From: HERB Kim * PUC
Sent: Thursday, July 22, 2021 3:44 PM
To: HERB Kim * PUC <Kim.HERB@puc.oregon.gov>
Cc: BATMALE JP * PUC <JP.BATMALE@puc.oregon.gov>; BAKER Zachariah * PUC <Zachariah.BAKER@puc.oregon.gov>; FREEMAN Robin * PUC <Robin.FREEMAN@puc.oregon.gov>; WATSON Ezell * PUC <Ezell.WATSON@puc.oregon.gov>; CONWAY Bryan * PUC <Bryan.CONWAY@puc.oregon.gov>
Subject: Natural Gas Fact Finding Workshop 2 Presentation, Attendee List, and Feedback Form

Dear UM 2178/Natural Gas Fact Finding Stakeholders,

You are receiving this email because you are either on the Service List for UM 2178 or you were listed as a registered attendee of the July 20, 2021 Natural Gas Fact Finding Workshop #2. Staff thanks participants for their time and contributions during the July 20, 2021 workshop. Attached is the presentation that was shared during the workshop, as well as a list of workshop participants.

At the workshop Staff indicated that it would share a link to a google form where participants can respond more fully to the questions that were posed during the workshop. The google form can be found at https://forms.gle/7aMSMAJiAbU7X1tJ9.

Staff will receive feedback regarding modeling sensitivities via this form until 7PM on July 26. Staff will compile feedback and produce a list of sensitivities and associated ranges by July 29 for utilities to employ in their modeling. However, if stakeholders need more time to reply to questions in the survey that are related to topics other than sensitivities, they are welcome to continue to use the form to share non-sensitivity related feedback until August 3.

If you have any trouble with the form or if you have any questions, please reach out to me directly at kim.herb@puc.oregon.gov.

Thank you again for your time.

Best,

Kim

Kim Herb (she/her)

Utility Strategy & Planning Manager

Oregon Public Utility Commission

C: 503.428.3057

Kim.herb@puc.oregon.gov ****New Email Address****

Natural Gas Fact Finding

Workshop #2: Modeling

Oregon Public Utility Commission

Introduction & Workshop Overview

Oregon Public Utility Commission

Meeting Objectives

Share foundational data

Share and discuss proposed modeling

Discuss and inform modeling sensitivities and scenarios

Time	Topic
10:00 – 10:20	Introduction and Workshop Overview
10:20 – 10:25	Administrative Updates
10:25 – 10:50	Workshop 1 Follow up - Goals and Scope
10:50 – 11:45	Workshop 1 Follow up - Ratemaking questions / Snapshot
11:45 – 12:00	Questions
12:00 – 1:00	Break
1:00 – 1:40	Compliance Modeling - Approach & Overview of DEQ Scenarios
1:40 – 2:00	Q&A - Modeling
2:00 – 4:00	Modeling parameters and sensitivities
4:00 – 4:15	Next Steps
4:15 – 4:30	Closing Remarks and Feedback

Agenda

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Public Participation Protocols

- Public participation is welcome – thank you!
- Opportunities today for comments, questions, and feedback
- When making verbal comments or asking questions, please respect time limits and ground rules for common courtesy
- The Zoom will use a moderated chat with Staff compiling and then asking questions on behalf of participants.
- We welcome and encourage written comments

Submitted to UM 2178

Participation Tips

- Please join audio by either phone or computer, not both
- For discussion and comments, use "Raise Hand" button to get in the queue; if joined by phone press *9
- Rename yourself with your name and affiliation
- Say your name and affiliation before speaking
- Move around and take care of yourself as needed!

Thank you for your time today!

Written Feedback Process

- Q&A to submit questions during the workshop
  - Staff will moderate, collate and either respond during the workshop or in follow up communications
- After workshops via comments to UM 2178
  - https://apps.puc.state.or.us/edockets/Docket.asp?DocketID=22869&Child=action

Thank you for your time today!

Discussion/Comments Ground Rules

Honor the agenda and strive to stay on topic

Provide a balance of speaking time

Listen to understand and ask questions to clarify

Stay engaged and be open about your perspective and experience

Address issues and questions – focus on substance of comments without attacking others

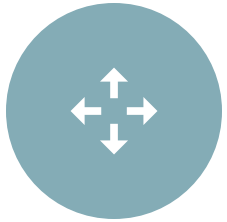
Bring concerns and ideas up for discussion at the earliest point in the process

Overview of the Day

UPDATES

WORKSHOP 1 FOLLOW UP

MODELING - APPROACH



MODELING - SENSITIVITIES

DISCUSSION AND FEEDBACK

Introductions

- Host/Facilitator:
  - Kim Herb – Utility Planning and Strategy Manager
- Presenters:
  - Ezell Watson – DEI Program Director
  - JP Batmale – Administrator: Energy Resources & Planning Division
- Staff:
  - Bryan Conway – Utility Program Director
  - Robin Freeman – Policy Director
  - Zach Baker – Senior Energy Policy Analyst

