program are to:
  - reduce greenhouse gas emissions that cause climate change from sources in Oregon
  - · achieve co-benefits from reduced emissions of other air contaminants, and
  - enhance public welfare for Oregon communities, particularly environmental justice communities disproportionately burdened by the effects of climate change and air contamination.
- Local distribution companies, known as natural gas utilities
  - covered emissions do not include emissions from biomass derived fuels.
- <u>Does not include</u> emissions from landfills, electric power plants, and natural gas compressor stations on and owned by interstate pipelines.

![](_page_50_Picture_9.jpeg)

### **Program Coverage**

- Local distribution companies
  - Covered emissions do not include emissions from biomass derived fuels.
- Covered emissions described as anthropogenic greenhouse gas emissions from combustion of natural gas, excluding natural gas used at large electricity generating facilities.
- Covered stationary sources include: Stationary sources for covered emissions described as anthropogenic greenhouse gas emissions from industrial processes and fuel combustion not otherwise regulated from a covered fuel supplier and that meet or exceed 25,000 MT CO2e.
- <u>Does not include</u> emissions from landfills, electric power plants, and natural gas compressor stations on and owned by interstate pipelines.
  - Does not include emissions from biomass-derived fuels
  - New stationary sources with the potential to emit covered emissions at or above 25,000 MT CO2e.

![](_page_51_Picture_8.jpeg)

### Compliance

A compliance period is three years. This first compliance period begins with 2022 and includes calendar years 2023 and 2024.

Demonstration of compliance is only required after a three-year compliance period.

OAR 340-271-9000 Table 1 Thresholds for applicability described in OAR 340-271-0110(3)			
Applicability determination calendar year(s)	Threshold for applicability to compare to annual covered emissions	Calendar year a person becomes a covered fuel supplier	
Any year from 2018 through 2022	200,000 MT CO2e	2022	
2023	200,000 MT CO2e	2023	
2024	200,000 MT CO2e	2024	
Any year from 2021 through 2025	100,000 MT CO2e	2025	
2026	100,000 MT CO2e	2026	
2027	100,000 MT CO2e	2027	
Any year from 2024 through 2028	50,000 MT CO2e	2028	
2029	50,000 MT CO2e	2029	
2030	50,000 MT CO2e	2030	
Any year from 2027 through 2031	25,000 MT CO2e	2031	
2032	25,000 MT CO2e	2032	
Each subsequent year	25,000 MT CO2e	Each subsequent year	

![](_page_53_Figure_1.jpeg)

![](_page_53_Figure_2.jpeg)

![](_page_53_Figure_3.jpeg)

Residential Commercial Industrial Transport

COAR 340-271-9000 Table 4 Compliance instrument distribution to covered fuel suppliers that are local distribution companies			
Calendar year	Compliance instruments to distribute to Avista Utilities	Compliance instruments to distribute to Cascade Natural Gas Corporation	Compliance instruments to distribute to Northwest Natural Gas Company
2022	703,373	743,707	5,759,972
2023	676,320	715,103	5,538,434
2024	649,267	686,499	5,316,897
2025	622,214	657,895	5,095,359
2026	595,161	629,291	4,873,822
2027	568,109	600,687	4,652,285
2028	541,056	572,083	4,430,747
2029	514,003	543,478	4,209,210
2030	486,950	514,874	3,987,673
2031	459,897	486,270	3,766,135
2032	432,845	457,666	3,544,598
2033	405,792	429,062	3,323,061
2034	378,739	400,458	3,101,523
2035	351,686	371,854	2,879,986
2036	332,930	352,021	2,726,387
2037	314,173	332,189	2,572,787
2038	295,416	312,357	2,419,188
2039	276,660	292,525	2,265,589
2040	257,903	272,693	2,111,990
2041	239,147	252,860	1,958,390
2042	220,390	233,028	1,804,791
2043	201,633	213,196	1,651,192
2044	182,877	193,364	1,497,593
2045	164,120	173,532	1,343,993
2046	145,364	153,699	1,190,394
2047	126,607	133,867	1,036,795
2048	107,850	114,035	883,196
2049	89,094	94,203	729,596
2050 and each calendar year thereafter	70,337	74,371	575,997

![](_page_53_Picture_6.jpeg)

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### **Community Climate Investment (CCI)**

(2) A CCI entity may use CCI funds only for:

- (a) Implementing eligible projects in Oregon, which are actions that reduce anthropogenic greenhouse gas emissions that would otherwise occur in Oregon.
  - Eligible projects include actions that reduce emissions in Oregon resulting from:

(A) Transportation of people, freight, or both;

(B) An existing or new residential use or structure;

(C) An existing or new industrial process or structure; and

(D) An existing or new commercial use or structure.

