Natural Gas Fact Finding

Workshop #1: Overview

Oregon Public Utility Commission

Agenda

Time			Topic
1:30	-	2:00	Introduction to the day • Overview of the meeting • Ground rules • Why are we here?
2:00	-	2:45	Natural Gas Ratemaking 101 and Q&A
2:45	-	2:55	Break
2:55	-	3:35	Oregon Natural Gas Industry Snapshot and Q&A
3:35	-	4:05	NGFF Scope & Schedule and Q&A
4:05	-	4:30	Closing Remarks and Feedback

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Public Participation Protocols

Public participation is welcome – thank you!

Four opportunities today for comments and questions

After three sessions and dedicated time at the end

When making verbal comments or asking questions, please respect time limits and ground rules

We welcome and encourage written comments

Via chat during the workshop

Or directly to staff at kim.herb@puc.oregon.gov

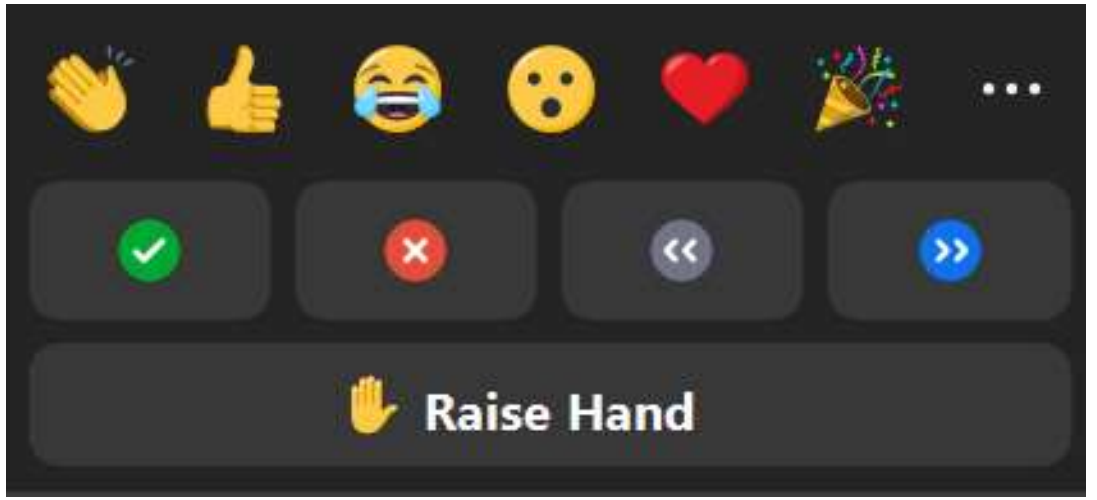
Participation Tips

- Please join audio by either phone or computer, not both
- Please stay on mute and please join on video when speaking (at least)
- 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!
- For Zoom technical issues, send chat message to Zach

Thank you for your time today!

How to Raise Hand

Look for the Raise Hand in Zoom panel



If joined by phone press *9 to raise your hand

Introductions

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

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

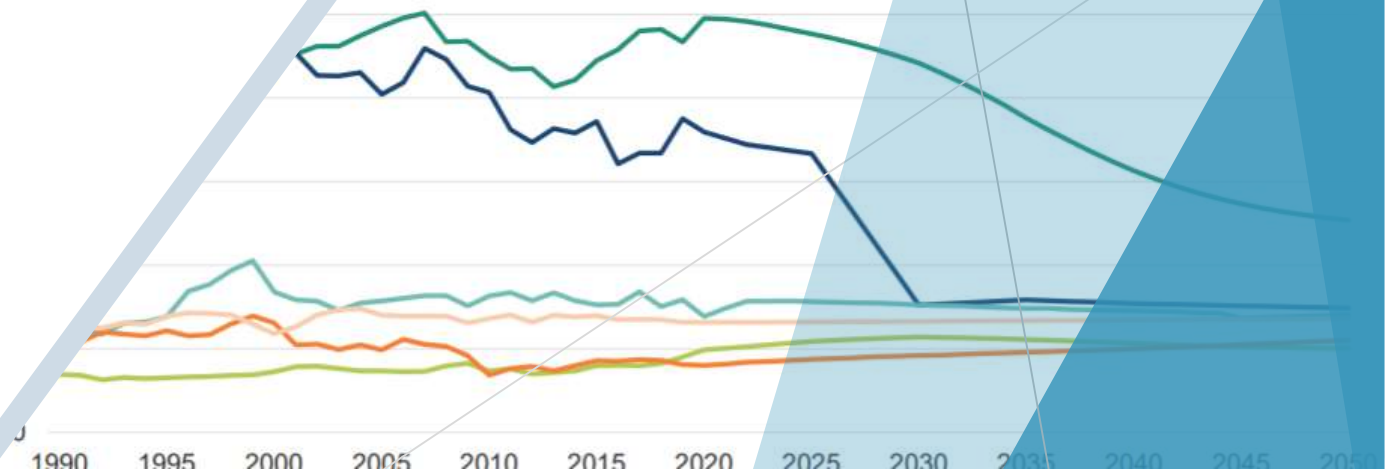
Bring concerns and ideas up for discussion at the earliest point in the process

Overview of the Day

- Natural Gas Fact Finding Effort Framing
- Ratemaking 101
- Oregon Natural Gas Industry Snaphot
- Scope and Schedule
- Discussion and Feedback

EO 20-04 PUC

- Wildfire Prevention and Mitigation
- Greenhouse Gas Emission Reductions
- Impacted Communities



EO PUC Workplan

- Identify and prioritize actions to meet EO 20-04 GHG emission goals.
- **Empower stakeholders** with key GHG information
- Encouraging the adoption of activities that balance current best-practices with GHG reductions.

Natural Gas Fact Finding Goal

Gain a better **understanding of the natural gas customer dimensions and impacts** of different decarbonization scenarios to help inform future decision making

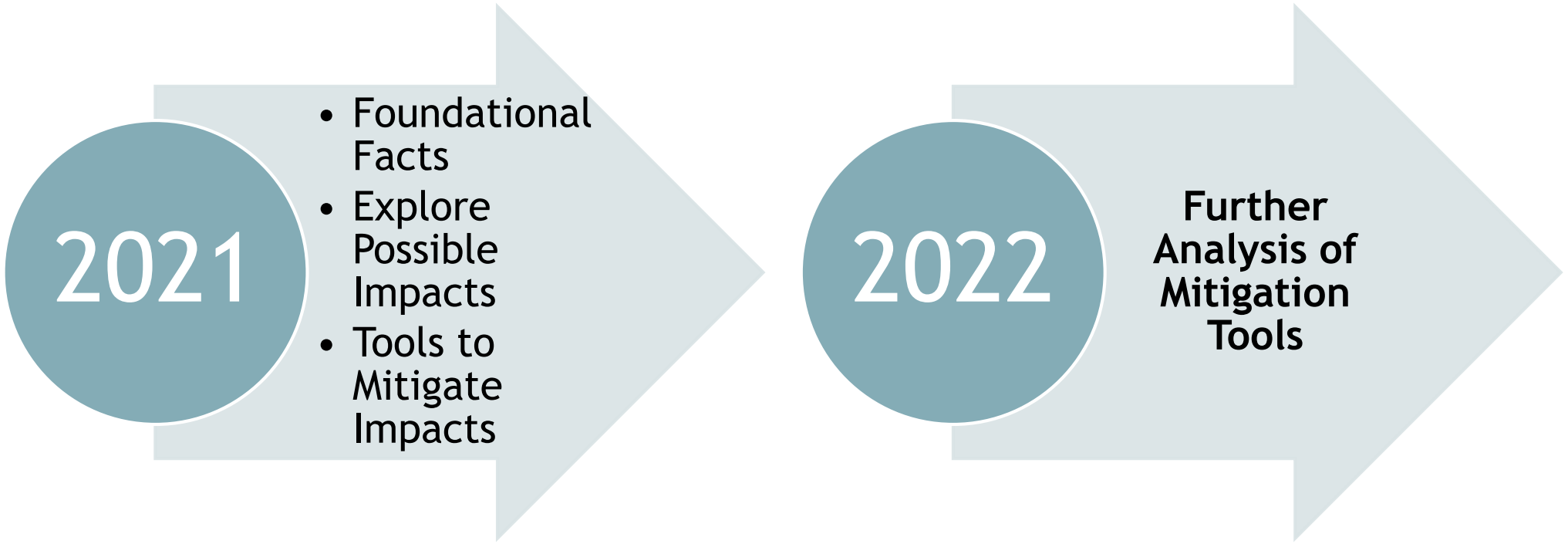
APPROACH

- Analyze the potential operational & financial impacts to regulated natural gas utilities and their ratepayers from meeting the Governor's EO 20-04 GHG reduction goals through the DEQ's Climate Protection Program.

- Explore and suggest potential regulatory tools for consideration in the future to mitigate ratepayer impacts.

- Inform future policy decisions to be considered in 2022 once the CPP is in place.

