

# Senate Bill 32 Work Group

## Study of Natural Gas Expansion to Unserved Areas

Report to the Legislative Assembly  
Public Utility Commission of Oregon  
September 15, 2016

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# Executive Summary

Despite strong growth of natural gas customers in Oregon, many Oregonians still lack access to natural gas service. Every city with a population of more than 10,000 has natural gas service, but many communities remain unserved due to the cost to extend natural gas pipelines and distribution systems. These unserved areas generally have populations of less than 1,000 or are located more than 15 miles from a natural gas pipeline.

The Public Utility Commission of Oregon (PUC) allows natural gas utilities to recover investments to extend their distribution systems that are commensurate with the projected revenue from the new customers. These amounts, however, are generally not sufficient to cover the cost of expansion when the facilities needed are considerable and the pool of potential customers in the proposed expansion area is small.

At the direction of the 2015 Oregon Legislature, the PUC formed a Senate Bill 32 Work Group to explore potential mechanisms to increase funding for the expansion of natural gas service. The SB 32 Work Group examined mechanisms both within the PUC's current statutory authority as well as legislative proposals to tap other funding sources.

The SB 32 Work Group made the following findings:

*Finding 1:* The cost of natural gas expansion into unserved areas is a major obstacle to expansion.

*Finding 2:* Because the determination of whether expansion will benefit existing customers is based on the comparison of costs to benefits of the expansion, proper accounting for all appropriate benefits is essential.

*Finding 3:* New customers located within a previously unserved area will receive benefits from expansion (access to new service) and should be charged accordingly.

*Finding 4:* There are multiple potential funding sources to fill the economic gap for natural gas service expansion.

*Finding 5:* Multiple funding sources should be bundled when possible. Best practices for bundling multiple revenue sources should be studied and implemented.

*Finding 6:* If the legislature chooses to create funding sources for the expansion of natural gas service to realize economic, societal, or environmental benefits, it should create transparent subsidies.

The SB 32 Work Group concluded that the distribution extension policies of natural gas utilities could be modified to increase the amount of ratepayer funds to support natural gas service expansion. The SB 32 Work Group concluded, however, that any additional ratepayer revenues resulting from these modifications would not likely be sufficient to fully fund expansion to any city in Oregon that currently does not have natural gas service.

The SB 32 Work Group also identified potential legislative actions that could provide additional revenue to support natural gas expansion. These actions include using general funds or redirecting monies used for local air quality improvement to fill the funding gap for the cost of natural gas expansion. The diverse members of the SB 32 Work Group, however, could not agree on any specific legislative proposals to create these additional revenues.

## Introduction

The 2015 Legislature passed SB 32 to address the expansion of natural gas service in Oregon. The bill directed the PUC to form a work group to study ways to expand natural gas service to unserved areas, and to report the work group's findings and conclusions, as well as any recommendations for legislation, by September 15, 2016.

Following meetings with a broad range of stakeholders, the PUC created a SB 32 Work Group comprised of Senator Doug Whitsett, Representative Bill Kennemer, and representatives from utilities, ratepayers, propane dealers, and local governments. The SB 32 Work Group met on four occasions and, as directed by the legislature, evaluated the following issues in its study of natural gas service expansion:

- (a) The PUC's policies regarding the extension of natural gas mains;
- (b) Mechanisms for funding the expansion of natural gas services, including the use of tariffs, the imposition of charges and fees, the use of unclaimed refunds and the establishment of accounts dedicated to the expansion of natural gas services;
- (c) Recommendations by Oregon's natural gas utilities for reforms to expand natural gas service;
- (d) Possible processes for including in a utility's rates the cost of projects involving the extension of natural gas pipelines and other infrastructure necessary for providing natural gas;
- (e) Possible selection criteria for projects involving the extension of natural gas pipelines and other infrastructure necessary for providing natural gas; and
- (f) The potential rate cap for projects involving the extension of natural gas pipelines and other infrastructure necessary for providing natural gas.

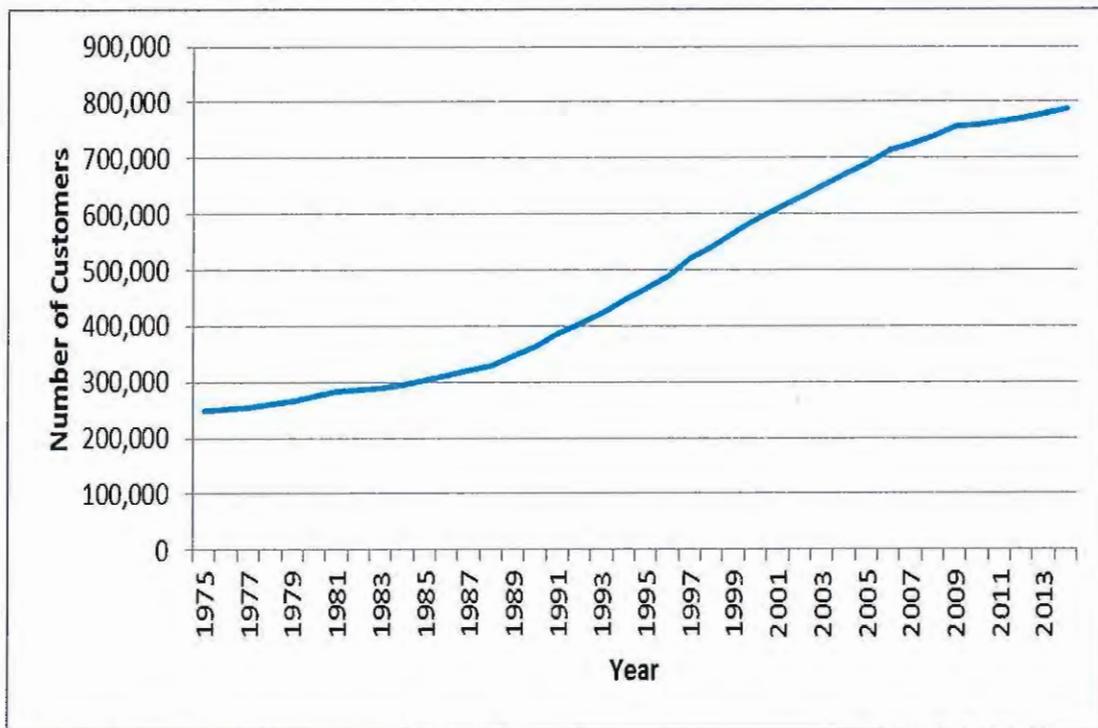
This report documents the efforts of the SB 32 Work Group. For context, the report begins with background information on the availability of natural gas service in Oregon, the policies used by the PUC to address extension of service, and the application of those policies to three case studies.

The report then provides the SB 32 Work Group's findings and conclusions on methods by which a natural gas utility may expand its distribution facilities to unserved communities. These findings and conclusions are solely those of the SB 32 Work Group. The SB 32 Work Group did not agree on recommendations regarding legislative action, so no recommendations are included. However, this report does present the legislative proposals that were considered.

## Natural Gas Service in Oregon

Three natural gas utilities – Northwest Natural Gas, dba NW Natural; Cascade Natural Gas; and Avista Corporation, dba Avista Utilities – supply gas to more than 800,000 Oregon households and businesses. Currently, NW Natural serves 640,171 Oregonians, including 579,129 households; Avista serves 99,065 Oregonians, including 87,328 households; and Cascade serves 70,083 Oregonians, including 60,114 households.

Over the past 20 years, the number of Oregon customers served by natural gas utilities has doubled. Figure 1 shows the growth from 1975 to 2013 in the number of Oregon homes and businesses that use natural gas.



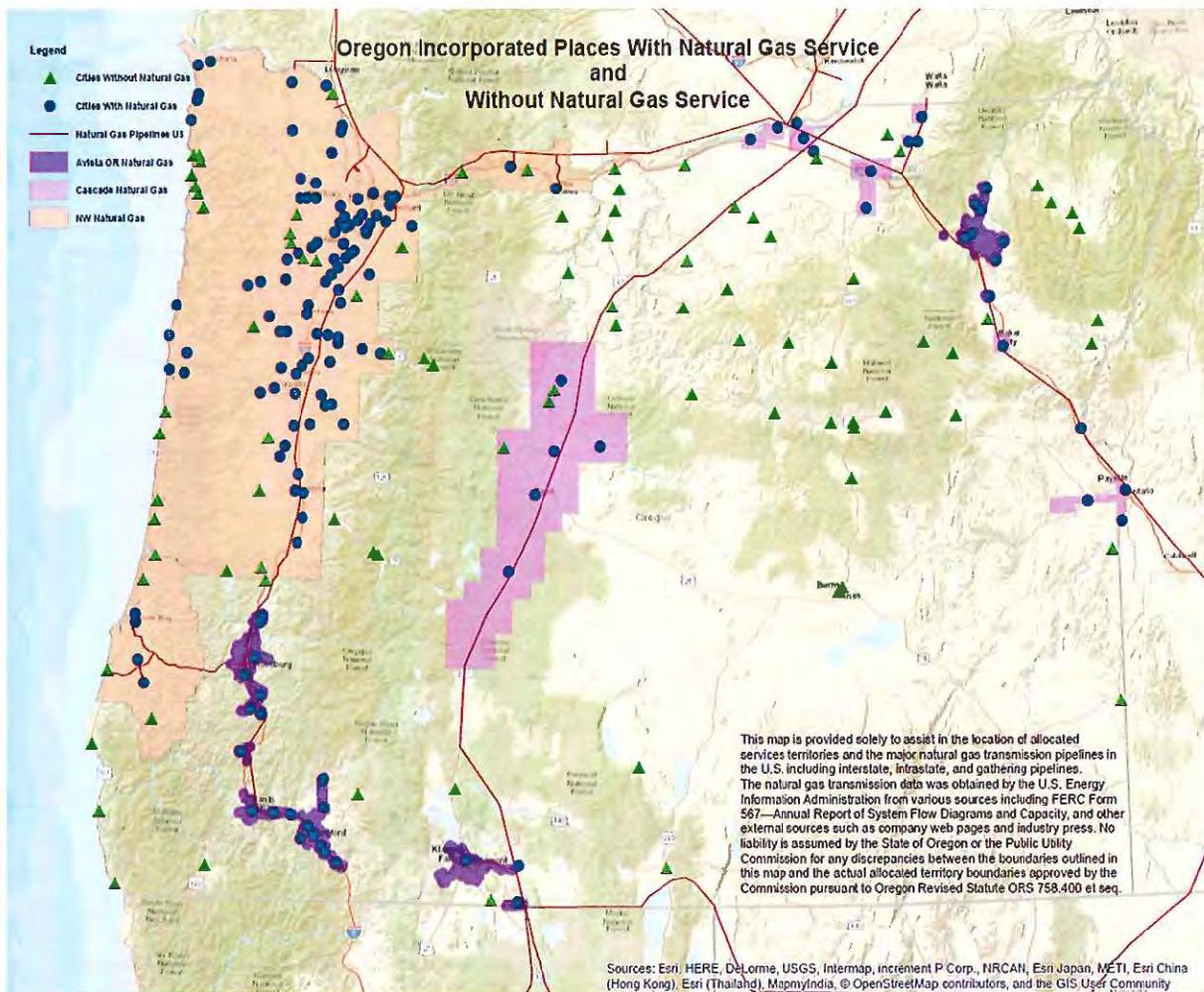
**Figure 1: Natural Gas Customers in Oregon**