OAR 340-271-9000         Table 6         Covered fuel supplier allowable usage of community climate investment credits to demonstrate compliance as described in OAR 340-271-0450(3)		
Compliance period	Allowable percentage of total compliance obligation(s) for which compliance may be demonstrated with CCI credits	
Compliance period 1 (2022 through 2024)	10%	
Compliance period 2 (2025 through 2027)	15%	
Compliance period 3 (2028 through 2030), and for each compliance period thereafter	20%	

### **CCI Costs**

![](_page_55_Figure_1.jpeg)

DECO Data of concentration Department of Devices results	OAR 340-271-9000 Table 7 CCI credit contribution amount		
	Effective date	CCI credit contribution amount in 2021 dollars, to be adjusted according to OAR 340-271-0820(3)	
	March 1, 2023	\$107	
	March 1, 2024	\$108	
	March 1, 2025	\$109	
	March 1, 2026	\$110	
	March 1, 2027	\$111	
	March 1, 2028	\$112	
	March 1, 2029	\$113	
	March 1, 2030	\$114	
	March 1, 2031	\$115	
	March 1, 2032	\$116	
	March 1, 2033	\$117	
	March 1, 2034	\$118	
	March 1, 2035	\$119	
	March 1, 2036	\$120	
	March 1, 2037	\$121	
	March 1, 2038	\$122	
	March 1, 2039	\$123	
	March 1, 2040	\$124	
	March 1, 2041	\$125	
	March 1, 2042	\$126	
	March 1, 2043	\$127	
	March 1, 2044	\$128	
	March 1, 2045	\$129	
	March 1, 2046	\$130	
	March 1, 2047	\$131	
	March 1, 2048	\$132	
	March 1, 2049	\$133	
	March 1, 2050	\$134	

![](_page_55_Picture_3.jpeg)

### **UM-2178**

**Scope**: The purpose of this Fact Finding will be to analyze the potential natural gas utility bill impacts that may result from limiting GHG emissions of regulated natural gas utilities under the DEQ's Climate Protection Program and to identify appropriate regulatory tools to mitigate potential customer impacts. The ultimate goal of the Fact Finding will be to inform future policy decisions and other key analyses to be considered in 2022, once the CPP is in place.

- Presentations and modeling was provided to the OPUC and other stakeholders to understand the LDC's ability to meet EO 20-04
- Avista intends to build the findings and additional supply side resources into the 2023 IRP as a way of showing a more detailed path and analysis to compliance

![](_page_56_Picture_4.jpeg)

### **Avista Compliance to CPP**

Challenges to CPP	Opportunities of CPP
More entities looking for same resources	clean up grid
As a smaller LDC additional costs are spread across fewer customers	a specific directive to decarbonize with goals
Cost Equity, Avista's customers are generally less wealthy as compared to other Oregon counties	LDCs play an active role in Oregon's clean energy future
Increased demand for limited new resources drives higher prices	Utilize SB 98 to help projects online
Clean Fuel Supply Ramp up to match cap in near term	Increased Energy Efficiency Potential
Higher Costs	Gas continues to hold economic fuel choice to decarbonize the electric grid
Responsibility for transport customers emissions	
Technology Maturation	
Cost Recovery	
Reliability of Electric System with additional load	
Rate pressure will lead to the utilization of different heating fuels	
Limited ability to link to other state's clean energy programs	
Infrastructure Cost recovery – Electrification will result in costs being spread across a smaller customer base	

Host a workshop within two months of the publishing of DEQ's Clean Power Plan Rules, to discuss challenges and opportunities to incentivize near-term actions to reduce GHGs to meet Clean Power Plan targets, including consideration of SB 98 and SB 844 programs.

![](_page_57_Picture_3.jpeg)

### Oregon Territory Median Household Income

# 46,351 - 53,053 53,053 - 58,970 58,970 - 64,860 64,860 - 72,738 72,738 - 162,430

Demographics

Median Household Income (\$)

**ANISTA** 

24,359 - 46,351

at- 44 426 Long- -115 796

![](_page_58_Picture_3.jpeg)

### **Questions?**

![](_page_59_Picture_1.jpeg)

### **Scenarios - Draft**

- **Preferred Resource Case** Our expected case based on assumptions and costs with a least risk and least cost resource selection
- Avista company goal Carbon Neutral by 2045 Intended to move the 2050 state/federal goals up to the company goal of 2045
- **Electrification Push** A low case to show the risk involved with energy delivered through the natural gas infrastructure moving to the electric system
- **High Customer Case** A high case to measure risk of additional customer and meeting our emissions and energy obligations
- Limited RNG Availability A scenario to show costs and supply options if RNG availability is smaller than expected
- **High Prices Interrupted Supply** A scenario to show the impacts and risks associated with large scale supply impacts and the ability for Avista to provide the needed energy to our customers
- Other?

![](_page_60_Picture_8.jpeg)

### 2023 – Avista Natural Gas IRP

![](_page_61_Figure_1.jpeg)

![](_page_61_Picture_2.jpeg)