Regulatory Tools Overview

UM 2178 Natural Gas Fact Finding – Public Workshop #4a

Megan Anderson
Associate

Mark LeBel
Associate

Elaine Prause
Senior Associate

The Regulatory Assistance Project (RAP)®
FACT SHEET: President Biden Sets 2030 Greenhouse Gas Pollution Reduction Target Aimed at Creating Good-Paying Union Jobs and Securing U.S. Leadership on Clean Energy Technologies

APRIL 22, 2021 • STATEMENTS AND RELEASES

Building on Past U.S. Leadership, including Efforts by States, Cities, Tribes, and Territories, the New Target Aims at 50-52 Percent Reduction in U.S. Greenhouse Gas Pollution from 2005 Levels in 2030
Oregon HB-2021

- Retail electricity service provider must reduce greenhouse gas emissions:
  - 80 percent by 2030
  - 90 percent by 2035
  - 100 percent by 2040
Oregon Targets in EO-20-04

1990 GHG emissions baseline

45% reduction by 2035

80% reduction by 2050

Source: DEQ, Climate Protection Program, Overview of Proposed Program (Sept. 2, 2021).
UM 2178: Natural Gas Fact Finding Investigation - Purpose

- Analyze the potential natural gas utility bill impacts that may result from limiting GHG emissions of regulated natural gas utilities under the DEQ’s CPP
- Suggest appropriate regulatory tools to mitigate potential ratepayer impacts
- To inform future policy decisions and other key analyses to be considered in 2022
Other trends impacting customer base and throughput

- More stringent building codes and env. regulation
- Energy efficiency programs
- Energy-efficient gas appliances
- Electrification
Sources of Trends: Climate Policy and Safety Concerns

Note: Methane is colorless, but for purposes of illustration, leakage is represented in yellow.

Source: The Gas Index. (2020). The United States' Natural Gas System Has a Serious Problem: It Leaks
Results: Potential increases in Oregon gas system costs

- Infrastructure and safety upgrades across the system to enable alternative fuels
- Infrastructure upgrades to address leakage
- Increased commodity prices of natural gas and/or other fuels
- CCIs
Higher gas bills likely

**NW Natural**

![Projected Increase in Total Annual Bills from Climate Protection Program](image)

<table>
<thead>
<tr>
<th>Year</th>
<th>Residential</th>
<th>Commercial</th>
<th>Industrial</th>
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<tbody>
<tr>
<td>2022</td>
<td>1%</td>
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<td>2040</td>
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<tr>
<td>2050</td>
<td>-2%</td>
<td>12%</td>
<td>39%</td>
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*Impact shown relative to pre-CPP expectations, including SB 98 and expected energy efficiency action*

**Cascade Natural Gas**

![AVG ANNUAL COM PAYMENTS](image)

![AVG ANNUAL RES PAYMENTS](image)
Potential gas customer impacts

• Higher cost of service likely due to changing system
• Potential for customer and load attrition
• Potential for stranded assets- who pays?
Meeting customer energy needs in the public interest
Categories of Regulatory Tools

Planning

EE and Other Programs

Ratemaking
Equity Is Integral

- Robust and inclusive processes to ensure that everyone’s needs are considered and planned for
- Programs that are accessible and put disadvantaged communities at the forefront of the transition to clean energy
- Rate-making reforms can mitigate risk of unsustainable rate increases and avoid unfair bill impacts on low-income customers
Q&A
Expand Planning
Oregon Planning
Gas Planning Process

Lay the foundation
- Require inclusive, robust stakeholder process
- Set planning within policy context
- Coordinate with related processes

Develop a system map
- Assess existing infrastructure
- Identify current customer base
- Analyze demand, supply and risk

Explore alternative scenarios
- Develop scenarios
- Model scenarios
- Consider transition planning

Create action and transition plans
- Short-term action plan
- Long-term transition plan

Prepare for next process
Expand and coordinate stakeholder processes

- Inclusive, robust stakeholder processes
- Set planning within policy context
- Coordinate with related processes
Develop a Dynamic System Map

Layers of information can facilitate system planning

• Assessment of existing infrastructure
• Identification of current customer base
• Analysis of demand, supply and risk
Explore Alternative Scenarios

- Residential areas: Transition away from gas to electric appliances, heat
- New residential: All electric; no gas infrastructure
- Aging pipes: Prioritize electrification
- Low and moderate income: Prioritize electrification
- Commercial: Some larger commercial infrastructure stays. Plan to transition
- Industry: Gas infrastructure stays. Plan to transition to green hydrogen or biomethane
- Smaller commercial: Phase out gas after electrification
Develop Decarbonization Plans

• Develop decarbonization plans within the IRP process to incorporate changing circumstances
• Consider ways to integrate gas and electric planning to consider all options together
• Planning is a “no regrets” tool – ensures that regulators have the info they need to make decisions about utility filings
Q&A
3 Programs and Policies
Revisit Underlying Policies to Unlock Compliance Options

**EE Cost Effectiveness**
- Ensure avoided costs reflect updated planning assumptions
- Have benefits changed? Is there additional information

**Electrification**
- Modify fuel switching policy
- Potential Assessment
- Determine CE Approach
- Goals and attribution

**Related Rules**
- Created in prior context
- Unforeseen limitations or contradictions
- Examples include SB 98, SB 844
Coordination of Electrification

- Set goals in terms of primary energy or in terms of emission reductions
- Allow gas utilities to earn credit for contribution to electrification goals
Target Programs for Equity

- Focus on weatherization
- Equitable access to new technologies
- Consider changing cooling and heating needs
Target Programs for Locational Impact