The increase in natural gas customers stems from four primary causes: (1) new construction; (2) conversion from oil and other energy sources; (3) extensions to new

customers in a utility's existing service territory; and (4) new extensions into previously unserved areas.

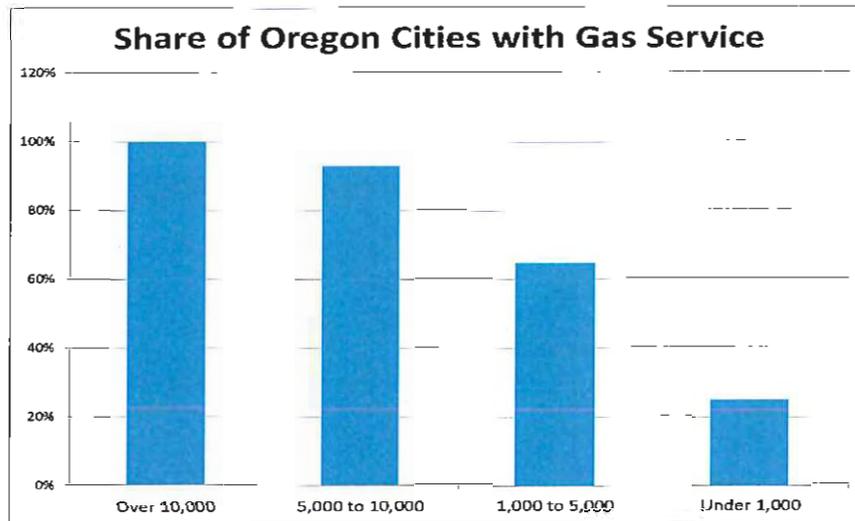
Over time, Oregon's natural gas utilities have systematically expanded their service areas in more densely populated areas and in areas near natural gas pipelines. Today, a majority of the residents of Oregon's incorporated areas have access to natural gas.

The map below shows the natural gas service status of Oregon's incorporated cities.



Map 1: Oregon Incorporated Cities with and without Natural Gas Service

Two key factors affect an area's access to natural gas service. The first is population size. Figure 2 shows that larger communities have greater access to natural gas service than smaller ones.



**Figure 2: Share of Oregon Cities with Natural Gas**

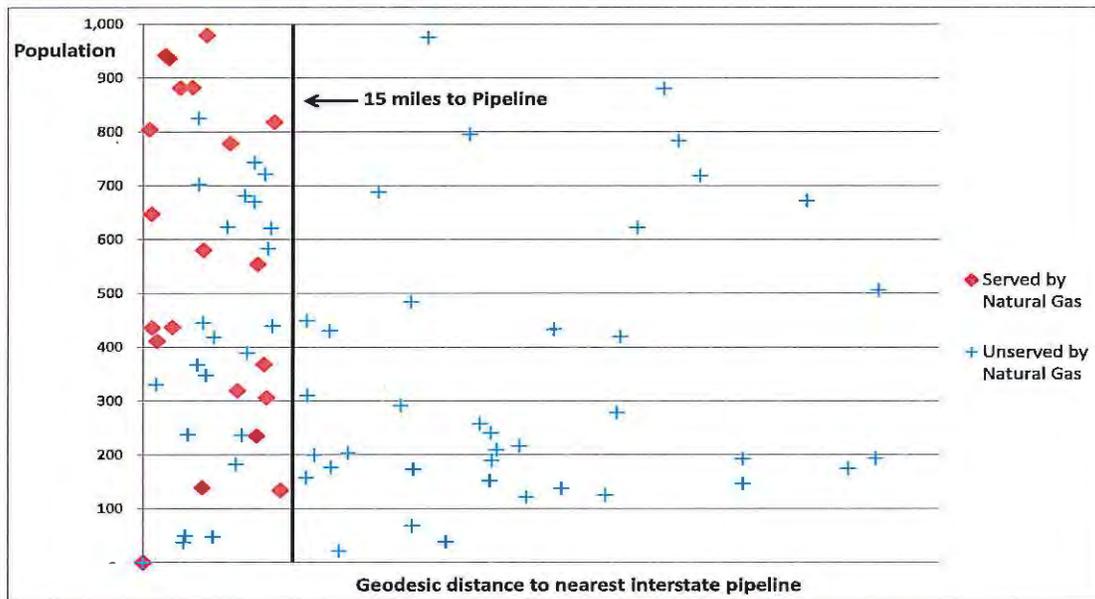
Every city with a population greater than 10,000 has natural gas service. All but two with populations between 5,000 and 10,000 (Florence and Brookings) have service. Most cities with populations between 1,000 and 5,000 have service. In contrast, most cities with populations under 1,000 have no natural gas service.

The second key factor affecting availability of natural gas service is the city's proximity to a natural gas pipeline. Natural gas is transported through a network of intrastate and interstate pipelines, which are subject to regulation by both the PUC and the Federal Energy Regulatory Commission (FERC). Oregon's natural gas utilities receive their gas supply from these pipelines, and build their own pipelines and distribution systems to deliver the gas to customers.

The longer the distance between a city and a natural gas pipeline, the more costly it is for a natural gas utility to serve that area. For this reason, many remote communities remain unserved. Almost all unserved cities with populations over 1,000 are located more than 10 miles from an existing natural gas pipeline. These cities include Bay City, Brookings, Burns, Carlton, Cave Junction, Culver, Dayton, Dunes City, Enterprise,

Estacada, Florence, Gold Beach, Heppner, Hines, John Day, Joseph, Lakeside, Lowell, Oakridge, Port Orford, Reedsport, Rockaway Beach, Sisters, Tillamook, Waldport, Yamhill, and Veneta.

The impact of pipeline proximity is even more dramatic on smaller communities. No city with a population of less than 1,000 that is located more than 15 miles from a natural gas pipeline has natural gas service. Figure 3 shows that all cities with populations under 1,000 that have access to natural gas are near interstate pipelines.



**Figure 3: Cities with Population Under 1000 with Natural Gas Service**

## Extension Policies and Case Studies

The natural gas utilities decide whether to build pipelines and extend their distribution systems into unserved areas, subject to the PUC's review. The utilities also establish their own distribution extension policies, which the PUC reviews and approves to help ensure that the rates paid by all ratepayers for these extensions are fair, just, and reasonable.

The PUC does not require new customers to pay all the costs associated with an extension. Rather, extension policies allow the utility to recover a portion of the extension costs from all customers (usually referred to as a construction allowance), to recognize the increased revenue the new customer will provide through the rates they will pay in the future. Any costs above the construction allowance must be paid by new customers through a surcharge or through other funds secured by the utility or others to fund the expansion.

Each utility currently calculates this allowance for new residential customers differently. NW Natural's construction allowance is five times the annual average margin expected from new customers. Avista's allowance is three times the estimated gross revenue expected from the new customers. Cascade's allowance is 4.5 times the estimated gross margin (gross revenue less cost of gas) to be derived from the new customer.

At any time, a natural gas utility may file a tariff to change its construction allowance formula. The utility must justify the change and show that the formula results in fair and reasonable rates for all ratepayers.

Recent proposals for natural gas expansions into unserved areas provide insight into the conditions for successful expansions. They generally involve a combination of broader taxpayer funding of uneconomic expansion costs, combined with some level of utility ratepayer support. Three expansion projects are discussed below.

## Coos County

NW Natural's expansion of service to Coos Bay, North Bend, Myrtle Point, and Coquille is the most notable natural gas service expansion in Oregon over the past 20 years. The expansion project consisted of (1) the building of a 60 mile pipeline from the Roseburg area, and (2) the development of a natural gas distribution system throughout Coos County.

In this case the pipeline was built with the help of state and county bond funds. The 1999 Oregon Legislature approved \$20 million in lottery bond funding for construction of the pipeline. Coos County voters authorized general obligation bonds up to \$27 million to finance costs of construction not covered by the lottery bond funding.

NW Natural's extension policy, filed and approved by the PUC, addressed the expansion of the distribution system (main and line extensions). The utility was authorized to recover \$10 million in distribution-level project costs through existing customer rates. NW Natural was also authorized to recover another \$2 million by charging the new customers in Coos County an additional 2 cents per therm for 20 years. After 20 years, this surcharge could be extended if the \$2 million was not fully recouped. The company also used \$400,000 in shareholder funds to help pay for the new distribution system.