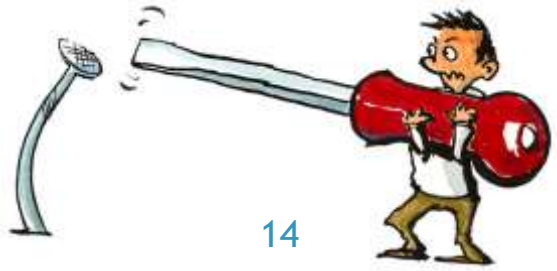
Overall Plan for Fact Finding



Desired output(s)

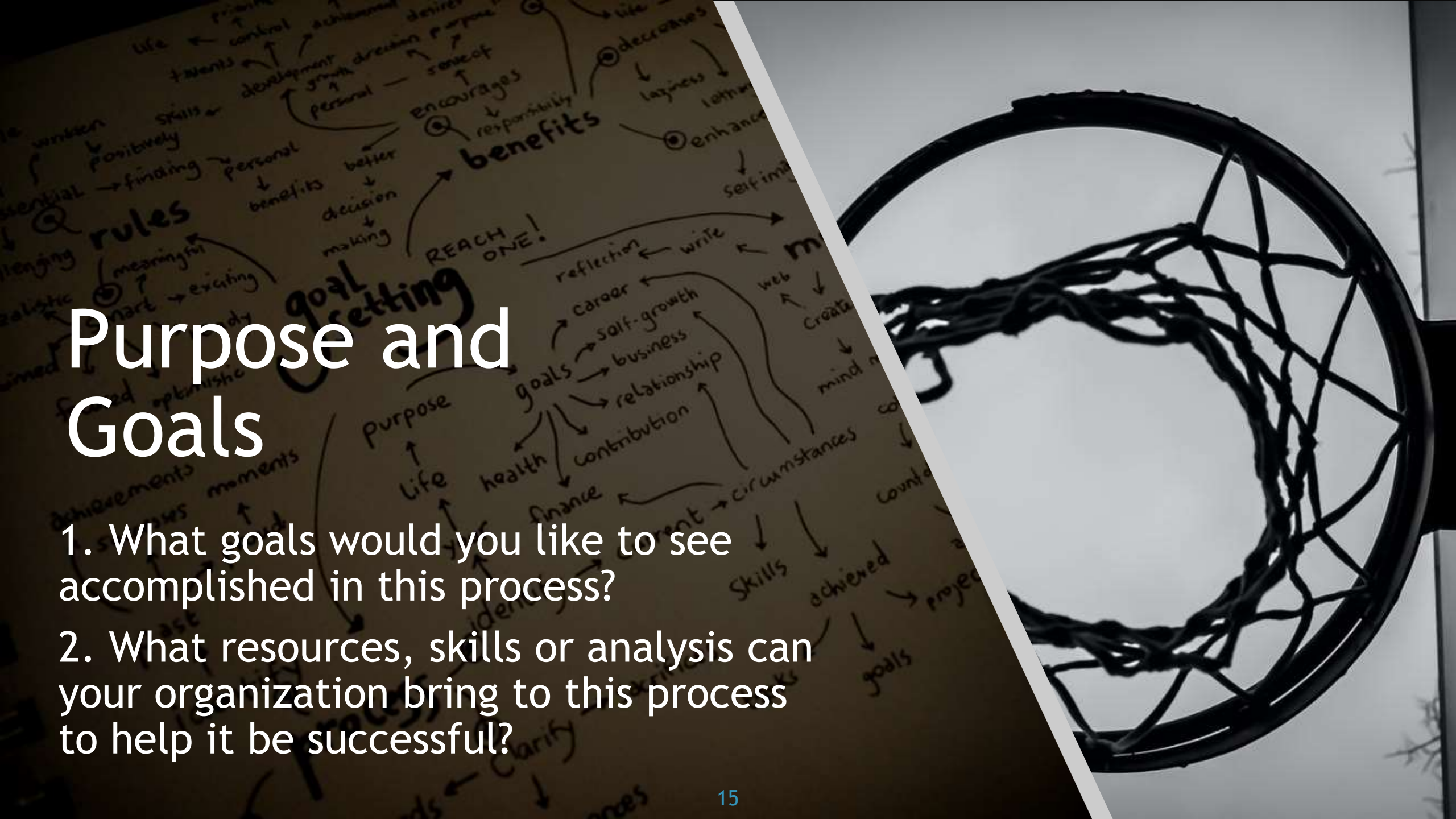
An understanding of potential natural gas customer bill impacts associated with compliance with GHG emission targets from DEQs Climate Protection Program.

Identification and eventual evaluation of strategies / tools to equitably mitigate potential harm to natural gas customers.



Purpose and Goals

1. What goals would you like to see accomplished in this process?
2. What resources, skills or analysis can your organization bring to this process to help it be successful?



Natural Gas Ratemaking 101

Regulated Gas Business Model

John Crider, Administrator

Energy Rates, Finance & Audit Division

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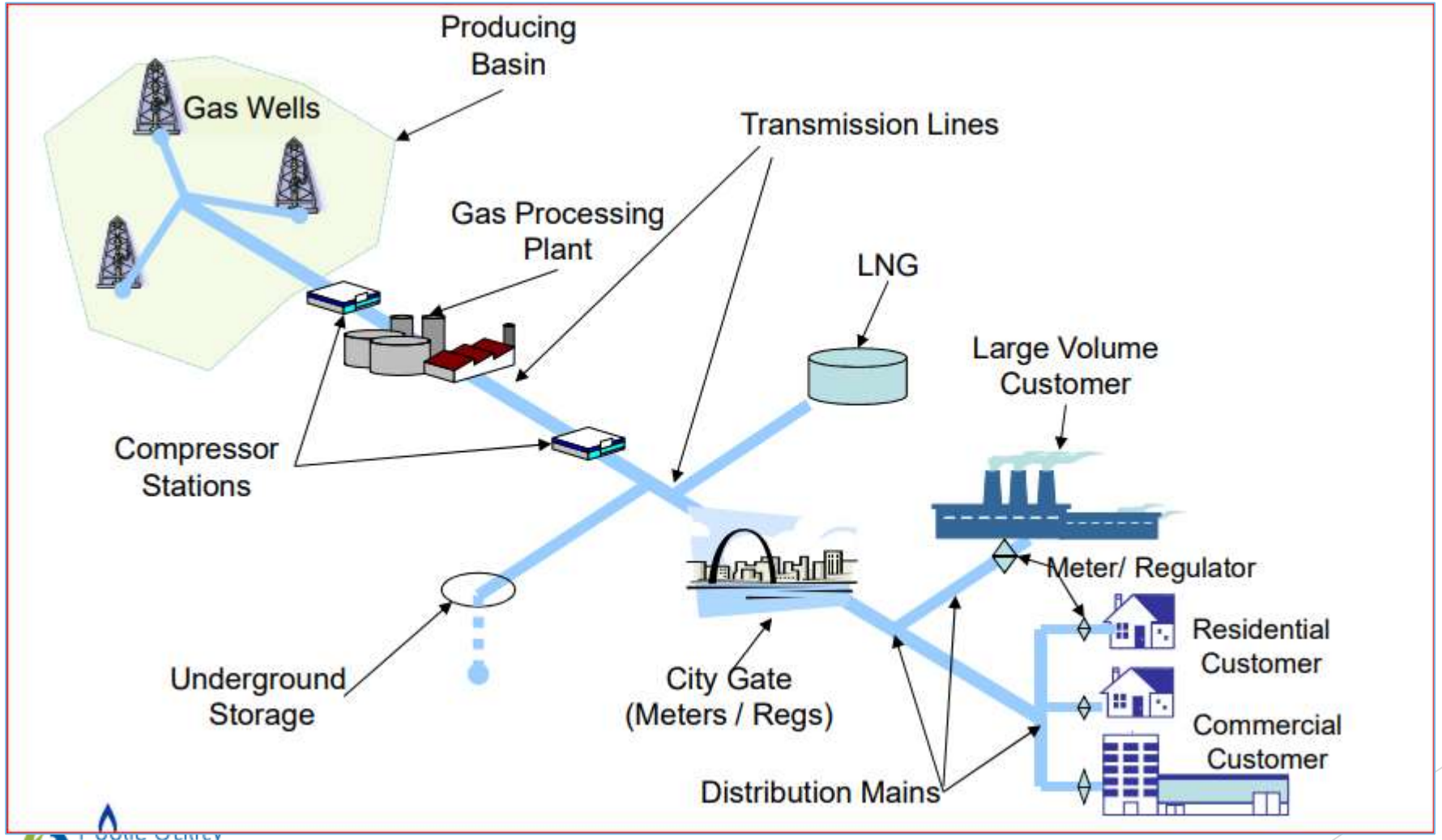
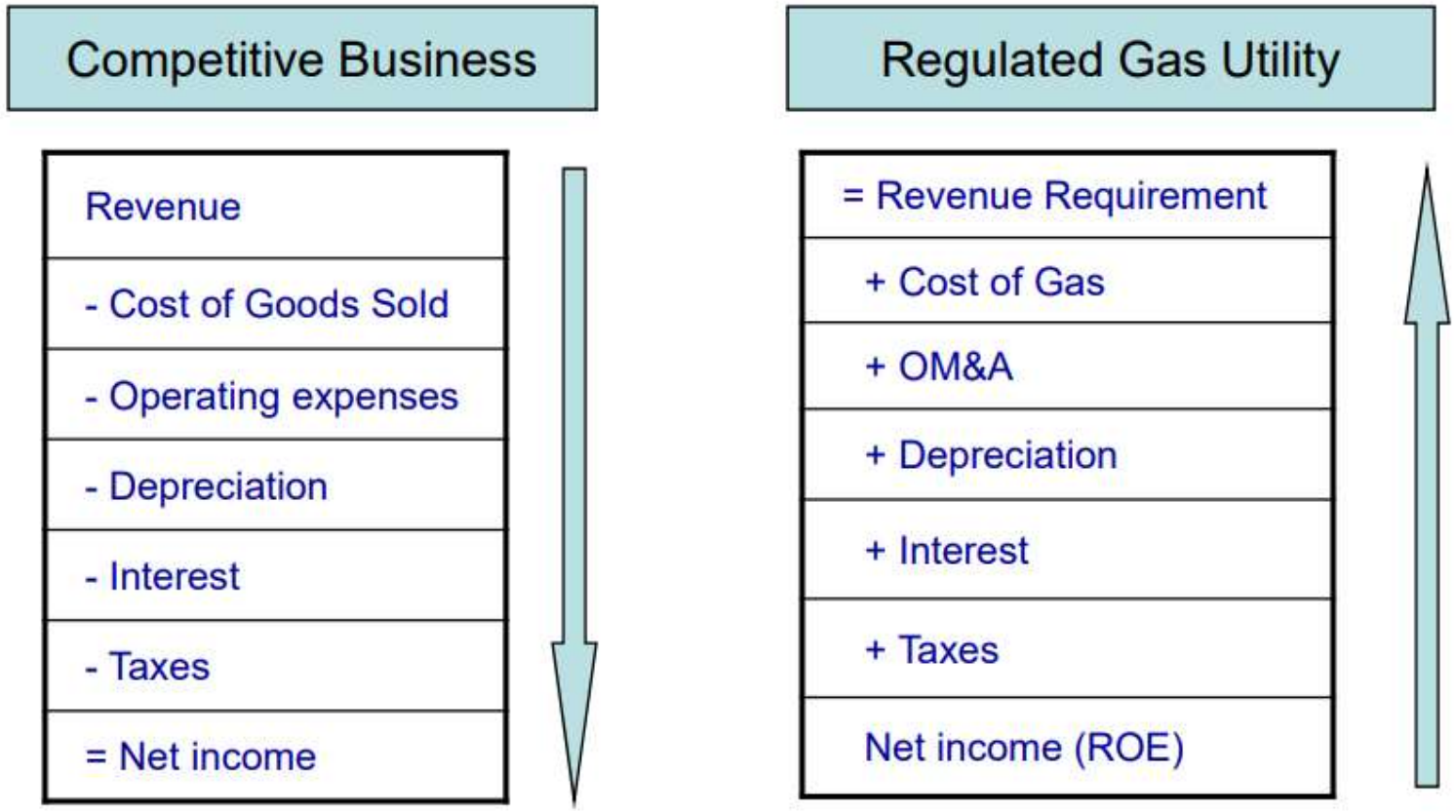
Parts of the natural gas business



Normal Business vs. Regulated Utility



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Why allow monopolies?