Administrative Updates

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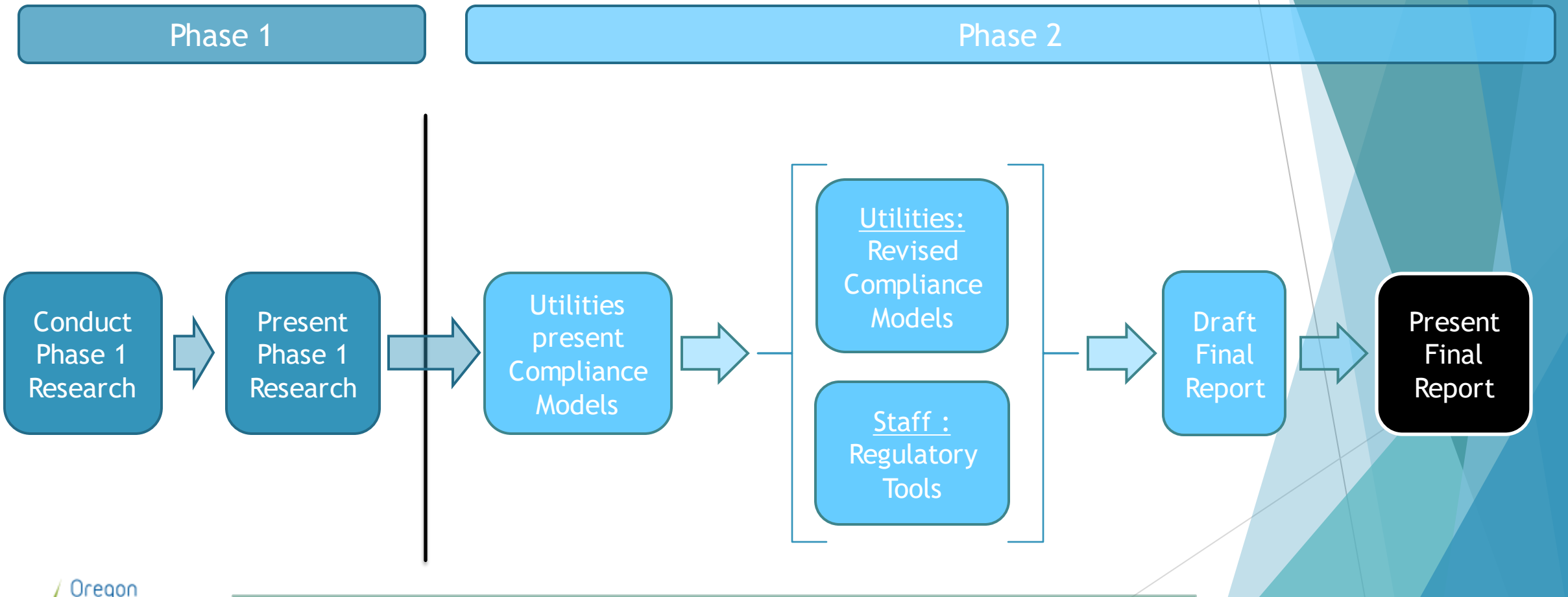
Administrative Updates

Docket Created

Schedule changes

Order of Operation



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Each arrow denotes planned opportunities for stakeholder interaction and feedback

Workshop Details

Workshop #1	Workshop #2	Workshop #3	Workshop #4	Workshop #5
5/27/21	7/20/21	8/31/21	9/27/21	11/17/21
Overview & Background	Foundational Data	Initial Model Results	Regulatory Tools	Draft Report Feedback
	Discuss Modeling	Alternative Scenarios		

Phase 1

Phase 2

Task Name	Q2			Q3			Q4			Q1		
	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
Natural Gas Fact Finding Workshops												
Workshop #1: Scope & Progress		◆05/27/21										
Workshop #2: Compliance Models Parameters and Scenarios				◆07/20/21								
Workshop #3: Utilities Compliance Model presentations and Alternative Scenarios discussion						◆08/31/21						
Workshop #4: Regulatory Tools							◆09/27/21					
Workshop #5: Report Feedback								◆11/17/21				
Natural Gas Fact Finding Reports & Deliverables												
Utilities Compliance Model Design posted					◆08/03/21							
Utility Compliance Models posted						◆08/24/21						
Alternative Scenario Proposals drafted and posted						◆09/03/21						
Utilities Alternative Scenario Compliance Models posted							◆10/15/21					
Report Draft Posted								◆10/29/21				
Final Report Posted									◆12/10/21			
Staff Presents Report at SPM									◆12/16/21			

Milestones & Deliverables

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Workshop 1 – Overview of what we heard

Goals, Scope, Questions & Requests

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What we heard – Goal Alignments

GHG reductions

Costs and impacted communities

- Low income
- Environmental Justice Communities

Long term planning improvements

- Cost, risks, and benefits
- Gas utilities in the future
- Renewable Natural Gas/Hydrogen

GHG Emissions

- Adherence and alignment to GHG reduction goals
- Gas system decarbonization pathways
- Cost of low carbon fuel alternatives
- Space and water heating technology readiness and cost
- Cost effective regulation
- Mitigating emission leakage