The project went forward and service to Coos County began in January 2005.

## Estacada

In 2005, NW Natural examined extending service to Estacada, a city with a population of about 3,000 near Portland.

NW Natural estimated that the extension would cost about \$7.5 million, but that only \$750,000, or just 10 percent of project costs, could be recovered from ratepayers. Because of a funding gap, NW Natural did not pursue the project.

## Lakeview

In 2015, Avista examined extending service into Lakeview, a city with a population of about 2,300 in south-central Oregon.

Avista estimated that the extension would cost about \$9 million, but that only \$1 million, or less than 15 percent of the total project costs, could be recovered from ratepayers. Because of the need for large amounts of external funding to cover project costs, Avista did not pursue the project.

## SB 32 Work Group

### Work Group Formation

In September 2015, the PUC solicited stakeholder interest in participating on the SB 32 Work Group. PUC Staff met with representatives from utilities, natural gas pipelines, ratepayers, propane dealers, and local governments to help identify individuals to serve on the work group.

In January 2016, the PUC appointed 11 members to the SB 32 Work Group. Both Senator Doug Whitsett and Representative Bill Kennemer generously agreed to participate. A complete list of the SB 32 Work Group members is set forth below:

| <b>SB 32 Work Group Members</b>               |  |                             |
|---|--|-----------------------------|
| <b>Member Name</b>                            | <b>Company/<br/>Organization</b>       | <b>Representing</b>         |
| Senator Doug Whitsett                         | Oregon State Senate                    |                             |
| Representative Bill Kennemer                  | Oregon House of Representatives        |                             |
| Clackamas County Commissioner Martha Schrader | Clackamas County                       |                             |
| Lake County Commissioner Ken Kestner          | Lake County                            |                             |
| City Administrator Ric Ingham                 | City of Veneta                         |                             |
| Danelle Romain                                | Oregon PUD Association                 | Consumer-Owned Utilities    |
| Joe Westby                                    | Ferrellgas/Blue Rhino                  | Propane Companies           |
| Dan Kirschner                                 | Northwest Gas Association              | Natural Gas Companies (LDC) |
| Etta Lockey                                   | Pacific Power                          | Electric Companies          |
| Bob Jenks                                     | Citizens' Utility Board                | Residential Customers       |
| Ed Finklea                                    | Northwest Industrial Gas Users (NWIGU) | Industrial Customers        |

## Work Group Activity

### Meetings

The SB 32 Work Group met on four occasions in January, March, May, and June 2016. All meetings were open to the public, and other stakeholders were allowed to offer input. Copies of the formal presentations given at the meetings are included in the appendices to this report.

At the January meeting, the SB 32 Work Group heard presentations on energy facility siting, PUC extension authority and policies, and the distribution extension policies and activities of Avista, Cascade, and NW Natural.

At the March meeting, the SB 32 Work Group heard presentations on the Coos County expansion, the proposed Lakeview expansion project, the Oregon propane industry, and natural gas expansion developments in other states.

At the May meeting, the PUC staff facilitated a discussion among the SB 32 Work Group members to address the following questions:

1. Who should invest in natural gas infrastructure in unserved areas in Oregon, and what sources of revenue exist outside of utility ratepayers?
2. What criteria should be used to determine the viability of expansion?
3. Should existing ratepayers help fund expansion of natural gas to new communities? If so, how should the subsidy rate for economic development be determined?
4. How can analytical approaches be improved to increase the forecast adoption rate?
  - a. Should we study electric avoided costs due to natural gas conversions?
  - b. Should projects advance without anchor customers?

5. Should recovery for expansions be allowed outside of a rate case? If yes:
  - a. How should the application process for proposing expansions work?
  - b. Should there be a rate cap? If yes, how should the rate cap be applied?
  - c. Should there be a surcharge for ratepayers in newly expanded areas? If yes, how should the surcharge be applied (i.e. per therm surcharge, flat monthly surcharge, etc.)?

In addition to this discussion, the natural gas utilities also presented recommendations for actions to enhance the expansion of natural gas into unserved areas. The natural gas utilities' proposals, as well as the propane industry's written response, are attached as Appendices A and B, respectively.

At the final June meeting, the SB 32 Work Group discussed the findings, conclusions, and recommendations it would present to the PUC and to the legislature.

#### Drafts and Comments

The SB 32 Work Group circulated two drafts for comments. First, it circulated its draft "Findings and Conclusions" among its members for purposes of discussion during its last meeting. Portland General Electric Company (PGE) and the Northwest Gas Association (NWGA) filed comments in response to this first draft.

Second, following its final meeting, the SB 32 Work Group circulated a draft report titled "Study of Natural Gas Expansion to Unserved Areas." Comments were received from NWGA, Senator Whitsett, Lake County Commissioner Kestner, NWIGU, Consumer-Owned Utilities, and the Pacific Propane Gas Association.

All comments are attached in Appendix F.

## SB 32 Work Group Findings

The SB 32 Work Group had a robust discussion on a variety of topics. At a very high level, there was general agreement on the following findings:

***Finding 1: The cost of natural gas expansion into unserved areas is a major obstacle to expansion.***

Case studies of recent and planned natural gas expansion efforts show that the large amounts of additional funding is necessary to cover the costs of gas service extensions into unserved areas.

***Finding 2: Because the determination of whether expansion will benefit existing customers is based on the comparison of costs to benefits of the expansion, proper accounting for all appropriate benefits is essential.***

Construction allowances may not reflect the full amount of benefits that an expansion of service to unserved areas may provide existing customers. Distribution expansions may be evaluated over too short a time period and other benefits may not be captured in construction allowance formulas.

***Finding 3: New customers located within a previously unserved area will receive benefits from expansion (access to new service) and should be charged accordingly.***

New customers in a recently-expanded service territory should pay for project costs commensurate with the direct and long-term benefits they receive from getting access to natural gas service. New customer surcharges should be considered a legitimate source of funds for service extension projects.

***Finding 4: There are multiple potential funding sources to fill the economic gap for natural gas service expansion.***

There are many potential funding sources other than revenue from ratepayers to support the expansion of natural gas service. Obtaining funds from these sources, however, requires action from outside the PUC. Moreover, not all SB 32 Work Group members agree that all the funding sources set out below should be used to fund expansion of natural gas service.

- Economic development grants<sup>1</sup>
- Local taxes and bonds
- Utility shareholder funds
- Lottery revenue
- Community in-kind contributions
- Oregon Health Authority funds related to environmental quality
- Local and county funds to comply with federal and state air-shed standards
- Partial funding by industrial customers or pipelines
- State General Fund

***Finding 5: Multiple funding sources should be bundled when possible. Best practices for bundling multiple revenue sources should be studied and implemented.***

Because new, large pipeline and distribution extension projects will likely require a significant amount of additional funding to cover project costs, it is important to promote ways to identify and coordinate funding for proposed projects. Any effort to facilitate the expansion of natural gas service should capitalize on the work of existing entities that coordinate economic development in communities.

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<sup>1</sup> One example are grants for rural development offered by the United States Department of Agriculture: <http://www.rd.usda.gov/programs-services>

***Finding 6: If the legislature chooses to create funding sources for the expansion of natural gas service to realize economic, societal, or environmental benefits, it should create transparent subsidies.***

Although there is no consensus that statutory subsidies should be used for the expansion of natural gas service, any subsidies enacted to promote the extension of natural gas service into unserved areas for social, environmental, or economic reasons should be transparent and collected from all taxpayers—not just utility ratepayers.

## SB 32 Work Group Potential Actions

Although the SB 32 Work Group could not reach agreement on specific legislative recommendations to help facilitate the expansion of natural gas service, its members identified three potential actions to encourage service expansion into unserved areas.

1. Establish more liberal distribution extension policies in which existing customers pay for a larger share of the costs of a service extension project.

In general, the SB 32 Work Group agrees that construction allowance formulas should reflect the system benefits that accrue to existing customers over the life of a project. The natural gas utilities have the ability to seek changes to their extension policies and provide justification for those changes. These projects would not affect pipeline extensions but could provide additional distribution-level expansion.

2. Impose surcharges on new customers commensurate with the benefits they receive from getting access to natural gas service.

In general, the SB 32 Work Group agrees that new customers in a previously unserved area should help pay for a distribution expansion consistent with the benefits they receive from getting access to natural gas service.

3. Seek alternative sources of funds for projects.

Funding beyond what legitimately can be picked up by new and existing customers will be necessary to cover the costs of large, new gas service extensions. As listed above, the SB 32 Work Group identified a number of potential untapped sources that could be used to help fund projects.

The SB 32 Work Group also believes that service extension projects would greatly benefit from an individual or organization responsible for identifying and securing external funding for the projects. Without such a coordinated effort to secure outside funding, most projects will be shelved.

Although the SB 32 Work Group did not reach a consensus on possible legislative actions to provide additional funding, its members did discuss the following possible proposals:

1. Allocating general fund or lottery funds to natural gas system expansions.
2. Redirecting some portion of Oregon Health Authority funds to natural gas system expansions.<sup>2</sup>
3. Redirecting funding used for air quality improvement such as reducing emissions from wood stoves to natural gas system expansions.
4. Providing state loan or bond guarantees for expansion projects.<sup>3</sup>
5. Directing Business Oregon to identify and coordinate other sources of funding for natural gas system expansion projects.

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<sup>2</sup> This redirection of funds might be justified based on the premise that the availability of natural gas will promote economic development, which, in turn, will reduce poverty and promote overall health in the region. Also, because the expansion of gas service would likely reduce wood heating, the redirection of funds might also be justified based on the purported link between air quality and health.

<sup>3</sup> These guarantees, which would result in decreased interest rates on loans or bonds, could be justified to improve economic development. Funding sources may include local bonds, Business Oregon loan/bond guarantees, lottery bonds, industrial development bonds, new natural gas public purpose charge funds, general fund moneys, lottery funds, Oregon Health Authority funds, etc.