- The Free Market allows multiple carriers to use the same right-of-ways and compete.
- Although this may make for competitive pricing, it comes at a cost of complexity – and ugliness.
- Utilities are considered “natural monopolies” in that it makes more sense to have a single source for water, power and phone. (this later one obviously has changed over time as wires disappear…)
- Thus is born the **Regulatory Compact**:
  - the company is given a territory, free of competition and full of captive customers.
  - in return, the company is obligated to serve those customers, and the city or state gets to set rates, but they must be fair to the company.

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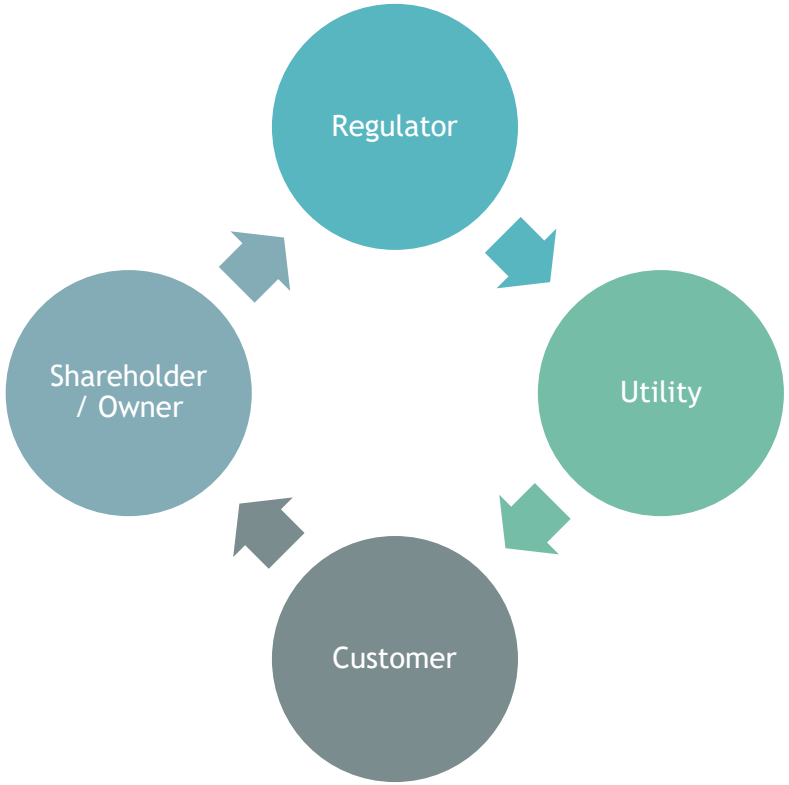
The Regulatory Compact

- Bargain between regulator and regulated utility
- Private property put to use in the public interest
- Government will balance the interests of both the consumer and the utility
- Utility has both rights and responsibilities



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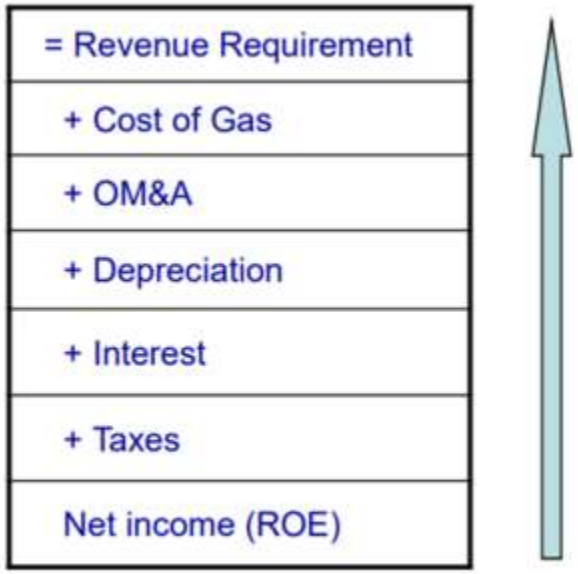
Revenue Requirement



Under the Regulatory Compact, the utility allows the jurisdiction, in our case the PUC, to set rates for customers.

To determine rates, first the total amount of revenue the company must make is determined, then rates are calculated based on estimated sales so that

Rate X Sales = Revenue needed

The revenue collected through rates over the year needs to cover all the company's operating expenses, and provide a return for shareholders.

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Revenue Requirement & GRC

- The determination of rates takes place during a 9-month quasi-judicial process called a General Rate Case, or GRC
- It is “quasi-judicial” because the process is run similar to a criminal court case. There are parties who present arguments in front of judges – in this case the PUC Commissioners – who render a decision based on evidence.
- Any stakeholder with an interest in the case can intervene in the case and state their position on issues.
- Stakeholders build a body of evidence through written testimony and oral hearings
- Stakeholders usually have legal representation and provide technical analysis as appropriate

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Revenue Requirement & GRC

Establishing a revenue requirement is the same as stating the amount of income the company must make to pay off all of its obligations, including a return on investment to its shareholders.

The utility has operating expenses which must be covered by the bills customers pay each month. These include:

- Price of fuel and fuel transportation
- Labor costs
- Conversion and treatment costs
- Taxes
- Debt service
- Capital expenditure
- General O&M and administrative costs

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Revenue Requirement

- So, now we know that the Commission determines the company's overall revenue requirement in the GRC, and at the same time approves a series of rates (or tariffs) that collect the revenue from customers through their usage.

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So, How Does A Regulated Gas Co Make Money??

Name an element of the Revenue Requirement

1) X X X X X X	
2) X X X X X X	
3) X X X X X X	
4) X X X X X X	
5) X X X X X X	

0 0 0 %

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Name an element of the Revenue Requirement

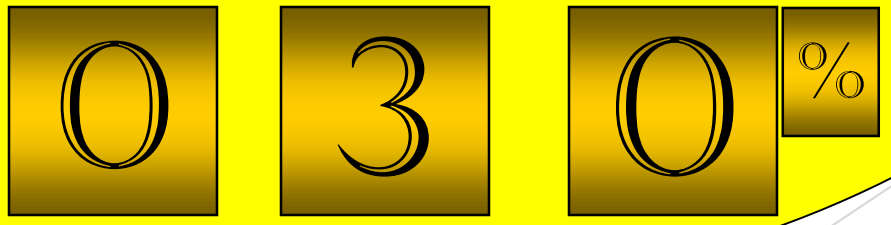
1) Operational Expenses

2) X X X X X X

3) X X X X X X

4) X X X X X X

5) X X X X X X



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Name an element of the Revenue Requirement

1) Operational Expenses	Pass-thru costs
2) X X X X X X	
3) X X X X X X	
4) X X X X X X	
5) X X X X X X	

0 3 0 %

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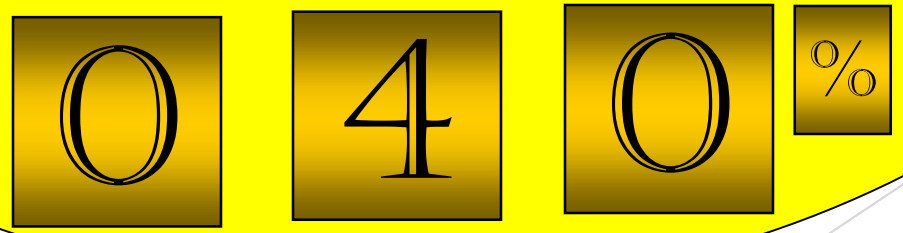
Name an element of the Revenue Requirement

1) Operational Expenses	Pass-thru costs
2) Taxes	
3) X X X X X X	
4) X X X X X X	
5) X X X X X X	



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Name an element of the Revenue Requirement

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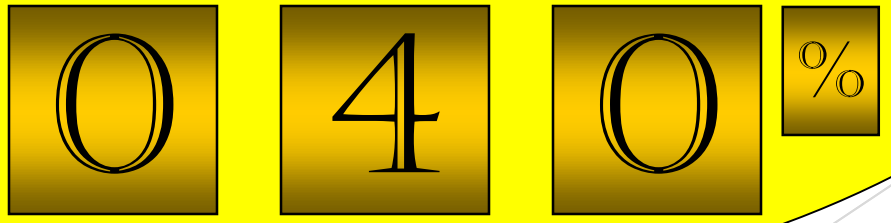

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Name an element of the Revenue Requirement

1) Operational Expenses	Pass-thru costs
2) Taxes	Pass-thru costs
3) Depreciation (Return of)	
4) X X X X X X	
5) X X X X X X	

0 6 5 %

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Name an element of the Revenue Requirement

1) Operational Expenses	Pass-thru costs
2) Taxes	Pass-thru costs
3) Depreciation (Return of)	Pass-thru costs
4) X X X X X X	
5) X X X X X X	

0 6 5 %

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Name an element of the Revenue Requirement

1) Operational Expenses	Pass-thru costs
2) Taxes	Pass-thru costs
3) Depreciation (Return of)	Pass-thru costs
4) Debt Service	
5) X X X X X X	

0 7 5 %

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Name an element of the Revenue Requirement

1) Operational Expenses	Pass-thru costs
2) Taxes	Pass-thru costs
3) Depreciation (Return of)	Pass-thru costs
4) Debt Service	Pass-thru costs
5) X X X X X X	

0 7 5 %

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Name an element of the Revenue Requirement

1) Operational Expenses	Pass-thru costs
2) Taxes	Pass-thru costs
3) Depreciation (Return of)	Pass-thru costs
4) Debt Service	Pass-thru costs
5) Return on Ratebase	

1 0 0 %

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Name an element of the Revenue Requirement

1) Operation expenses	**Pass-thru costs**
2) Taxes	**Pass-thru costs**
3) Depreciation	**Return of capital**
4) Debt	**Pass-thru costs**
5) Return on Ratebase	**Profits!**

1 0 0 %

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Rates & Rate Spread

- As we see, the Revenue Requirement is a single large amount that the company needs to pay its annual bills, but how does it actually receive those funds?
- Rate designers create rates – in our case, cents/therm of gas sold – so that when the rate is multiplied by sales, and billed monthly to customers, the total received back should (ideally) equal the revenue requirement.
- Let's say the company's revenue requirement is $120,000 – a small company! It has 2000 customers. If the average use per customer is 50 therms/month, then the company counts on selling (2000 X 50 X 12 =) 1,200,000 therms in a year. To recover its revenue requirement through sales, assuming a single rate, that rate would be ($120,000/1,200,000 therms) = 10 cents/therm

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Rates & Rate Spread

- But not all costs are caused by customers in the same way because their energy usage profile is much different.
- Residential customers tend to use energy in the morning and early evening, but less during the day while commercial customers (stores) use energy all day at a steady pace, but almost none after closing, and industrial customers may easily have a 24/7 energy draw (and a large one).
- Also, some costs are not related to how much energy you use, or when you use it. The cost of creating and sending a bill, and processing the payment, does not depend on your monthly usage.