GHG Emissions

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- Gas system decarbonization pathways
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- Space and water heating technology readiness and cost
- Cost effective regulation
- Mitigating emission leakage

Impacted Communities

- Understanding impacts
- Ensuring co-benefits for impacted communities
- Understanding risks to low-income customers
- Health impacts

Impacted Communities

- **Understanding impacts**
- **Ensuring co-benefits for impacted communities**
- **Understanding risks to low-income customers**
- Health impacts

Planning

- Conduct a decarbonization study
- Costs and risks to ratepayers
- System expansion, safety, and asset risk
- RNG/Hydrogen emissions profiles and technical/commercial readiness
- Capturing GHG emission reduction benefits

Planning

- Conduct a decarbonization study
- **Costs and risks to ratepayers**
- **System expansion, safety, and asset risk**
- **RNG/Hydrogen emissions profiles and technical/commercial readiness**
- **Capturing GHG emission reduction benefits**

Electrification in NGFF

CCP Compliance Modeling and the Scope of this Work

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Electrification

- Implications to electric system and ratepayers
  - Financial impacts are broader than just cost to gas customers from removing load.
  - Reliability and cost of electric system also need to be understood
- Broader set of inputs required to model
  - Specialized modeling tools like PATHWAYS to optimize across fuel types.

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Overall Scope of NGFF

Understanding CCP Compliance Costs, Risks, and Opportunities is the Purpose of this Work

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Scope from EO 20-04 Work Plan

- Goals and Objectives, Pg. 2
  - Rapidly establish new analyses and actions within existing dockets and investigations, and consistent with the PUC's authorities and duties, so as to place the regulated utilities on sustainable pathways toward achieving the Governor's 2035 GHG reduction goals. As part of this goal, the PUC will seek to empower stakeholders by imparting key GHG information and by encouraging, where possible, the adoption of activities that balance current best-practices with GHG reductions.
- Section 5.4, Gas Ratepayer Impact Analysis, Pg. 10
  - First, to better understand the customer dimensions and impacts of different decarbonization scenarios and thus help inform future decision making, we propose to initiate a fact-finding effort to be completed before September 2021. The purpose of the fact finding will be to inform policy decisions to be considered in the second year of the EO work plan. The timing of the report will be designed to leverage the completed DEQ rulemaking process and any analysis from IRP filings in 2021. Staff will workshop the scope of this report in early 2021.

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Desired output(s) from NGFF

An understanding of potential natural gas customer bill impacts associated with compliance with GHG emission targets from DEQs Climate Protection Program.

Identification of strategies / tools to equitably mitigate potential harm to natural gas customers and/or incentivize action.

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Overall Plan for Fact Finding

2021

Foundational Facts
Explore Possible Impacts
Tools to Mitigate Impacts

2022

Further Analysis of Mitigation Tools

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Workshop 1 Follow Up

Ratemaking Questions
& Snapshot update

You asked	
Are Oregon utilities allowed to recover the costs of lobbying, advertising, trade association membership, etc., in their rates?	Costs of political activity and lobbying are not allowed in rates. Some advertising, like that which is legally mandated, is allowed but political advertising expenses are not included in rates.
What are typical depreciation schedules for gas infrastructure investments?	For most plant, 40-60 years.
Is there a lower rate for big quantity users or do big users get a bulk discount?	No – all rates are based on the cost of serving the customer
Is return on investment guaranteed?	No. The PUC sets an authorized rate of return on capital (equity) which acts as a ceiling on profits. Rates are set in such a way that if the company sells the quantity of gas it forecasts, and if its expense forecast is true, then it should earn its authorized rate of return. The burden remains on the company to meet its sales goals.
What financial market information (risk and return profiles, current markets, etc.) and expertise does the PUC bring to bear in determining appropriate rate of return?	PUC staff compares risk profiles, S&P ratings, and capitalization size to develop a set of peer utilities for comparison. The goal is to set a rate of return for the Investor Owned Utility (IOU) that is comparable to the return available to similar companies. For more information consider reading cost-of-capital testimony presented in general rate cases (GRC), which are available on the PUC website.
If the utility cannot achieve the authorized ROR for various reasons does the cost of those things get baked into customer rates?	No. The companies have no guarantees of return, only a guarantee of a fair opportunity to earn.
If the gas utilities need to purchase large quantities of offsets in order to achieve their decarbonization targets under the DEQ CPP plan, would they be allowed to pass those costs on to ratepayers as a pass-through cost?	Probably yes. Such costs would be likely be considered in the public interest since it is backed by statute. Ultimately, Commissioners have the final say in a rate case.