## SB 32 Work Group Conclusions

The SB 32 Work Group reached two primary conclusions:

### **Conclusion 1:**

Potential changes to distribution expansion policies could increase the amount of ratepayer revenue to support the expansion of natural gas service territory. Although the PUC could approve such changes within its current statutory authority, these additional revenues are not likely to be sufficient to fully fund expansion to any city in Oregon that currently does not have natural gas service.

### **Conclusion 2:**

Potential legislative action could provide additional revenue to support natural gas expansion. These actions include using funds from existing sources, such as the general fund, or creating new funding mechanisms, such as a service territory expansion surcharge on all natural gas customers. The diverse members of the SB 32 Work Group, however, do not agree on any legislative action to create this additional revenue. If such legislative action is taken, the SB 32 Work Group agrees such measures operate in a transparent manner.

# **Appendix A: Natural Gas Utilities' Proposal for Funding Mechanisms**

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## **EXPANSION OF NATURAL GAS IN OREGON – REGULATORY INITIATIVES/MECHANISMS**

Through Senate Bill 32, the Legislative Assembly “finds and declares that having access to natural gas is in the public interest and that the extension of natural gas pipelines and other infrastructure necessary for providing natural gas to areas that do not have access to natural gas is necessary for the communities of this state to preserve local economies, enlarge tax bases and generate additional economic opportunities.” (emphasis added)

In an effort to effectuate the findings of the legislature, and consistent with the authority already held by the Public Utility Commission of Oregon (PUC), **the LDCs recommend that the PUC adopt the legislative policy statement listed above as its own policy.**

The LDCs further recommend that the Commission support the following items, understanding that a combination of those items may be necessary to fulfill legislative intent:

1. **Line Extension Policy Modification** – Recognizing the benefits that natural gas can provide to areas that don’t have natural gas today, filings from the natural gas Local Distribution Companies (LDCs) which use allowable investment methodologies may take into consideration the longevity of new customers on the system (such as the Perpetual Net Present Value methodology). Such filings would be expected to increase the level of allowable LDC investment above the current level, which hamper potential expansion opportunities.
2. **Natural Gas Expansion Tariff Rider** – Filings from the LDCs may be developed to include mechanisms through which amounts could be accumulated for the purpose of funding any shortfall that may exist between the estimated cost to provide service to a new community or development, and the allowable investment as calculated in the LDC’s tariff. The determination of the level of funding, collection and allocation of funds, etc. would be included in the LDCs filing.
3. **Portfolio Treatment of Allowable Investment** – Some natural gas line extensions cost less than what the maximum allowable investment supports. To that end, filings by the LDCs may include an application of “banked” amounts of any unused portions of line extension allowances to help, in conjunction with other funding sources, to make uneconomic line extensions financially viable.
4. **Geographical Surcharges** – LDC filings may request geographic-specific surcharges or tariff riders applicable only to customers in communities where natural gas expansions have been made. These surcharges would be in addition to the LDC’s Commission-approved rates. The additional revenue from the surcharge rate would be applied towards the revenues expected from a system expansion, and would assist in making the economics of the expansion more favorable.
5. **Customer Assistance** – Not only are the costs associated with providing service to new communities a matter that requires special attention and consideration, the costs on the

customer side of the meter also need to be addressed. To that end, the LDCs recommend that the Commission encourage LDC filings to assist customers with the cost of conversion. Below are two examples that provide customer assistance, and which have been employed in similar form by other jurisdictions:

- a. Excess Line Extension Allowance – LDC filings may include programs to make available to new customers any excess line extension allowance in order to help offset the cost of natural gas space and water heating equipment.
- b. Fuel Conversions & Electric Avoided Costs – Energy efficiency incentives promoting the conversion of space and/or water heat to natural gas, if cost-effective as measured under the total resource and utility cost tests. Any potential rebates would further help to offset the costs associated with the conversion to natural gas consistent with legislative intent.



# **Appendix B: Pacific Propane Gas Association Comments**

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**Comments of the Pacific Propane Gas Association  
On Proposal by the Northwest Gas Association**

The Pacific Propane Gas Association (PPGA) appreciates the opportunity to present its views on the issues being considered by the Senate Bill 32 natural gas work group. PPGA here offers specific comments on the proposal distributed by the Northwest Gas Association (NWGA) at the meeting of the work group on May 5, 2016.

PPGA disagrees with the reading given to Senate Bill 32 by NWGA. NWGA essentially argues that the legislature has already determined that Oregon's natural gas systems should be expanded and that the Public Utility Commission is charged with making it happen. Instead, the legislature has recognized the benefits of natural gas as a fuel and required the Public Utility Commission to convene a work group to solicit input and to explore means by which natural gas service might be made more available to consumers. A number of issues are identified for the work group to address, and the final product is a report to the legislature—not a plan for expanding the natural gas network. Had the legislature intended to mandate that the state's natural gas system be expanded and that the Public Utility Commission be the instrumentality for doing so, it certainly could have, and would have, stated this.

**Line Extension Policy Modification.** As the work group knows, PPGA believes that natural gas expansions that are not economic run counter to sound public policy if they are subsidized by either taxpayers or existing captive natural gas customers. Utility shareholders, who have decided not to deploy their own capital, should not be subsidized by either taxpayers or captive utility customers. On the other hand if utility shareholders do desire to put their capital at risk in financing an expansion, then PPGA can interpose no objection.

In one fashion or another determining whether a proposed expansion is economic requires comparing anticipated delivery revenue from the expansion with the costs of constructing and operating it. There are a number of analytical tools for doing so, but they all essentially compare the delivery revenue stream with the costs.

PPGA does not offer any specific guidance with respect to modifying existing line extension policy, but it should not be used as a tool to predetermine the outcome of line extension proposals. The apparent suggestion by NWGA that the revenue stream in perpetuity be used as the basis for analysis would appear to be a mechanism to predetermine the outcome. Business decision-makers do not make investment decisions on the basis of possible perpetual revenue streams for assets. Rather, any line extension policy should track the models that managers employ in determining whether it is economic for the utility to deploy its shareholders' capital. Utilities should not be permitted to use one form of analysis for its shareholder investments and a different one for assessing potential line extensions.

**Natural Gas Expansion Tariff Rider.** NWGA speaks of methods by which funds "could be accumulated" to cover any future shortfall in revenues from a proposed expansion. The NWGA paper is vague on this point, but presumably such a mechanism would include surcharging existing customers in order to develop a pot of dollars to fund line extensions. Or it might include directing pipeline and supplier refunds or refunds ordered by the Public Utility

Commission itself to a reserve to fund line extensions. Any such mechanism would be a wolf in sheep's clothing, as such refunds would ordinarily be distributed to the customers that paid these costs in the first instance. Again, although the NWGA paper is vague, in all likelihood these mechanisms would be shell games, played with other peoples' money.

**Portfolio Treatment of Allowable Investment.** Admittedly where significant numbers of prospective customers are involved it may not be efficient to assess the economics of serving each new customer down to the nickels and cents. Nevertheless, a portfolio approach can result in material subsidization between different groups of prospective new customers. Should a portfolio approach be adopted the Commission should design it carefully so that cost-causation principles are observed.

**Geographic Surcharges.** NWGA suggests that "geographic surcharges" might be employed to promote system expansion. PPGA does not oppose surcharges to new customers so that the total revenue from those customers covers the total cost of serving them. PPGA would, however, object to a "geographic surcharge" under which existing utility customers in a geographic area would subsidize service to new utility customers in that or another region.

**Customer Assistance.** NWGA suggests that the Commission consider assistance to new customers in making a conversion to natural gas. In most circumstances this would address piping in the home and either conversion or replacement of appliances. The Commission should not entertain any suggestions of this nature, which call for yet a further customer subsidy. Experience has shown that customer conversion/replacement costs can run in the vicinity of \$4,000-10,000 per home. The existing customers of the utility (some of which have certainly paid for their own conversion costs) should not be assisting new customers to install piping and appliances in their homes. Should the Commission entertain such a proposal, it should also extend it to the customers of competing energy sources such as propane.

NWGA speaks of making "excess line extension allowances" available to new customers to fund piping and appliances. Line extension allowances are essentially grants from existing customers to new customers. Making them available to new customers for conversion costs would simply represent one more tax on existing natural gas customers to subsidize both new customers and utility shareholders.

NWGA also speaks of using energy efficiency credits to fund conversion costs. Propane, like natural gas, when employed in direct flame applications, is more efficient than comparable electric applications. If the Commission entertains utilizing energy efficiency credits for natural gas conversion, it should also adopt a similar program for new and existing propane customers, who help reduce the state's demand for electricity.