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Rates & Rate Spread

- Rate designers group costs into like categories (for example, distribution costs) and then apply cost-causation logic to “spread” those costs across the appropriate customers
- Over time, this has resulted in three primary classes of customers: residential, industrial and commercial.
- Rates are designed to attribute proper costs to the right customer classes, and in the right ratios. For example, a large industrial customer that purchases gas directly it’s supplier does not incur the same fuel expense to the company as a residential customer, and so may not be assigned those costs when designing rates.

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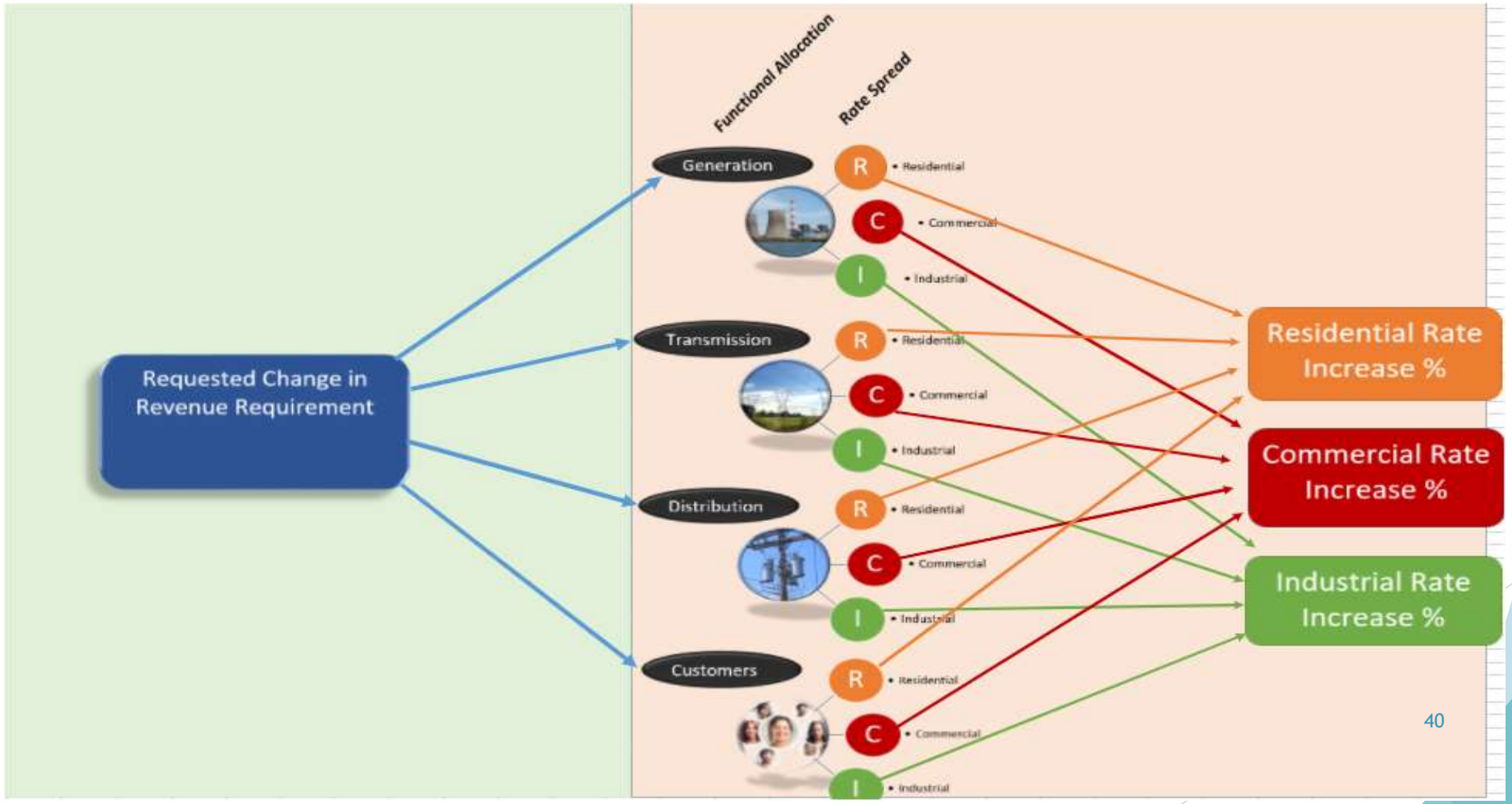
Rate Spread – Functions and Class



Fuel Expense & the PGA

- Recall that Fuel and Fuel Handling are major cost drivers that make up the Revenue Requirement – up to one third of the total Revenue Requirement.
- Without an annual adjuster, utilities would likely file rate cases very often in order to recover fuel costs.
- With an adjuster, utilities are allowed to update the annual revenue requirement for fuel costs and other limited costs.
- In the natural gas world, this annual case is called the “Purchased Gas Adjustment” or PGA.

Depreciation Expense

- Another major element of the Revenue Requirement is the depreciation expense.
- Depreciation expense is how the utilities recoup the initial investment in plant, usually denoted as “the return of” an investment.
- When plant is purchased, it has an assumed life. The annual depreciation expense of that plant is equal to (purchase price)/(life of plant)
- For example, a $100,000 piece of plant with a 10-year life will have an annual depreciation expense of $10,000 and will be fully paid off in ten years

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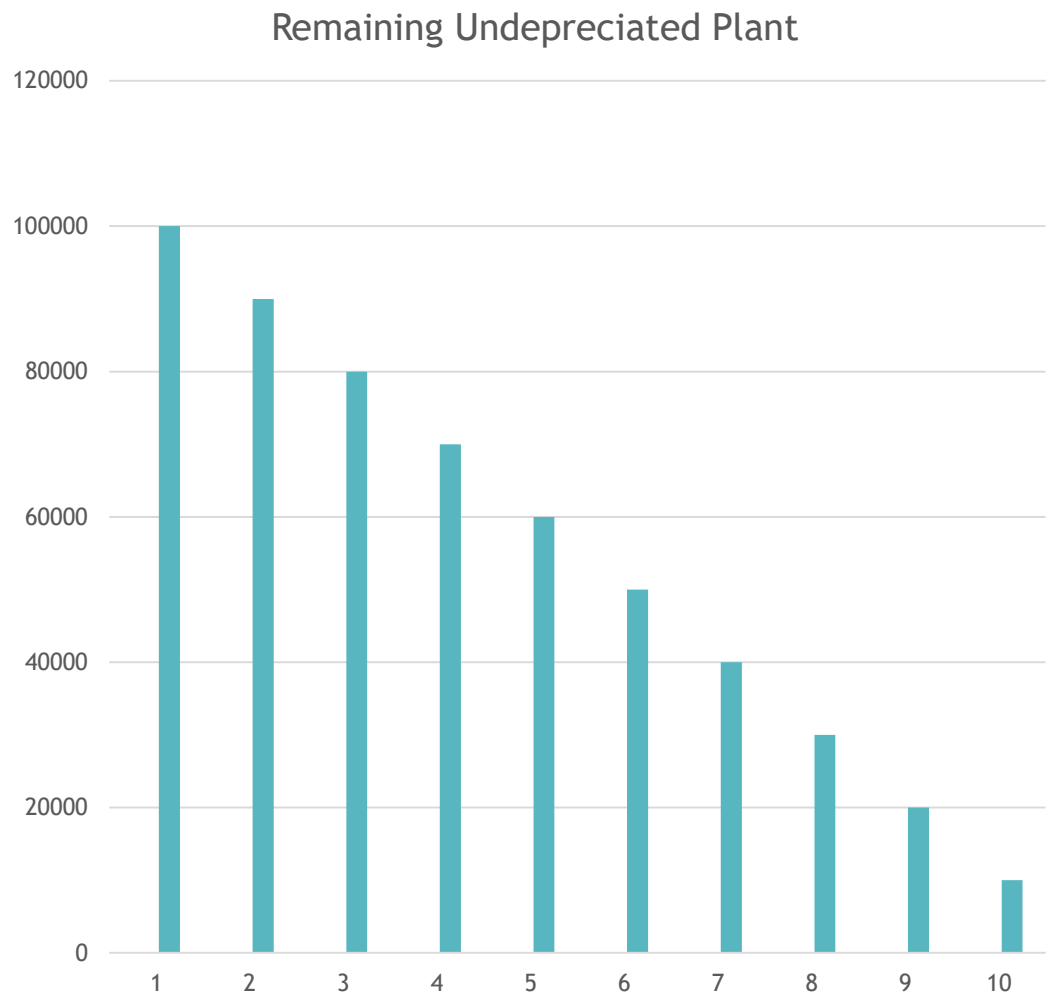
Depreciation Expense

- Over time, the undepreciated part of the plant diminishes, as the plant is paid off.
- If additional plant is not added to the system over time, the depreciation expense falls until all plant is fully depreciated, and the expense is zero



Return on Ratebase

Recall that in a regulated utility, the only profit center is from return on ratebase

Ratebase refers to the total undepreciated plant in the system that has been deemed “used and useful” for the provision of service, and the associated costs of that plant were prudently incurred

Plant that is fully depreciated or no longer used and useful is removed from ratebase

The utility’s profit is equal to

(Ratebase) X (rate of return (ROR))

The ROR is one of the factors determined in the general rate case.