Ratemaking Questions

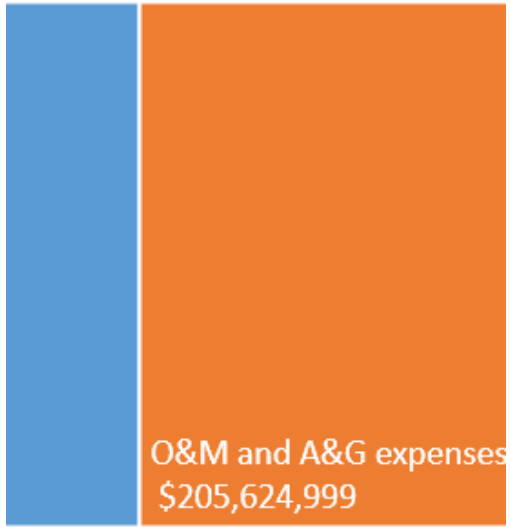
Industry Snapshot

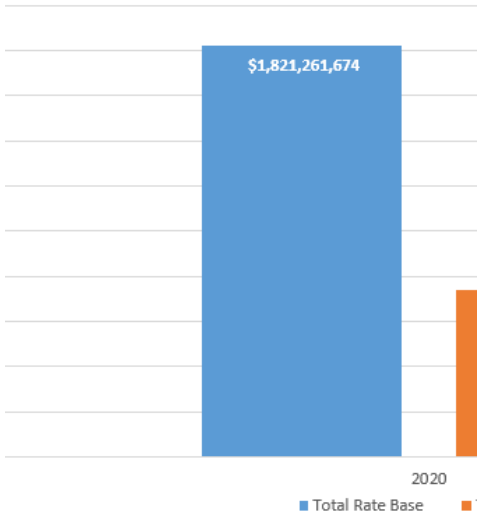
About the foundational data

Additional metrics requested and operational characteristics

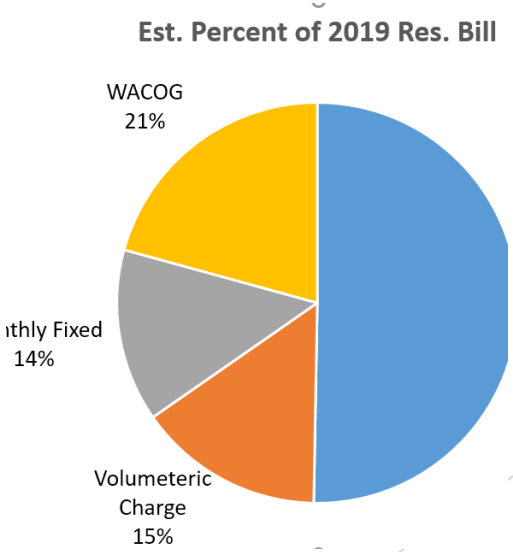
Financial Workbook

- Operating costs
- Rates of return
- Plant in service
- Deprecation of assets





Revenues ($ 000)		
Sales	608,022,630	582,79
Transportation + misc. revenue	38,982,000	33,85
Total	647,004,630	616,65
Operating Expenses		
Gas purchases	244,862,044	220,10
O&M and A&G expenses	162,345,000	166,99
Total	407,207,044	387,09
Taxes, other taxes & fees, & depreciation/amortization		
Taxes	40,068,000	35,69
Other taxes & fees	23,097,375	22,65
Depreciation/amortization	85,544,847	76,83
Total - taxes, fees, & deprec/amort	148,710,222	135,18
Total Operating Expenses	555,917,266	522,28
Net Operating Reveneues	91,087,364	94,36
Rate Base ($000)		
Utility Plant in Service	3,180,062,167	2,990,83
Accumulated Depreciation	(1,429,816,000)	(1,352,71
Net Utility Plant	1,750,246,167	1,638,11
Rate Base Adustments	(354,437,000)	(394,93
Total Rate Base	1,395,809,167	1,243,18
Rate of Return (ROR)	6.53%	7.59
Return on Equity (ROE)	8.56%	10.05