# Appendix C: First Meeting Presentations

September 15, 2016

Senate Bill 32  
Study of Natural Gas Expansion to  
Unserved Areas  
*2016 Report to the Legislative Assembly*

# Gas Distribution Development

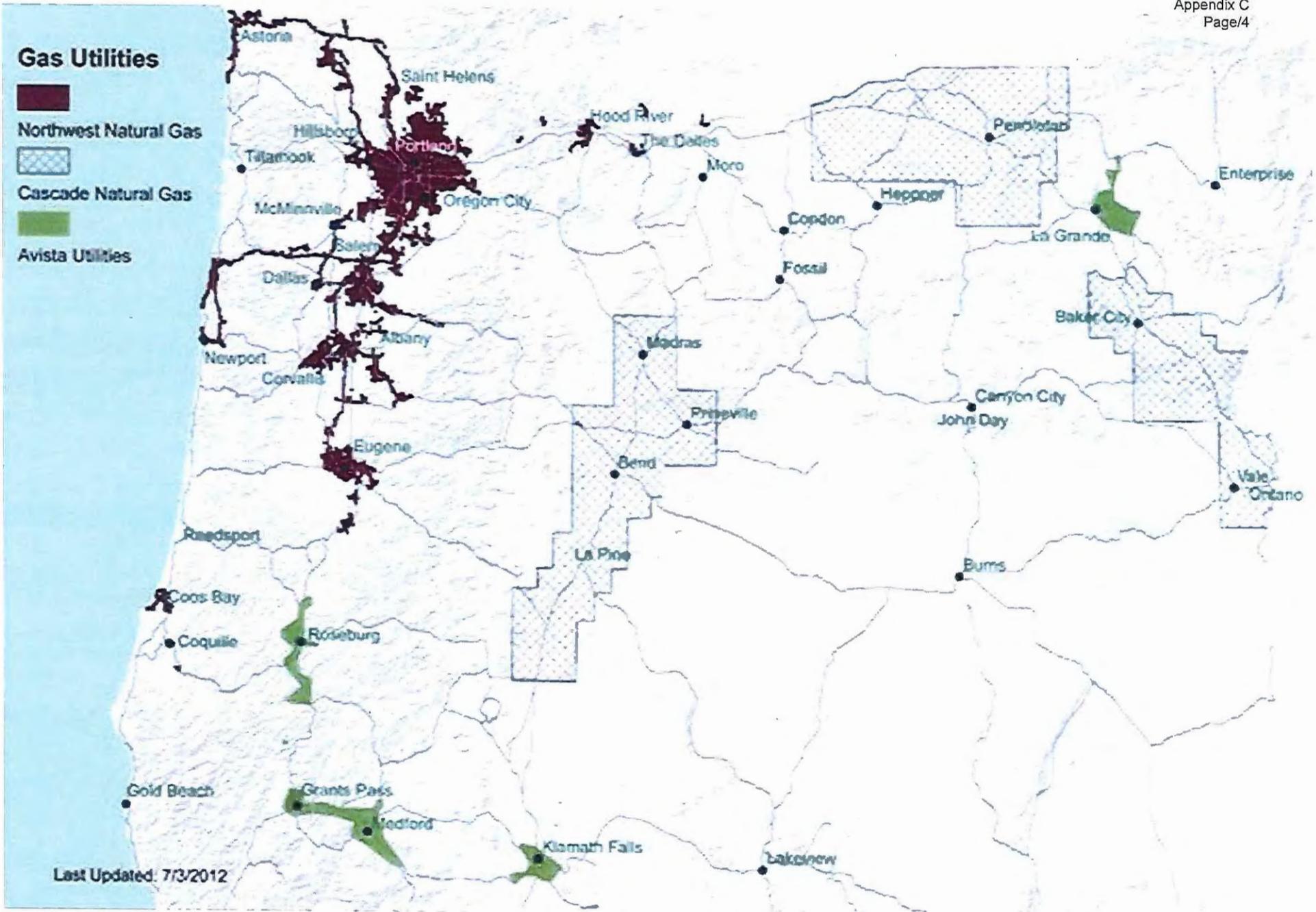
Prepared by the Oregon Public Utility  
Commission

# SB 32 Work Group Shall Study

- a) The commission's policies regarding the extension of natural gas mains;
- b) Mechanisms for funding the expansion of natural gas services, including the use of tariffs, the imposition of charges and fees, the use of unclaimed refunds and the establishment of accounts dedicated to the expansion of natural gas services;
- c) The submission of recommendations by public utilities that furnish natural gas;
- d) Possible processes for including in a public utility's rates the cost of projects involving the extension of natural gas pipelines and other infrastructure necessary for providing natural gas;
- e) Possible selection criteria for projects involving the extension of natural gas pipelines and other infrastructure necessary for providing natural gas; and
- f) The potential rate cap for projects involving the extension of natural gas pipelines and other infrastructure necessary for providing natural gas.

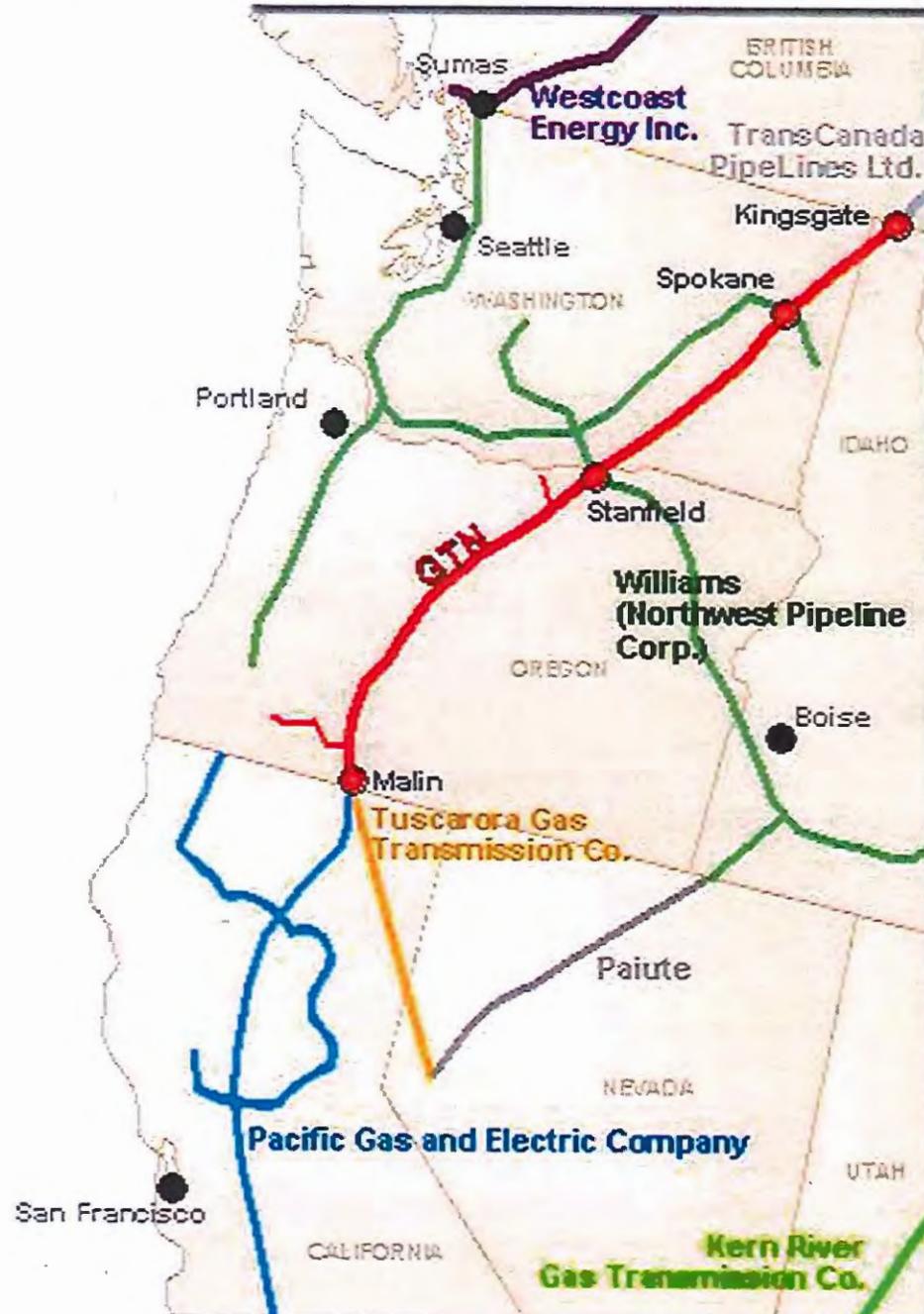
# Unserved Communities

- Oregon has many communities without access to natural gas
  - Small population
  - Low housing density
  - Far from existing transmission or distribution
- These communities rely on alternate energy sources for heating and industry