Gas utilities in Oregon have an ROR around 7% - if the company has $500m in undepreciated plant, the revenue requirement piece associated with ROR is about $35m each year.

Integrated Resource Planning (IRP)

- IRP is a...
  - **Road Map:** "Least cost, least risk" approaches to safely and reliably match supply and demand that meets the policy goals of State and Federal gov't.
  - **Tool for Feedback**: Significant public involvement in utility planning
  - **Forecast**: not just supply and demand but uncertainties, risks and trends
- Occurs ~ every 2.5 to 3 years
- How an IRP relates to revenue requirement:
  - Identifies new assets (ratebase) a utility may acquire ***prior to*** Rate Case
  - Analyzes costs and risks, such as future higher gas prices.

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IRP and GHG Emissions

Current

- Portfolio Scenario (Guideline 8)
- Price forecast uncertainty
- Portfolio performance
- New technology screening

Possible as part of EO 20-04

- Compliance with EO's goals
- Granular emissions data (hourly)
- Carbon intensity of supply mix over time
- Modeling parameters (e.g., Cap on Emissions)

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Conclusion

- Gas companies and all regulated utilities have a revenue requirement determined for them by the regulatory body, the PUC
- The revenue requirement determination includes recovery of normal operating expenses, taxes, capital recovery, debt service and a reasonable rate of return for investments, balancing the interests of stakeholders and customers.
- Rates are designed so that costs are properly spread to appropriate customer classes. Rates are designed so “Sales X Rates” will deliver the company’s annual revenue requirement.
- Profit only comes from the return on undepreciated plant, or ROR. Without this portion of revenue requirement, the company may have difficulty raising funds for new projects if unattractive to banks and stock buyers
- Due to the constant nature of depreciation, if ratebase is not continuously added to, the return portion of the revenue requirement diminishes over time.
- IRPs provides insight and chance for feedback into future utility investments and overall direction of their business

Ratemaking 101 Q&A

3. What more would you like to know about ratemaking and what becomes a customer's bill?

Break

10 Minutes

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Oregon Natural Gas Industry Snapshot

Brian Fjeldheim, Senior Financial Analyst

Energy Rates, Finance & Audit Division

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Industry Snapshot

- Builds on previous overview of natural gas utility rate making
- Purpose: provide a snapshot of current operations and trends in Oregon
- All materials will be available once finalized in June

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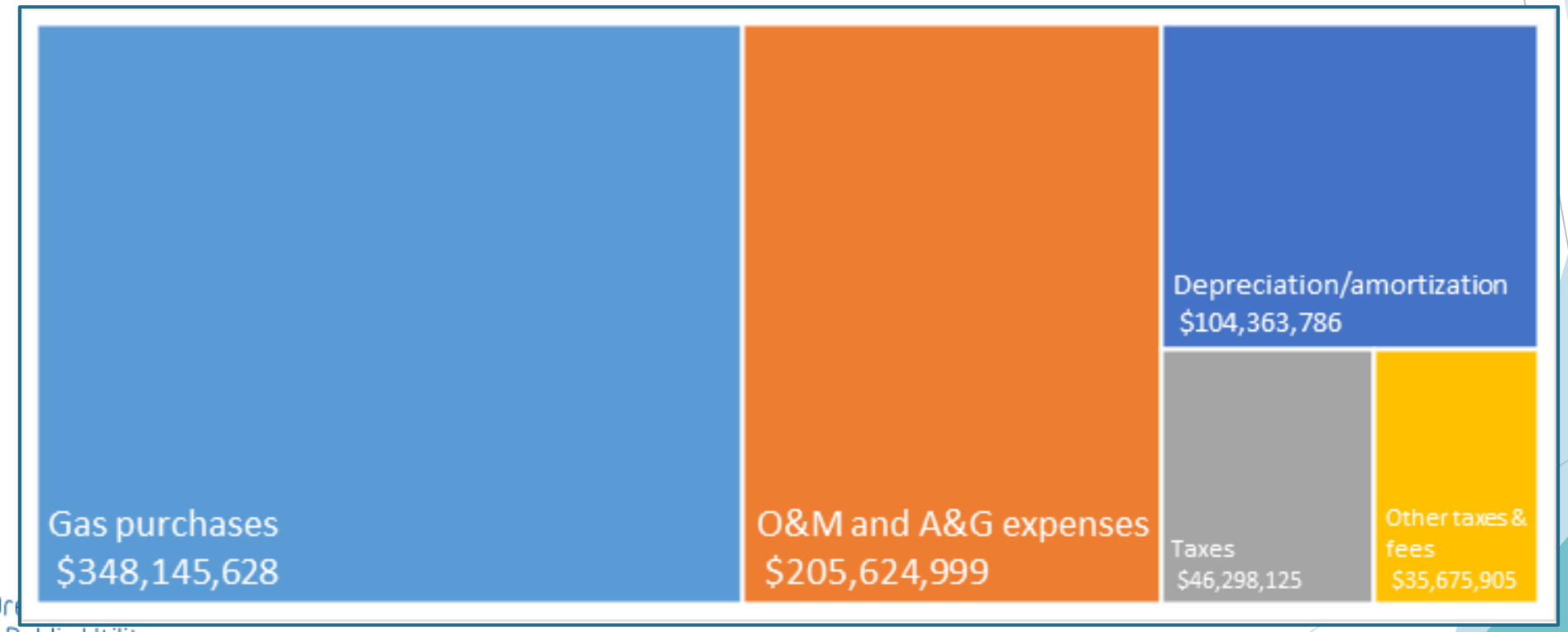
General Operations, Expenses

In 2020 the natural gas utilities of Oregon had a combined operating expense of ~ $740 **Million**.



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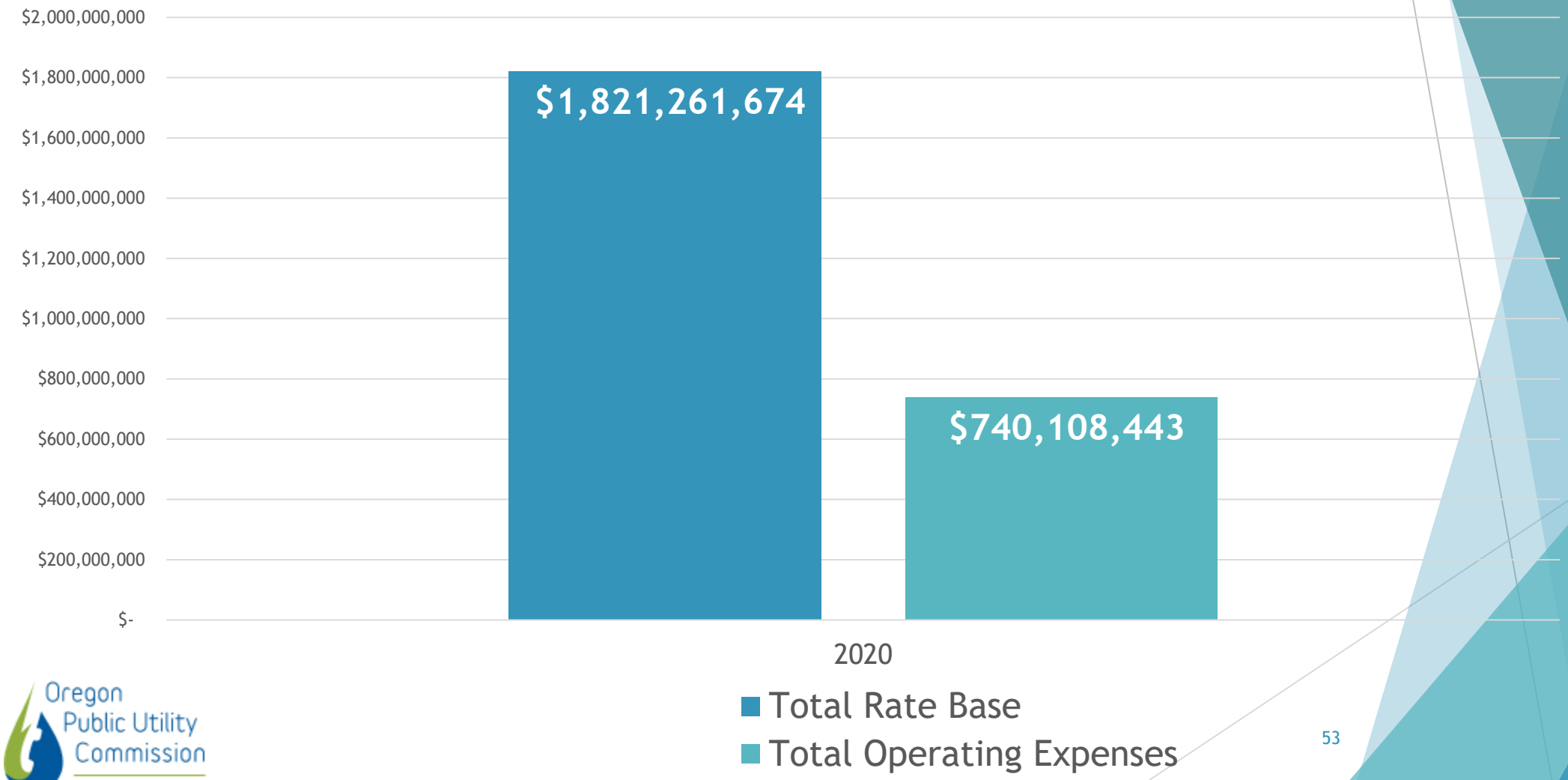
General Operations, Net Plant in Service