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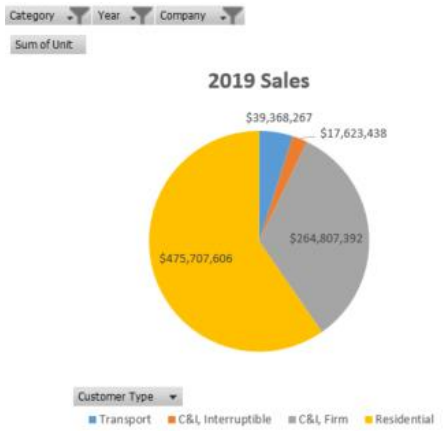
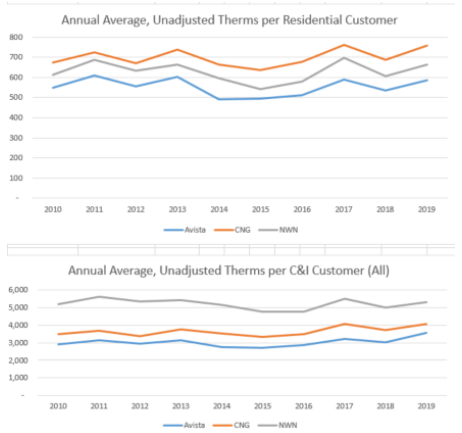
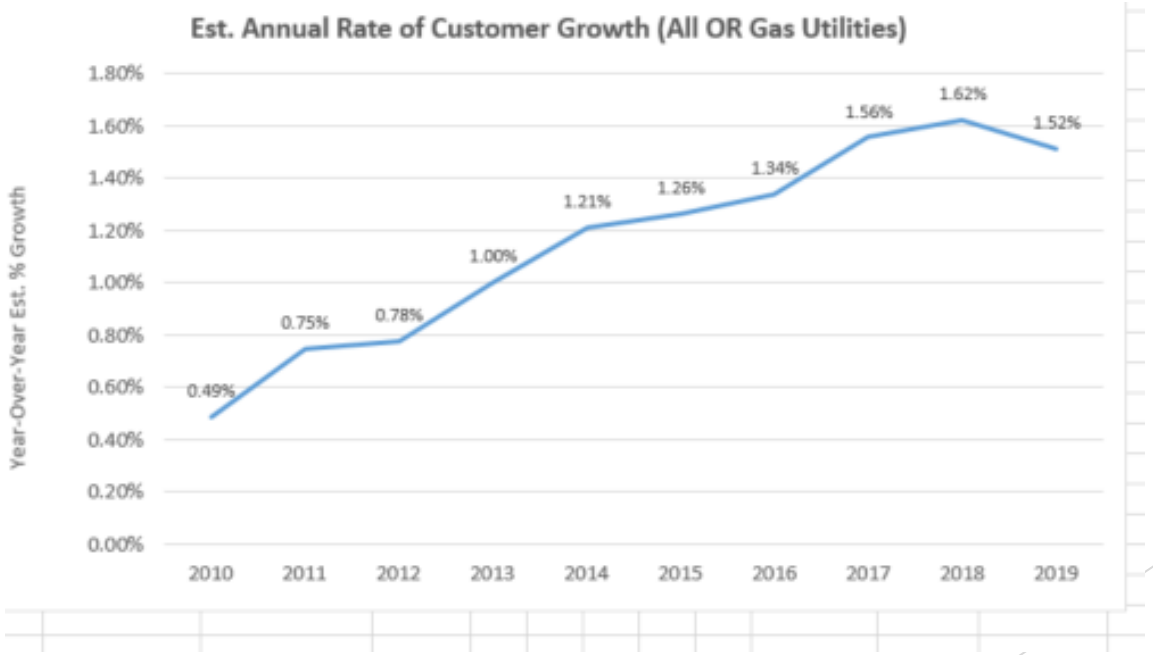
Descriptive Statistics

- Sales by customer type
- Revenue by customer type
- Number of customers
- imputed emissions







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Industry Snapshot Q&A

4. What other metrics or numbers should be included in this snapshot?

5. What operational characteristics would you like to better understand?

Foundational Data Metrics Requested

Financial

Physical

Risks

Costs

Demographics

Industry Snapshot - Financial

DATA REQUESTED

Visibility to shareholder income

Return on equity for utility investors vs. return in financial markets for investments of comparable risk

How much of the money gas utilities/shareholders make is a result of new infrastructure rather than gas used

Industry Snapshot – Physical System

DATA REQUESTED
Energy delivered during various seasons and per year
The amount of energy delivered by energy source on peak
New annual customer hookups
Comparison of OR utility new gas hookups per year with other utilities throughout the country
Customer class breakdown for new hookups
Estimated consumption for new hookups
Age of Oregon's gas infrastructure
Percent of RNG currently used and projected expected increase