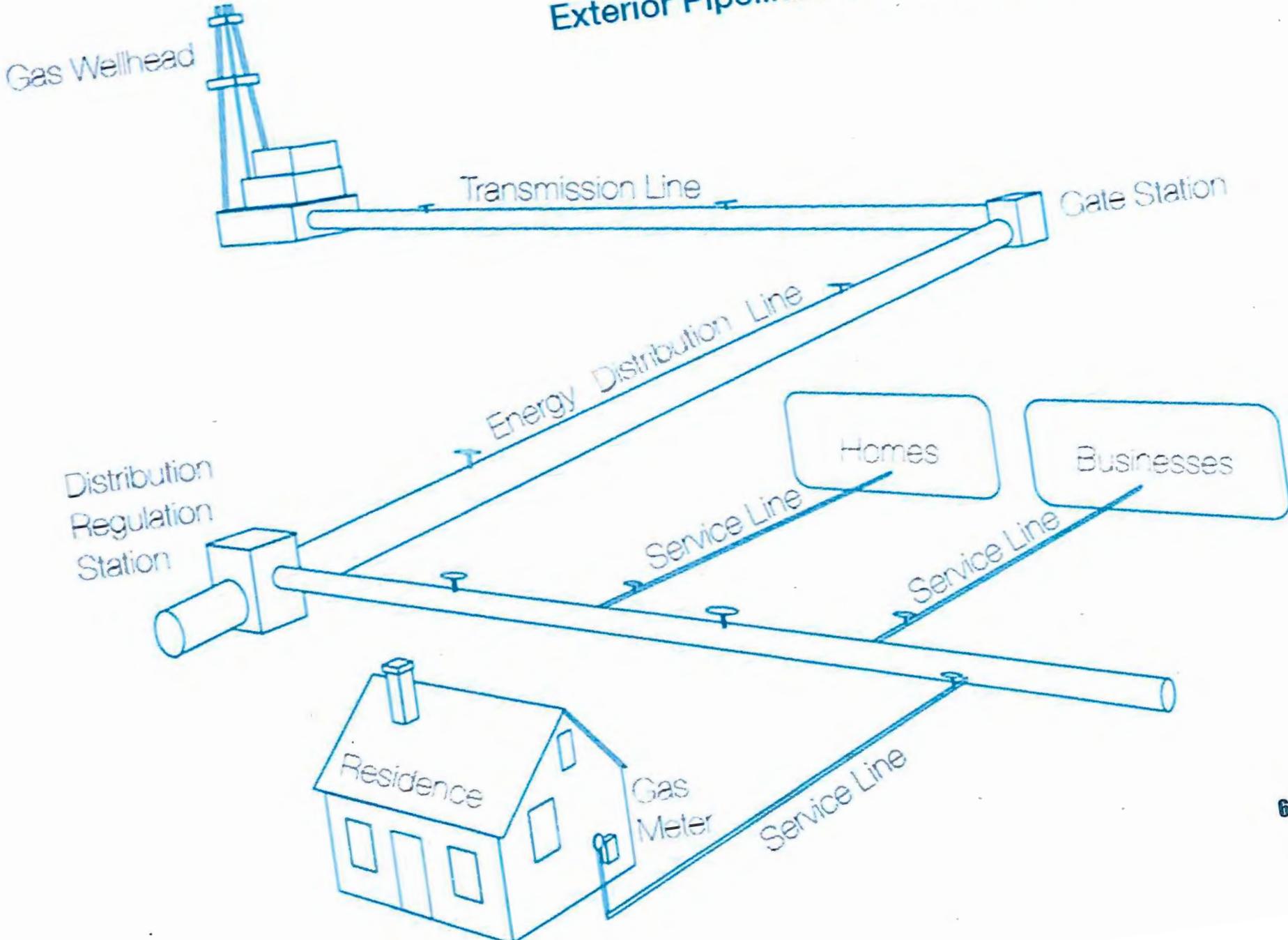


Last Updated: 7/3/2012

# Western Pipeline Grid Map

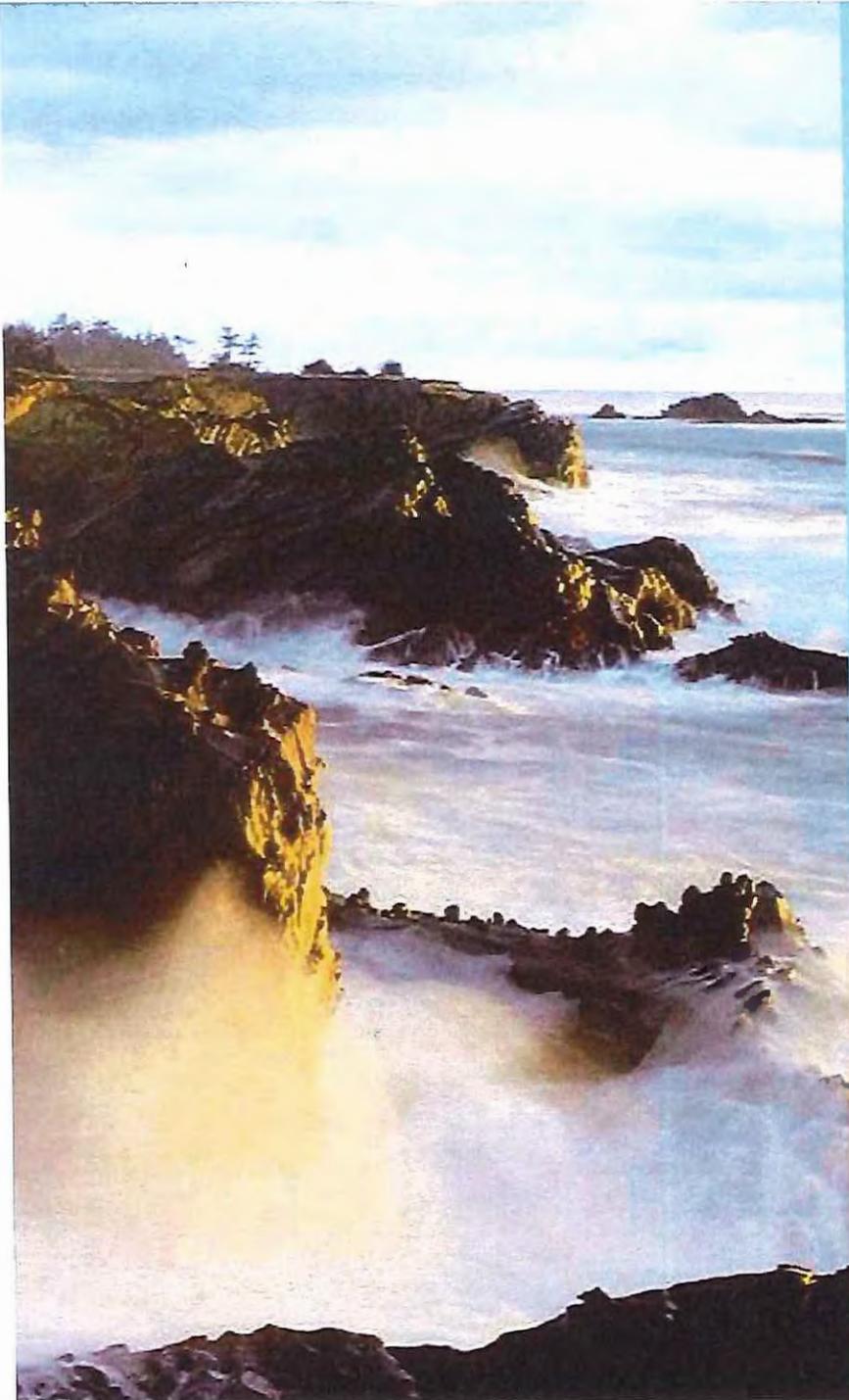


# Exterior Pipelines Leading to the Home



# SB 32 2(1)(a) Commission Policy

- General expansion of the system
  - Large project to build in new communities
  - Addressed in general rate case
  - Investment subject to prudence review
  - E.G. Coos Bay
- Extensions to specific properties
  - Small incremental investment within existing community
  - Governed by line extension policy in LDC Tariff
  - E.G. Industrial and residential service connection

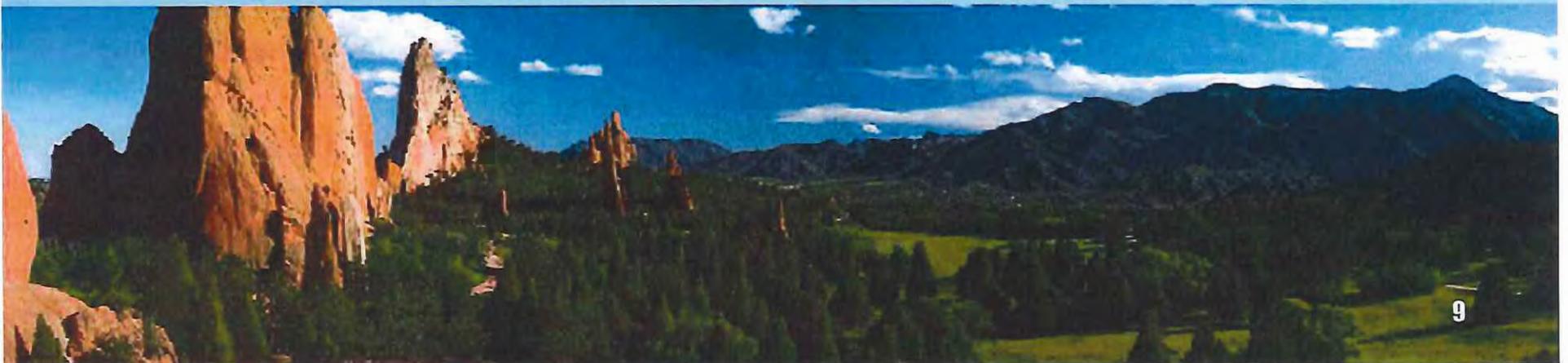


# **General Expansion: Coos County**

- Community Financed Pipeline**
- NWN Financed Local Distribution**
  - NWN Rates Increase in next GRC**
- Coos Customers Pay Surcharge**

# **Specific Property Extension:**

- Utility pays share of cost based on expected revenue**
- Applicant covers remaining cost**
- Applicant is reimbursed as neighbors connect**
- Utility's share of costs are incorporated into rates in next GRC**



# General Rate Case

- Review expected annual expenses for utility
- Determine fair return for utility investors
  - Identify value of used, useful, and prudent investment
  - Identify market based cost of equity
- Set utility rates such that utility earns the fair return

$$\text{Target Revenue} = \text{Expected Cost} + \text{Fair Return}$$

$$\text{Utility Rates} = \frac{\text{Target Revenue}}{\text{Expected Sales}}$$

# Expected Costs

- Labor
- Transmission charges
- Storage Expenses
- Maintenance and Repairs
- Overhead
- Depreciation

❖ Natural Gas Cost is Pass Through Expense

$$\text{Fair Return} = \text{Rate of Return} \times \text{“Rate Base”}$$

- Rate of Return is a market estimate for investments of equivalent risk
- Rate Base is the amount of investment that is allowed to earn a return
  - Includes used and useful assets
  - E.G. Transmission Pipe and Combustion Turbines
  - Costs for assets must be prudent
  - Total amount excludes accumulated depreciation

# Rate Effects of Prudent Expansion

- Sales increase over time
- Ratebase increases
  - Return to shareholder increases
- Operating Expense Increases
- Impact on existing customers is ambiguous

$$\text{Target Revenue} \uparrow = \text{Expected Cost} \uparrow + \text{Fair Return} \uparrow$$

$$\text{Utility Rates ?} = \frac{\text{Target Revenue} \uparrow}{\text{Expected Sales} \uparrow}$$