- Integrated with more granular planning
- Expand “non pipeline” alternatives
- Demand response
- Minimize new infrastructure capital investment and operational expense
Expand Programs to Transport Customers

- Assess the potential for EE in Transport
- Currently no funding mechanism in place, limiting factor
Explore Pilots and Studies to Test Key Uncertainties

- What’s the research question?
  - Technical, programmatic, customer acceptance, joint gas/electric approaches, safety, H2 end use applications…
- Small cost/risk endeavor with potential for scaling cost effectively
- Limited time and budget
- What can we learn quickly by doing?
Q&A
4 Reform Gas Rate-Making
Full Universe of Contributors

- Current and future gas customers
- Other customers served by a future restructured “gas” utility
- Electric customers
- General funds and tax incentives
- Gas utility shareholders
- Others?
Key Rate-Making Principles

• Effective recovery of revenue requirement and access to reasonably priced capital
• Customer understanding, acceptance, and bill stability
• Equitable allocation of costs
• Efficient forward-looking price signals
• Achievement of public policy goals
  • Efficient competition and control of monopoly pricing
  • Reliable provision of service
  • Societal equity (e.g., affordability)
  • Environmental and public health requirements
PUC General Powers

OR Stat. § 757.400(1)

In addition to the powers and duties now or hereafter transferred to or vested in the Public Utility Commission, the commission shall represent the customers of any public utility or telecommunications utility and the public generally in all controversies respecting rates, valuations, service and all matters of which the commission has jurisdiction.

In respect thereof the commission shall make use of the jurisdiction and powers of the office to protect such customers, and the public generally, from unjust and unreasonable exactions and practices and to obtain for them adequate service at fair and reasonable rates.

The commission shall balance the interests of the utility investor and the consumer in establishing fair and reasonable rates. Rates are fair and reasonable for the purposes of this subsection if the rates provide adequate revenue both for operating expenses of the public utility or telecommunications utility and for capital costs of the utility, with a return to the equity holder that is:

(a) Commensurate with the return on investments in other enterprises having corresponding risks; and

(b) Sufficient to ensure confidence in the financial integrity of the utility, allowing the utility to maintain its credit and attract capital
Approaches to Lower Rate Base and Decrease Risks of Long-Term Rate Impacts

1. Update customer contributions to line extensions
2. Accelerate depreciation timelines
3. Improve planning and decision criteria for new investments (and contracts)
4. Explore alternative funding sources or authorization for securitization
Update Customer Contributions to Line Extensions

• Line extension allowance formulas dictate how much a utility is allowed to invest in new infrastructure for new customers.
• Updated calculations would likely reflect changes to expected gas usage and different probability of changes in gas system customers.
Repaying Utility Capital Investments

- Depreciation expense is based on the original cost of each investment, which is spread over the asset’s projected lifetime
- Return on investment is based on the rate base and the weighted average cost of capital
  - Rate base is defined as original cost minus accumulated depreciation
Payments for a Long-Lived Utility Capital Investment
Changing the Depreciation Timeline

Illustrative trajectory of capital payments for two amortization periods

- 25 years
- 75 years
Pre-2021 Asset Book Value in 2031
Pre-2021 Asset Book Value in 2041

- Recently added long-term assets: -72%
- Older long-term assets: -64%
- Medium-term assets: -100%
- Total assets: -73%
Equitable Cost Allocation

- Customer-related costs should be determined using the basic customer method, not the minimum system method.
- Recovery of shared capacity costs should be balanced between energy throughput and peak demand based on load patterns.
- Program costs can be allocated based on the benefits provided by the investments.
  - For some programs, a split between electric customers and gas customers is appropriate when feasible.
Efficient Rate Design

- Higher prices in peak seasons are appropriate
- Even higher prices or incentives to reduce on peak days are appropriate for many customers
- Inclining block structures with higher levels of inexpensive usage in the winter can balance efficiency and concerns about bill impacts for low-income gas heating customers

<table>
<thead>
<tr>
<th></th>
<th>Summer</th>
<th>Winter</th>
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<tbody>
<tr>
<td>First 20 therms</td>
<td>$0.50 per therm</td>
<td>N/A</td>
</tr>
<tr>
<td>First 60 therms</td>
<td>N/A</td>
<td>$0.50 per therm</td>
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<tr>
<td>Additional usage</td>
<td>$1.29 per therm</td>
<td>$1.29 per therm</td>
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Low-Income Rate Structures

- Separate class/subclass with own allocation and rates
- Discount on general residential rates
  - Percentage discount (e.g., 25% off of bill)
  - Flat monthly $ discount (e.g., $20 off of bill)
  - Tiered percentage or monthly $ discounts
- Percentage of income payment plan
  - Cap bill at 6% of household income
Change Gas Utility Incentives

- Adopt decoupling using overall revenue target, not revenue per customer
- Implement performance-based regulation
  - Multi-year rate plans
  - Eliminate unnecessary trackers
  - Performance incentives for achieving important consumer and public policy outcomes
Potential Structural Reforms

- Green gas delivery
- Fusion with electric utility
- Add zero-GHG district energy
- Become a heating services provider
- Convert to publicly owned entity or coop
- Others?
5 Takeaways
What to Keep in Mind

• An elevated and expanded focus on utility planning and regulation is required with GHG reduction targets.

• Impact of changes will be significant, regardless of chosen pathway

• PUCs will need to:
  • Evaluate alternatives based on evidence
  • Protect gas customers in short and long term
  • Avoid unneeded investment
Workshop 4B – October 12

We want to hear from you:

- What tools are missing?

- Which tools are most relevant/important to Oregon? Now vs. later?

- How would you prioritize which tools to advance and when?