Industry Snapshot – GHG and other Risks

DATA REQUESTED
GHG emissions
Seismic risks
Public health risks

Industry Snapshot – Costs

DATA REQUESTED

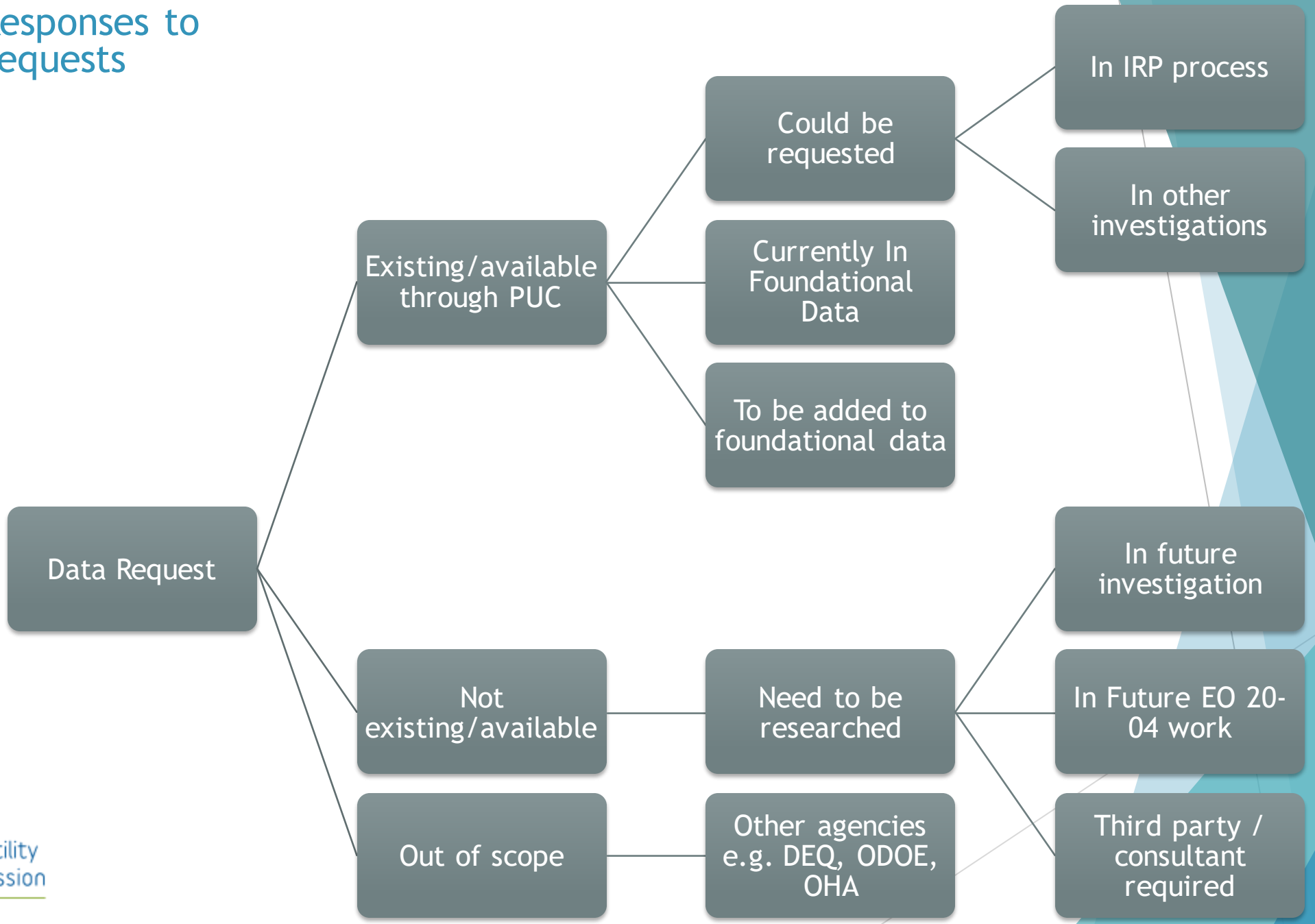
Breakdown of customer costs

How risks and costs of new infrastructure affect customers

Industry Snapshot – Demographic

DATA REQUESTED
Communities impacted by co-pollutants and gas infrastructure
% and # of low-income customers
Demographics of gas customers
Usage and income
Geography of new hookups
Home owners vs renters

Staff Responses to Data Requests



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Availability of Numbers

Natural Gas Fact Finding Workshops

Workshop 1 - May 27, 2021

- Agenda and Login Details
- Fact Finding Overview
- PUC Staff Presentation
- Video (type passcode: 4Cvk@NLc0j)

Download Foundational Data

- Descriptive Statistics
- Financial Workbook 2016-2020

Workbooks currently available for download

Annual Stat Book Data ("Flat File" with Pivot Charts)

Financial Summary Data

Staff will continue to explore the inclusion of additional requested information, where this information is currently available.

https://www.oregon.gov/puc/utilities/Pages/ExecutiveOrder20-04.aspx

Operational Characteristics

Gas Utility and GHG Planning Best Practices

Multi-State Policy and Operational Considerations

Low Carbon Natural Gas Supply

Questions

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Lunch Break 12:00 – 1:00 Pacific

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Compliance Modeling Approach

CCP Compliance Modeling Proposal

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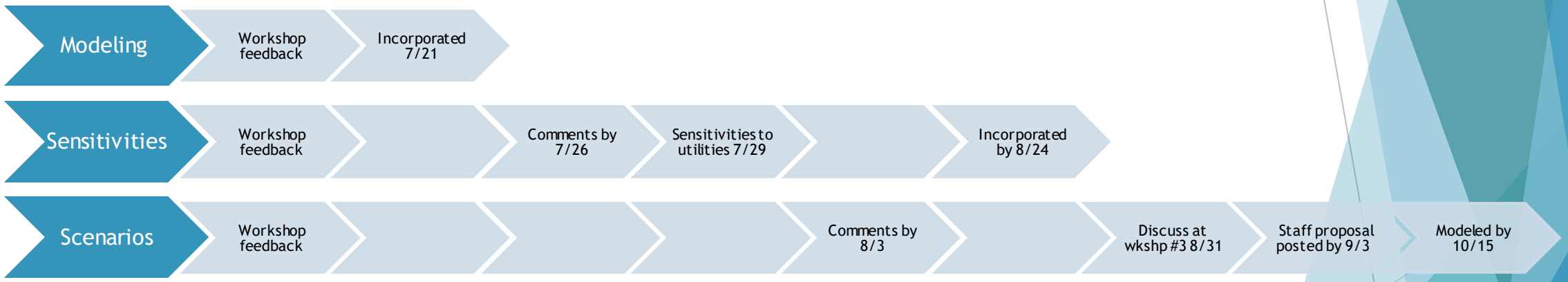
Stakeholder Input Process