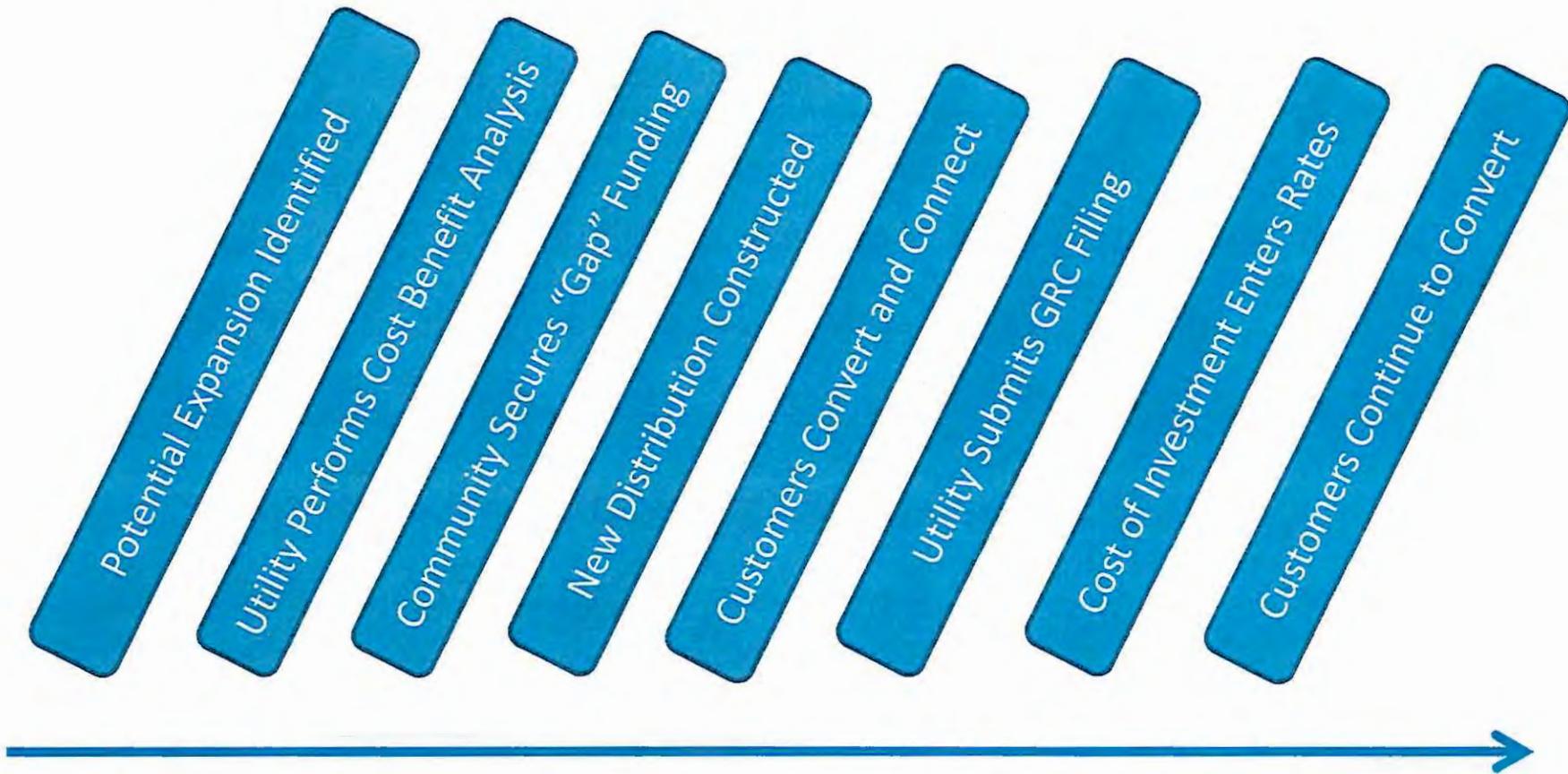
# Goals of Regulation

- Provide safe and reliable service
- Reproduce efficiencies of competitive markets
  - Utilities operate in efficient, least cost method
- Customers are responsible for the costs that they cause (I.E. avoid subsidies)

# Prudency Review

- Promote efficient operations and investments
- Given the information available at the time, the investment was in the best interest of ratepayers:
  - Benefits (as gas customers) exceed costs
  - Existing customers are not harmed
  - Does not weaken the financial stability of Utility
- Construction costs were properly managed
- Does not evaluate external costs and benefits

# Timeline for Distribution Expansion



## When the “utility” pays for expansion:

- Shareholders bear the annualized cost until the next rate filing.
  - Utility shareholders bear timing risk.
- Existing customers bear the cost of approved investment after the next rate filing.
  - Utility shareholders earn return on approved investment.
  - Any associated increase in rates represents a subsidy of new customers by existing customers.

# Economical Distribution Project

- Distribution projects are economical if the present value of all the future benefits is greater than the present value of costs.
- If the costs of a project are high and the benefits are low, the project will not add value to society.

# Example of inefficient expansion

- Potential customer has a long driveway that crosses a stream.
- Annual savings for natural gas vs propane: \$1000
- NPV of savings @ 10% discount rate: \$10,000
- Cost to connect and convert to natural gas: \$15,000\*
- Value of expansion: **Loss of \$5,000**

\* After accounting for contribution to fixed cost imbedded in utility rates.

# Cost Causer Cost Payer

- Efficient
  - If customer expansion is subsidized the cost may be more than the benefit
- Fair
  - If customer expansion is subsidized by existing customers, existing customers pay twice

# Expansion Question Implicates Additional Societal Impacts

- Environmental Impacts
- Economical Development
- Impact on Existing Energy Providers
- Effect on State Agencies
- Long Term Gas Supply and Interstate Pipeline Capacity



# Avista Line Extension Policy

January 26, 2016

## Current Line Extension Policy

**Allowances** – How much can Avista invest in a line extension

- Present Methodology - 3x estimated annual revenue from customers
- Allowance is approximately \$2,000 for residential customers; C&I allowances determined on a “site-specific” basis.
- Allowance starts at the service line to the premise, and then is applied “upstream”.
- Analysis for serving new communities factors in all of the various potential allowances for financial feasibility studies



## Current Line Extension Policy

**Costs** – there are many costs that affect line extension economics:

- New development or existing streets (e.g., pavement cuts)
- Type of soil (sandy, basalt, etc.)
- Distance to existing natural gas infrastructure
  - Distance to natural gas main
  - Distance to support personnel, local reps, office space, etc.
- Is an interstate pipeline tap required



# Current Line Extension Policy

Line Extension Allowance Discussion – should new customers:

- Subsidize existing customers
  - Less allowance to new customers
  - New customer revenue helps cover costs of existing customers
  
- Be rate neutral
  - Could justify a larger allowance (Avista's Washington filing – Perpetual Net Present Value Methodology)
  
- Be subsidized by existing natural gas &/or electric customers
  - Environmental benefits of natural gas
  - Direct Use vs. Turbine – more efficient
  - Regional View - Natural Gas is the incremental electric resource.
  - Avista electric DSM in Washington & Idaho provides conversion incentives



# NW Natural – Oregon

## Schedule X Applicant requested gas service

### RESIDENTIAL:

- Existing main:
  - Fixed revenue allowance based on installed equipment per Tariff
  - System average service line installation cost
  - Applicant pays any difference (“contribution”) between revenue allowance and installation cost
    - Installs for gas furnace typically do not require contribution
  - No refund on any construction contribution payments
  
- Main Extension:
  - Company uses same revenue allowance as existing main installations
  - Installation cost based on site-specific cost estimate
  - Applicant pays any difference between revenue allowance and estimated installation cost
    - Revenue allowance typically does not cover any main extension costs
  - Customer receives potential refund should additional hook ups occur on the main extension within three years from install date

### NON-RESIDENTIAL:

- Revenue allowance based on 5X estimated gas use for installed equipment type and equipment operational ratings
- Site-specific costs for both main extension and service installations
- 

### NEW COMMUNITIES:

- Investment decision would be based on a financial model that would estimate the average return on the investment given cost and estimated potential revenue to be expected from the investment
- Service line and in-community main extensions would use Schedule X criteria for each actual customer hook-up.

# Current Line Extension Policy

- Service Lines at No Direct Cost
  - Space Heat Only 20 Feet
  - Space and Water Heat 40 Feet
  - Large C/I with >150,000 BTU load 40 Feet
  
- Mains Extensions
  - The Company provides an allowance based on 4.5 times the customer's forecasted annual margin (distribution revenue and basic charge)
  - Costs beyond this allowance must be paid upfront by the customer
  - If the customer forecasted load does not develop in six months, the Company shall bill the Company for the costs of the main extension.

# Line Extension Costs

- Average length of service line
  - 43 feet
- Average cost for a new service line (not main)
  - \$1666
- Note: This is a system average for customers who did not find first costs to be prohibitive.

# Unintended Consequences

The Policy upholds the principles of cost causation, ensuring installed pipe is “used and useful”, and in doing so creates the following barriers to connecting to gas:

- Prohibitive first cost barrier to connect (service line, main extension, and appliances)
- Lost opportunities to serve areas. Pockets of unserved areas in urban communities develop that are difficult and costly to backfill.
- The policy is designed to look at one customer at a time rather than the potential of a community.
- Serving isolated communities is nearly impossible without a signed commitment to connect and unique cost recovery through a property tax or city-specific rate.



# State Energy Facility Siting

SB 32 - Workgroup

January 26, 2016

Todd Cornett, Assistant Director  
Oregon Department of Energy



# State Energy Siting Basics

- Energy Facility Siting Council (EFSC)
- Oregon Department of Energy Staff
- Consolidated Review Process
- Standards Based Process
- Site Certificate
- Application Fees

## Jurisdiction

- State - ORS 469.300(11) “Energy Facility” definition – creates state threshold
- Local: facilities smaller than state “Energy Facility” definition
- Federal: Federal Energy Regulatory Commission (FERC)

## Gas Pipeline Energy Facilities

- 469.300(11)(a)(E) A pipeline that is:

(i) .....