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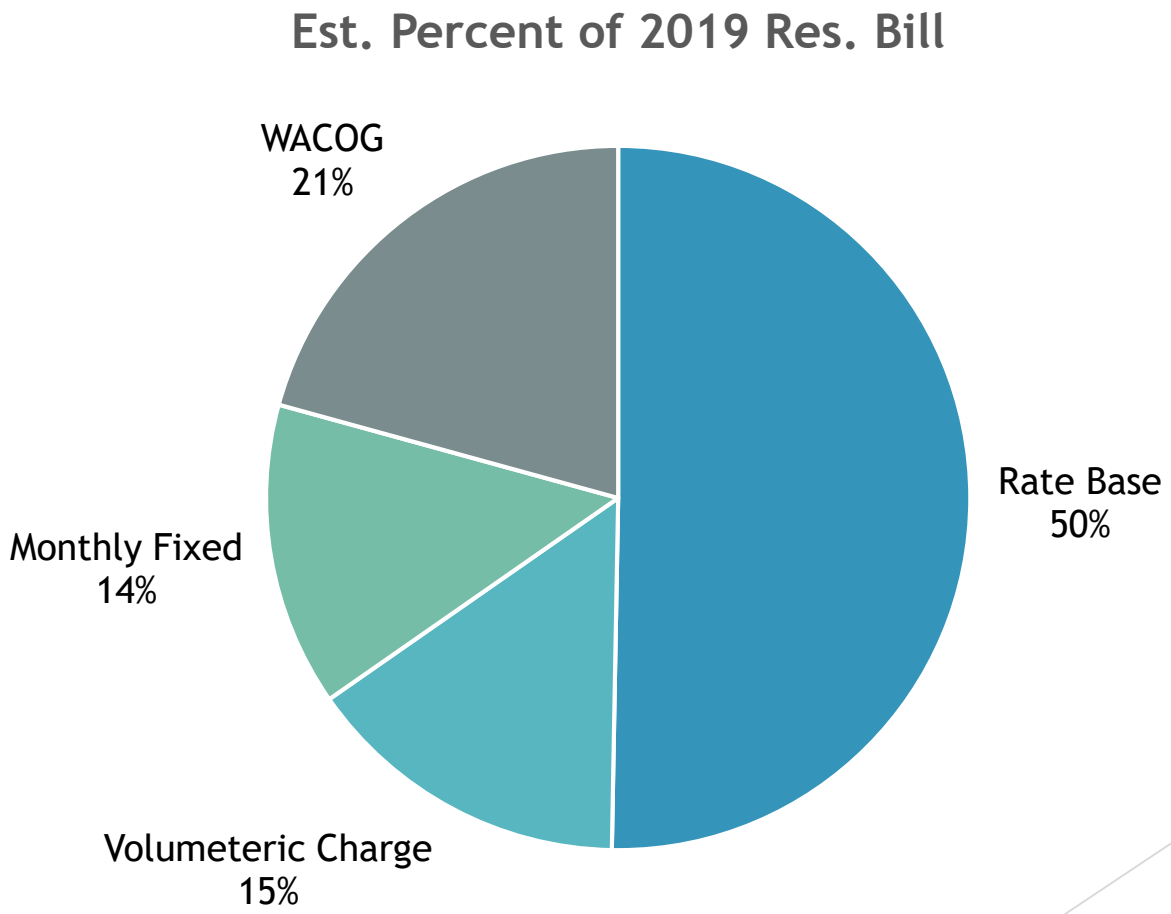
General Operations, WACOG

Size difference between Rate Base and Annual Expenses explains % breakdown of customer bill.



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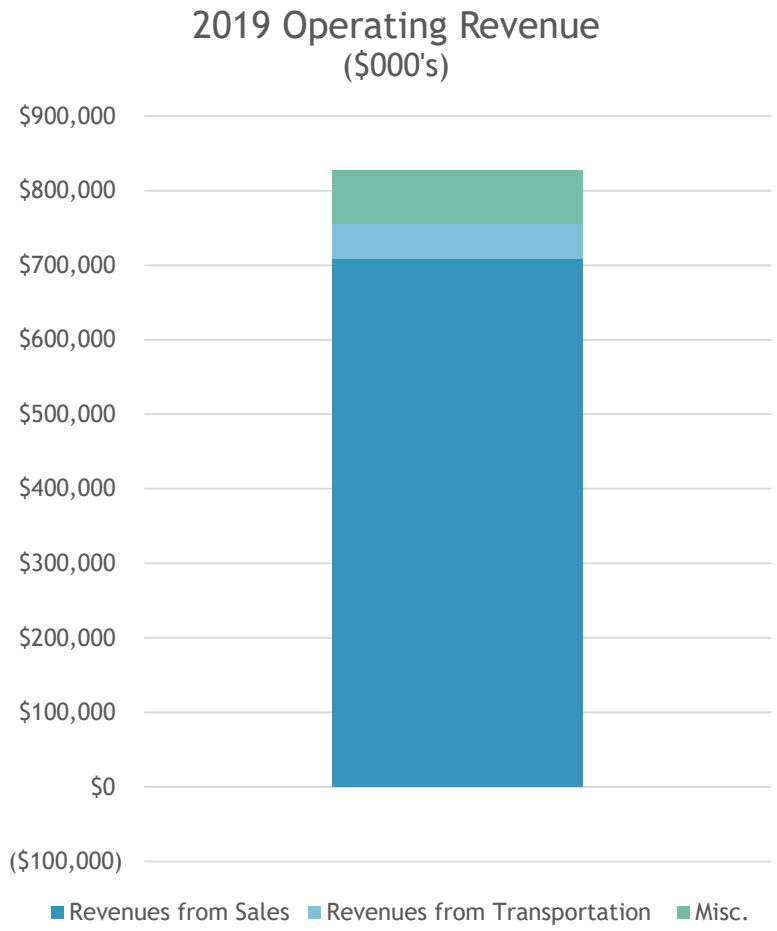


General Operations, Revenue+

2019 combined revenues were **$828 Million***

* Normalized

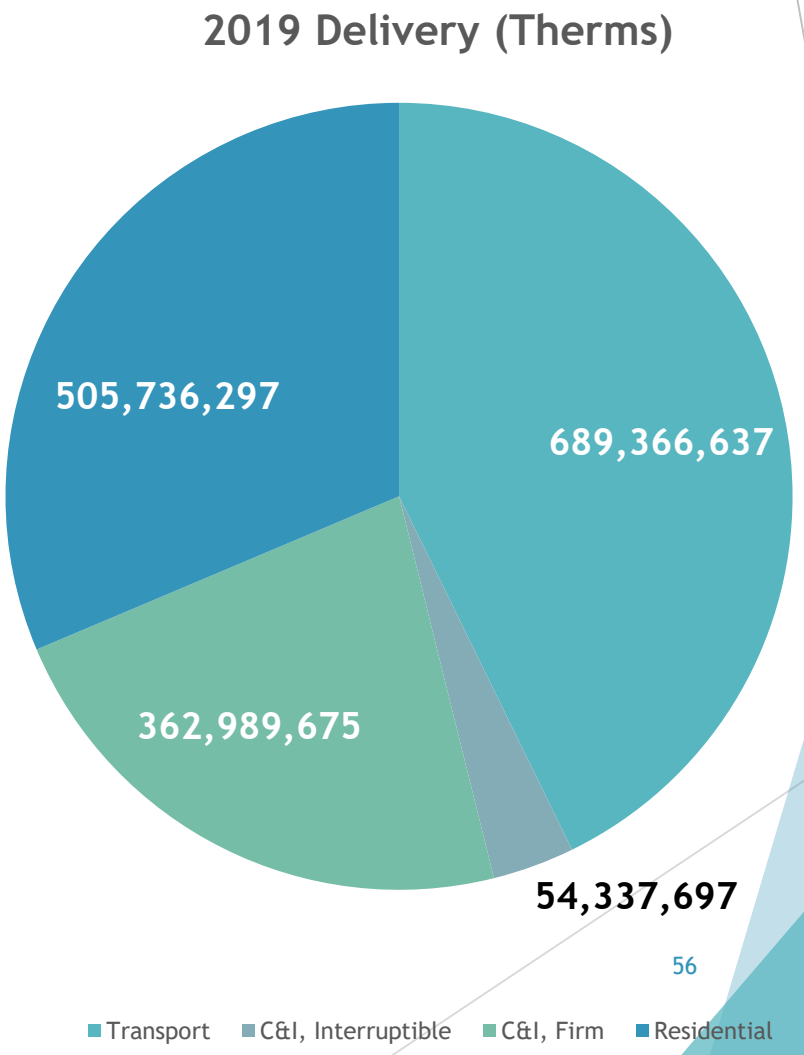
+ Note this slide is a corrected version of what was presented on May 27, 2021