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Building on IRP Data and CPP Scenarios

IRP Data

- Gas price forecast
- Emission forecast
- EE forecast
- Avoided costs
- Customer growth & use forecast
- Acknowledged preferred portfolio NPVRR

CPP Scenarios Key Assumptions

- Cap & Trajectory
- Trading allowable
- Regulated sectors & sector exclusions
- Unlimited banking
- Point of regulation
- CCI % and cost

New Data

- Compliance technologies: efficacy and cost curves

Key Deliverables

- Forecast of emissions (weather & non-weather adjusted)
- Data supporting the development of emissions reduction forecasts
- Description of approach and/or assumptions
- Estimated Net Present Revenue Requirement of Compliance Model and Comparison Across Selected Sensitivities

Forecast of Emissions
(weather & non-weather adjusted)

- Graphic of million metric tons CO2e per year
  - Stacked Area chart
  - Estimates of avoided emissions by compliance strategy and technology
- Supporting table capturing underlying data used in graphic by year
- Annual emissions reduction by compliance strategy, technology, and portfolio of technologies
- Annual emissions reduction in metric tons by technology by year
- Annual emissions above or below annual DEQ CPP threshold

Supporting Data

- Including but not limited to:
  - Load forecast and growth assumptions
  - Use per customer estimates
  - Compliance strategy assumptions
    - Demand, supply, and capture assumptions
    - Sector/customer class reduction assumptions
    - Technology assumptions
      - Cost trajectory curves over time for each technology
      - Tons of emissions avoided per therm for each technology
      - Variable costs per therm for each technology
  - Any major distribution or transmission system upgrades or changes
  - In addition to the above data, all model inputs, outputs, and workpapers should be provided in electronic format with all references and formulae intact.

Description of approach and/or assumption

- Including but not limited to:
  - Values and terms selected for DEQ key assumptions
  - Model methodology
  - Description of weather patterns forecasts impacting load forecast
  - Avoided costs assumptions, such as peak day usage and savings ratios

Net Present Revenue Requirement

- Estimated Net Present Revenue Requirement of Compliance Model and Comparison Across Selected Sensitivities
  - Twenty year time horizon minimum (2041)
  - Annual and total Revenue Requirement difference between Compliance Model and most recent IRP's preferred portfolio
  - Annual and total Revenue Requirement difference between Compliance Model and selected sensitivities.

Modeling Q&A

CCP Compliance Modeling Proposal

Oregon Public Utility Commission

Modeling Feedback

The goal of the NGFF is to understand the magnitude and direction of impacts of natural gas utility compliance with the CPP to help inform the regulatory tools necessary to equitably distribute costs and incentivize GHG reductions. Given this:

1. What oversights exist in the proposed modeling approach that may limit the ability to assess gas ratepayer risks?
2. What are your expectations regarding the supporting data behind the inputs?

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Modeling Sensitivities

CCP Compliance Modeling Proposal

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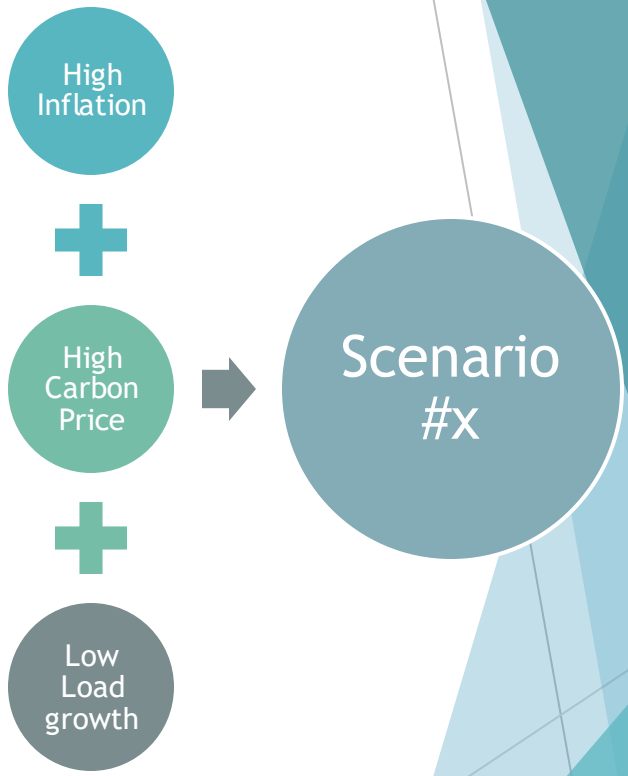
Sensitivity Discussion

- In the context of modeling for IRPs, sensitivities are used to develop a range around model elements.
- Examples: Including high, medium, low market prices
- Multiple sensitivities can be combined within IRP model development to test the robustness of results against future uncertainty.
- Sensitivities can come before or after initial model development. However, time and resource constraints can limit sensitivity adoption once a model is complete.