General Operations, Transport

0.05% of total customers

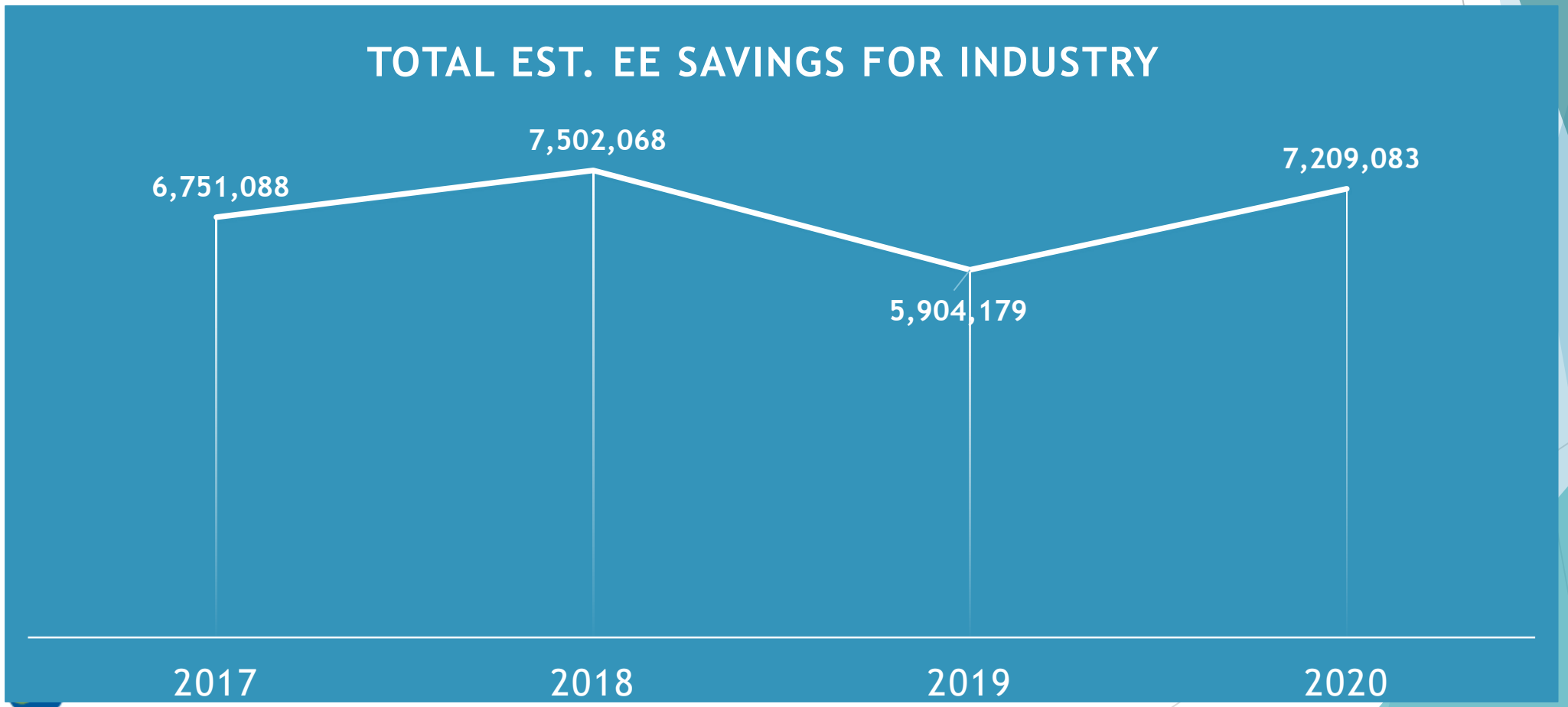
3% of 2019 revenue

42% of delivered Therms



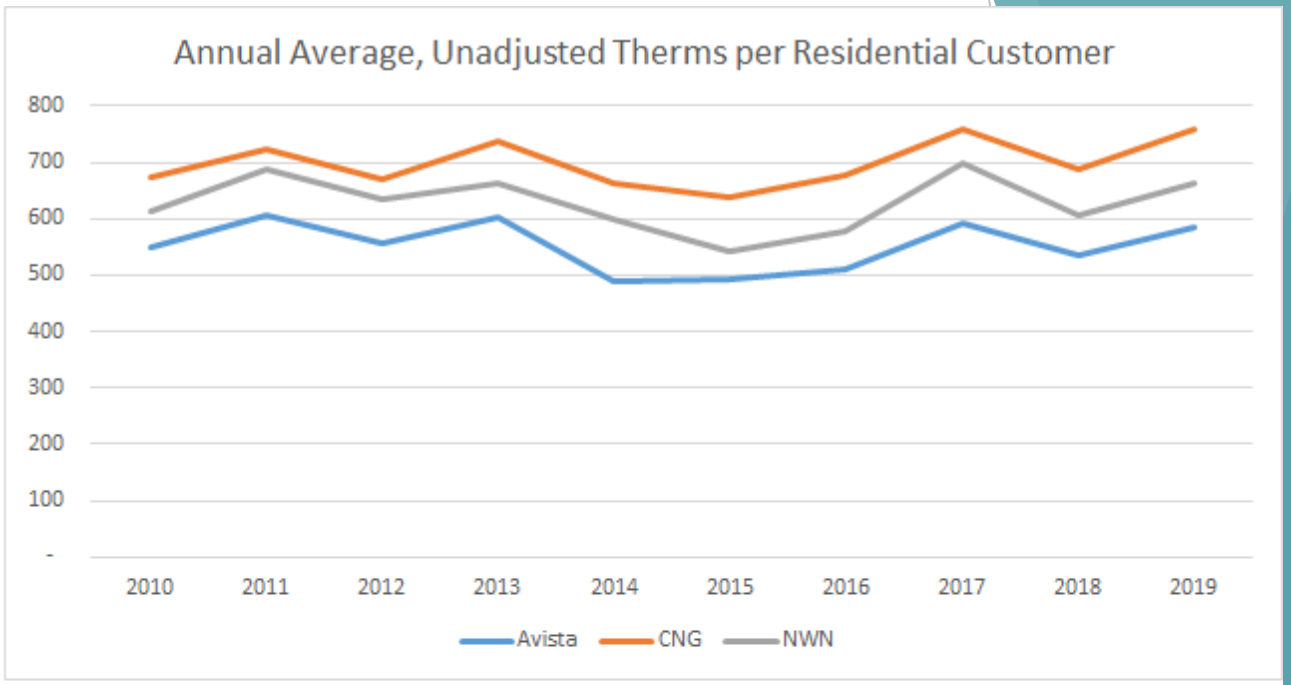
General Operations, Energy Efficiency

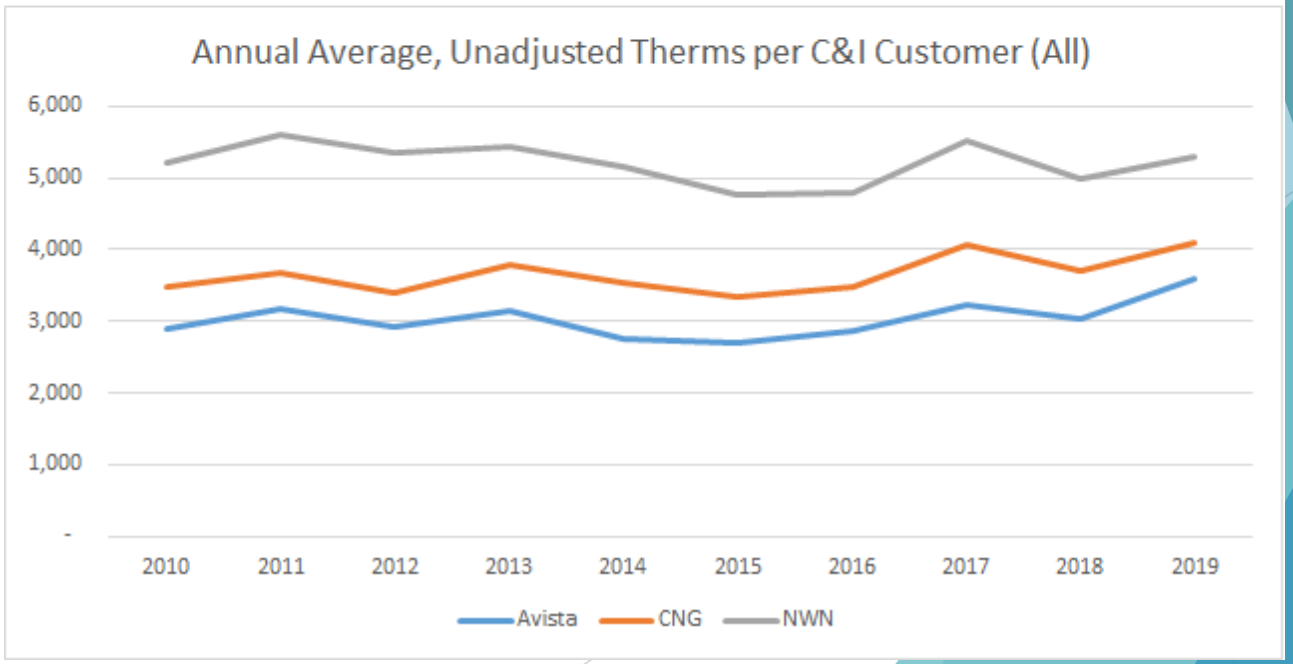
Energy Efficiency represents < 1% of annual therms sold by utilities



Recent Industry Trends in Oregon

- Using data from the OPUC Statistic Books, unadjusted trends in per customer natural gas usage have remained about the same





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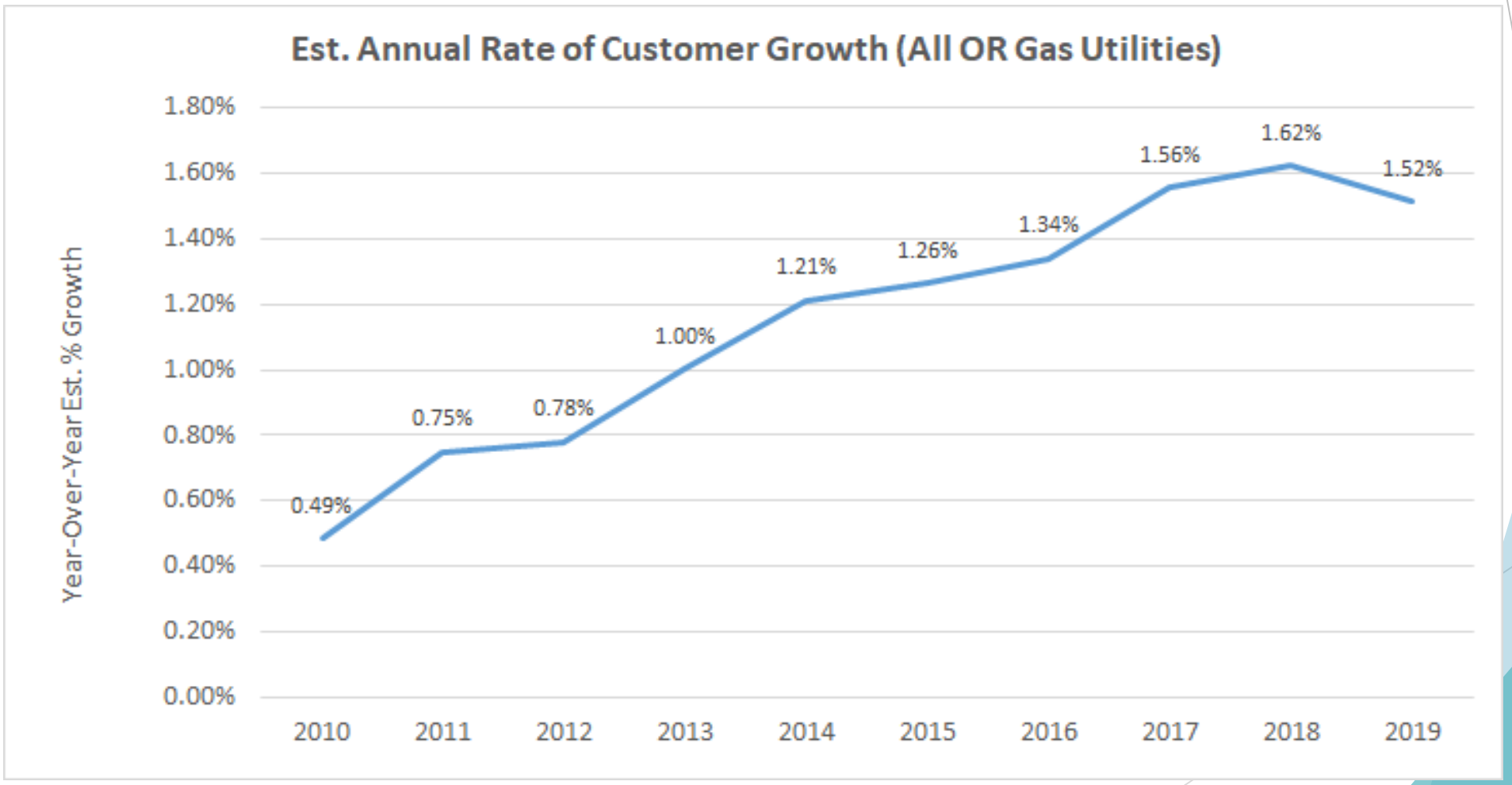
Recent Industry Trends in Oregon

Annual, year-over-year customer growth has been trending higher.



Availability of Numbers

- All data used here is publicly available.
- Once data is updated, based on feedback, it will be finalized for posting.
- In July all data used here will be made available on the PUC website.
  - Will include graphics
- Anticipate releasing two workbooks
  - Annual Stat Book Data (“Flat File” with Pivot Charts)
  - Financial Summary Data

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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?

NGFF Scope and Schedule

JP Batmale, Administrator

Energy Resources & Planning Division

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2021 Fact Finding: Two Phases

Phase 1

What is the current status of the system?

Phase 2

What effect might CPP have on companies and ratepayers?

What tools could PUC use to mitigate impacts?

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Phase 1 – Foundational Facts: Deliverables

1. **Documentation of Industry Level Data**
   - Set list of topics covered
   - Range of Analysis: 2021 through 2035

2. **Two Stakeholder Work Shops**
   - May: Scope & Progress
   - June: End Phase 1, Documentation on Industry Level Data

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Phase 2 Deliverables

Forecasts for CPP Compliance

- Utilities Develop & Present (Individual utility analysis)
- Staff & Stakeholder feedback

Regulatory Tools

- Present current tools that can be used to implement GHG reduction policies

Staff Report

- Encapsulation of 2021 work. Will point to next steps regarding “tools”
- Delivered December at SPM

Three Work Shops and an SPM

- August: Present modeling results
- September: Present revised modeling results; Regulatory tools discussion
- November: Present draft report for feedback
- December: Final report at SPM

Outreach Overview

1. **Workshops**
   - 5 planned between May and November

2. **Website Postings**
   - Monthly status updates from Staff beginning at the end of May
   - All materials from workshops, including stakeholder comments

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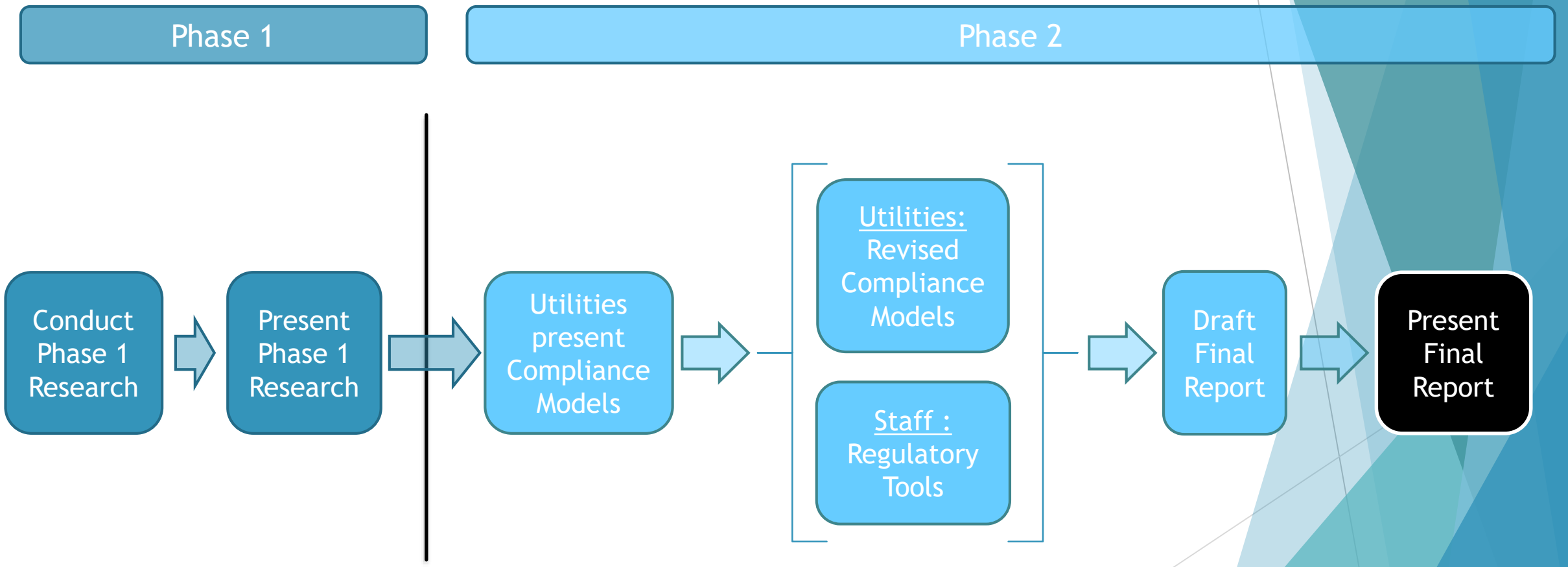
Order of Operation



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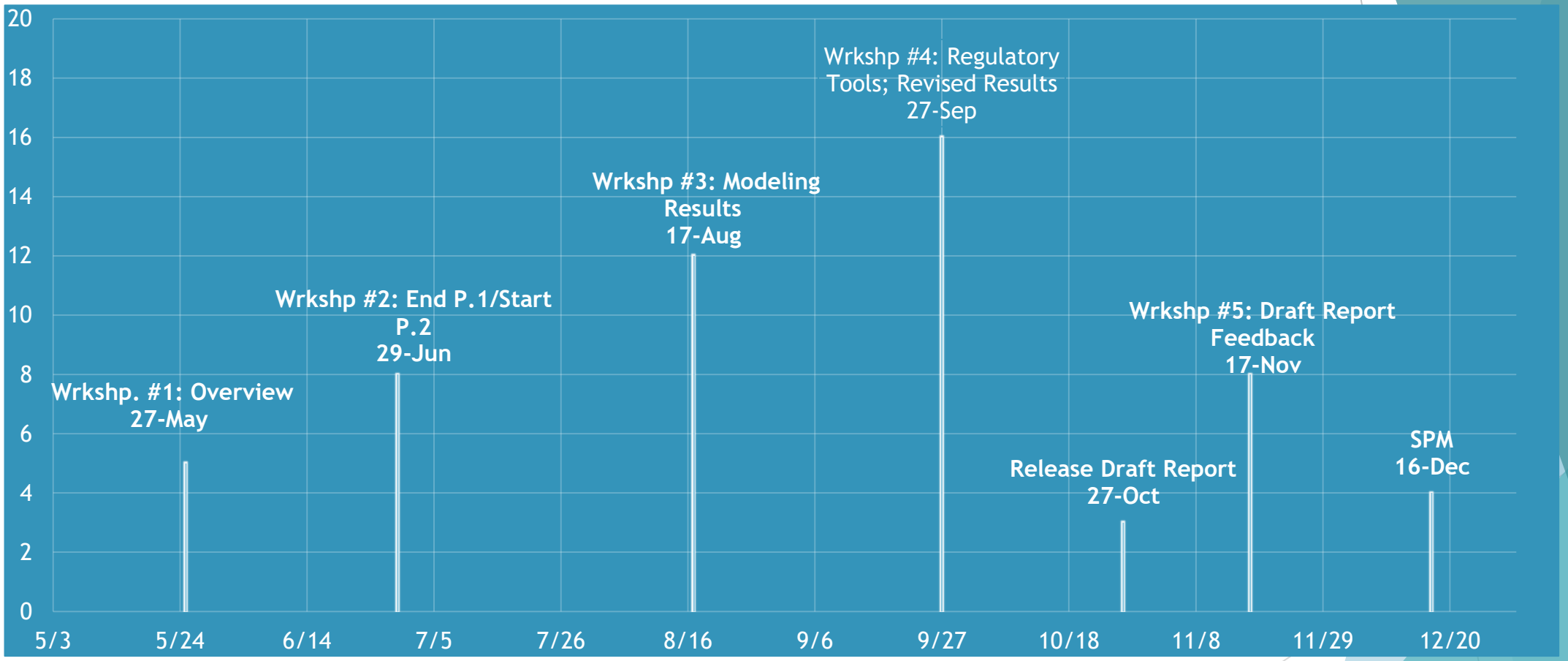
Each arrow denotes planned opportunities for stakeholder interaction and feedback

Proposed 2021 Timeline



Phase 1

Phase 2

Workshop Details

Workshop #1	Workshop #2	Workshop #3	Workshop #4	Workshop #5
5/27/21	6/29/21	8/17/21	9/27/21	11/17/21
Overview & Background	Finalized Background #'s	Initial Model Results	Revised Model Results	Draft Report Feedback
	Discuss Modeling	Model Feedback	Regulatory Tools	

Phase 1

Phase 2

Scope & Schedule

- Q&A

6. What questions are outside the scope of this process that we should keep on the table for future conversations?

7. How can we shape this process to be meaningful to future PUC activities, such as IRPs and rate making?

Closing Remarks and Feedback

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Next Steps

- **Workshop #2 (June 29, 2021)**
  - Final results
  - Discuss modeling parameters
- **Docket the Fact Finding**
  - All people currently on EO 20-04 or a natural gas IRP service lists will be added. To join send email to puc.hearings@puc.oregon.gov
- **Website Postings**
  - Meeting Notes, Presentations, and Data
  - Written feedback
  - Next meeting's agenda and materials

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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.

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