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Possible Sensitivity	Sensitivity Category	Function	Design Constraints on Compliance Model
RNG Availability & Cost	Compliance Technology	Constrain/Expand amount of RNG used in Compliance Model to impact cost.	Decrease/Increase availability or use of RNG in Model
Energy Efficiency (EE) Availability & Cost	Compliance Technology	Constrain/Expand amount of EE used in Compliance Model to impact cost.	Decrease/Increase availability or use of EE in Model
Societal NPV of Missed Annual Targets	General Risk	Quantify the societal impact from annual GHG reduction targets. Apply various (1 to 3) values of Social Cost of Carbon for GHG emissions above/below annual DEQ target	Establish annual interval of compliance goals
Customer Acquisition	Growth	Decrease/Increase percentage of annual customer growth beyond what is used in the Compliance Model. Apply various values (e.g., 0 new residential customers annually; 1.5x rate of customer growth).	Limit/Increase growth

Sensitivities

Sensitivities to Consider

- Growth
- Market Prices
- Weather
- RNG Cost
- EE Availability
- New Technology Cost
- Compliance Costs

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Sensitivities

1. Which sensitivities are essential, from your perspective, to ensure that Staff and stakeholders have a full picture of the potential impacts of CPP compliance?
2. What ranges should be considered for each of the proposed sensitivities and what data are available to support proposed ranges?

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Results - Key Outputs

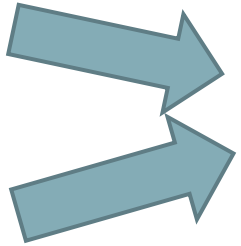
- Annual and total Revenue Requirement difference between Compliance Model and most recent IRP's and also across selected sensitivities;

- Assess compliance costs
- Compare different sensitivities
- Understand risks

- Annual emissions reduction by compliance strategy, technology, and portfolio of technologies;

- Compliance strategies for meeting EO 20-04 targets
- Understand marginal abatement costs
- Identify compliance risks

- Annual emissions reduction in metric tons by technology by year; and
- Annual emissions above or below annual DEQ CPP threshold.



- Understand overall compliance
- Identify compliance risks
- Identify emissions compliance

Results

1. What types of modeling results would be most informative for your organization to see when the utility presents their CPP Compliance Models?

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Next Steps

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Upcoming Milestones

Date	Event
July 20, 2021	• Meeting #2: Compliance Models Parameters and Scenarios • Staff discusses Compliance Model framework sent previously
July 21, 2021	• Utilities begin development of their Compliance Model, including inputs, outputs, and results for sharing at Stakeholder Meeting #3. • Staff available to answer questions
July 26, 2021	• Stakeholder comments on sensitivities due
August 3, 2021	• Utilities Compliance Models Design posted
August 24, 2021	• Compliance Models posted
August 31, 2021	• Meeting #3: Utilities Compliance Model presentations and Alternative Scenarios discussion.
September 3, 2021	• Alternative Scenario Proposals drafted and posted by staff
September 27, 2021	• Meeting #4: Regulatory Tools
October 15, 2021	• Alternative Scenario Compliance Models posted and associated data posted
October 29, 2021	• Report Draft Posted
November 17, 2021	• Meeting #5: Report Feedback
December 10, 2021	• Final Report Posted
December 16, 2021	• SPM

Closing Remarks and Feedback

Oregon Public Utility Commission

Thank you!

EO 20-04 Website

https://www.oregon.gov/puc/utilities/Pages/ExecutiveOrder20-04.aspx

Comments or Questions

Send email either address below. Comments will be posted on the EO 20-04 Website and in the docket.

Contacts:

- Kim Herb: 503.428.3057 kim.herb@puc.oregon.gov
- JP Batmale: 503.551.9926 jp.batmale@puc.Oregon.gov

Oregon Public Utility Commission

Registration Report

Topic				# Registered
July 20, 2021 Natural Gas Fact Finding Staff Workshop #2				77

Attendee Details				
First Name	**Last Name**	**Email**	**Organization**	**Job Title**
Abby	Alter	aalter@rmi.org	RMI	Associate
Megan	Anderson	manderson@raponline.org	Regulatory Assistance Project	Associate
Rose	Anderson	rose.anderson@puc.oregon.gov	Oregon Public Utility Commission	Economist
Pamela	Archer	pamela.archer@cngc.com	Cascade Natural Gas	Regulatory Analyst
Shawn	Bonfield	shawn.bonfield@avistacorp.com	Avista	Sr. Manager of Regulatory Policy & Strategy
Kevin	Booth	kevin.booth@avistacorp.com	Avista	Env Scientist
Ryan	Bracken	rjb@nwnatural.com	NW Natural	Director of Strategic Planning
Rebecca	Brown	rebecca.brown@nwnatural.com	NW Natural	Regulatory Consultant
Michael	Brutocao	michael.brutocao@avistacorp.com	Avista	Natural Gas Analyst
Jeff	Burks	jburks@energystrat.com	ENERGY STRATEGIES LLC	Principal
Lou	Christian	louc@ua290.org	UA Plumbers and Steamfitters Local 290	Business Manager
Meredith	Connolly	meredith.connolly@climatesolutions.org	Climate Solutions	Oregon Director
Ramsey	Cox	ramsey@quinnthomas.com	Quinn Thomas	Account Manager
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