(ii) At least 16 inches in diameter, and five or more miles in length, used for the transportation of natural or synthetic gas, but excluding:

(I) A pipeline proposed for construction of which less than five miles of the pipeline is more than 50 feet from a public road, as defined in ORS 368.001; or

(II) A parallel or upgraded pipeline up to 24 inches in diameter that is constructed within the same right of way as an existing 16-inch or larger pipeline that has a site certificate, if all studies and necessary mitigation conducted for the existing site certificate meet or are updated to meet current site certificate standards; or

(iii) .....



## Gas Pipeline Exemptions

- OAR 345-015-0350(2) – A site certificate is not required for construction or expansion of any interstate natural gas pipeline or associated underground natural gas storage facility authorized by and subject to the continuing regulation of the Federal Energy Regulatory commission or successor agency.
- OAR 345-015-0370 – Consideration of Request for Exemption

## EFSC Process

- Applicant submits a **Notice of Intent (NOI)**
- ODOE issues a **Project Order**
- Applicant submits an **Application (pASC)**
- ODOE deems the application complete
- ODOE issues a **Draft Proposed Order (DPO)**
- **DPO Hearing**
- ODOE issues a **Proposed Order (PO)**
- **Contested Case**
- EFSC issues a **Final Order/Site Certificate**
- **Appeal to Oregon Supreme Court**

## Siting Division Staffing

- Fee for service – Staff increases and decreases based on volume of applications.
- Lead time for hiring new staff
  - E-Board or Budget Process
  - Recruitment
  - 6 – 12 Months to train Siting Analysts to function efficiently and independently.

# Questions???

# Appendix D: Second Meeting Presentations

September 15, 2016

Senate Bill 32  
Study of Natural Gas Expansion to  
Unserved Areas  
*2016 Report to the Legislative Assembly*



# SB32 Coos Bay Extension Review

Presented to SB 32 Workgroup  
March 31, 2016



# Overview of Presentation



- Project drivers and funding streams
- Stipulation
- Timeline of project
- System development priorities
- Economic factors
- Customer growth
- Lessons learned



# Project Drivers

- Community needed economic development tools
  - Unable to attract new large commercial/industrials without natural gas service
  - Wanted to help businesses be competitive
- State wanted to support economic development
  - South Coast area had been economically depressed for years
- OPUC wanted to support expansion efforts while minimizing cross subsidization
- NW Natural wanted to support expansion to a new community

# Funding Streams

## Community

- \$27M in local bonds
- \$0.02/therm rider paid for by each new gas customer

## State

- \$20M lottery bonds
- \$4M in studies to support project

## NW Natural

- \$12M approved by OPUC
- \$500,000 shareholder contribution

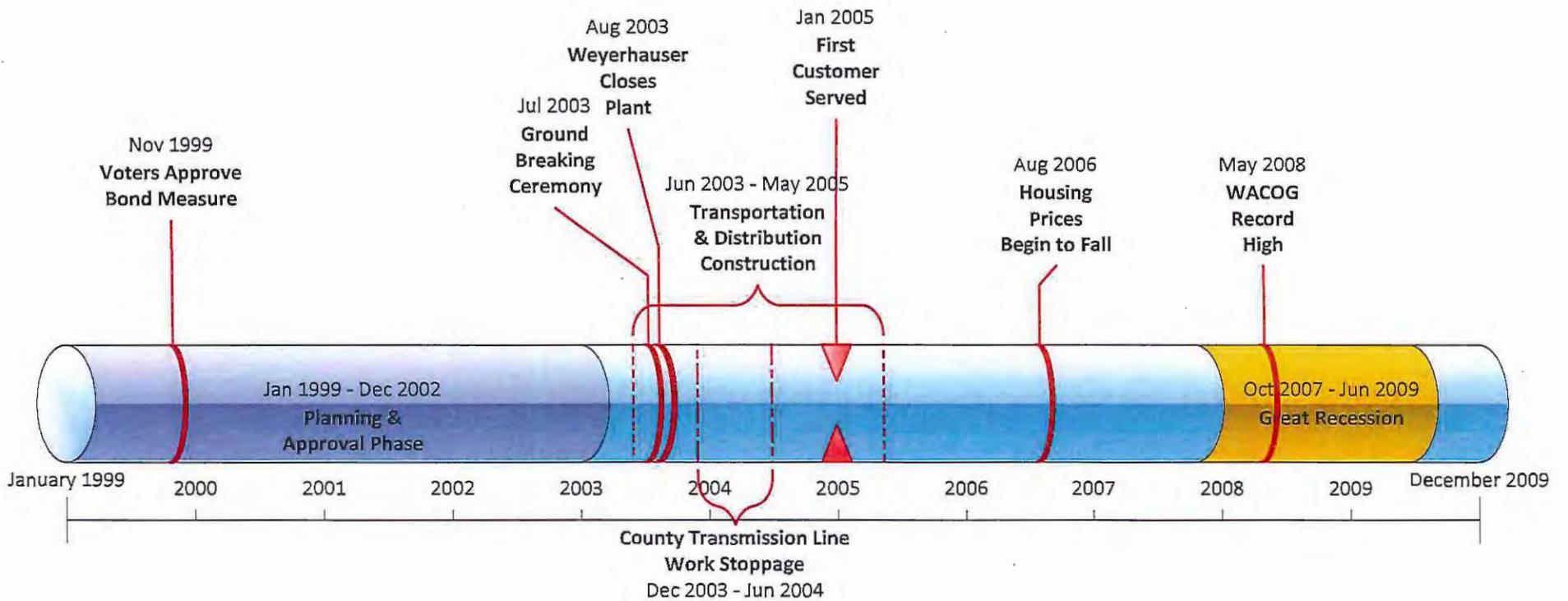
# OPUC Stipulation Summary

- Project capital limit of \$12 million
- Defined construction period
- Company capital contribution of \$400,000
- 2 cent per therm adder
- Evaluation term of 20 years

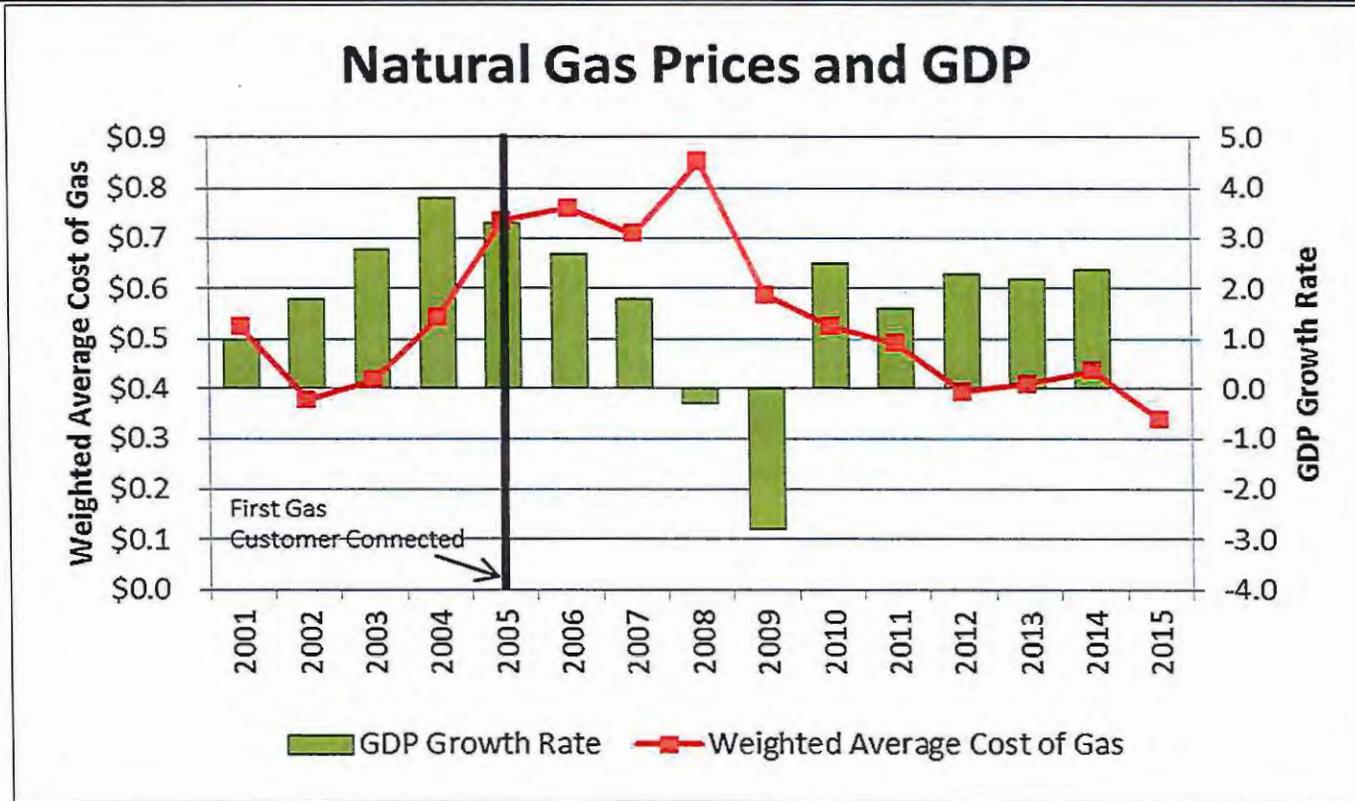
# System Development

- Top priority: Build system backbone to serve commercial and industrials
  - Used field surveys to locate commercial and industrial prospects, which drove backbone investment
  - Residential was secondary, when feasible
- Local team used a combination of marketing and advertising support
  - Public meetings to describe project and answer questions
  - Mail surveys - dual purpose of generating pre-construction interest and assessing consumer willingness to convert to gas
  - Direct mail, print and radio advertising and media outreach
- System backbone largely in place by end of 2005
  - 97% of \$12 million budget spent
  - 88% (64 miles) of planned distribution main constructed

# Timeline Factors

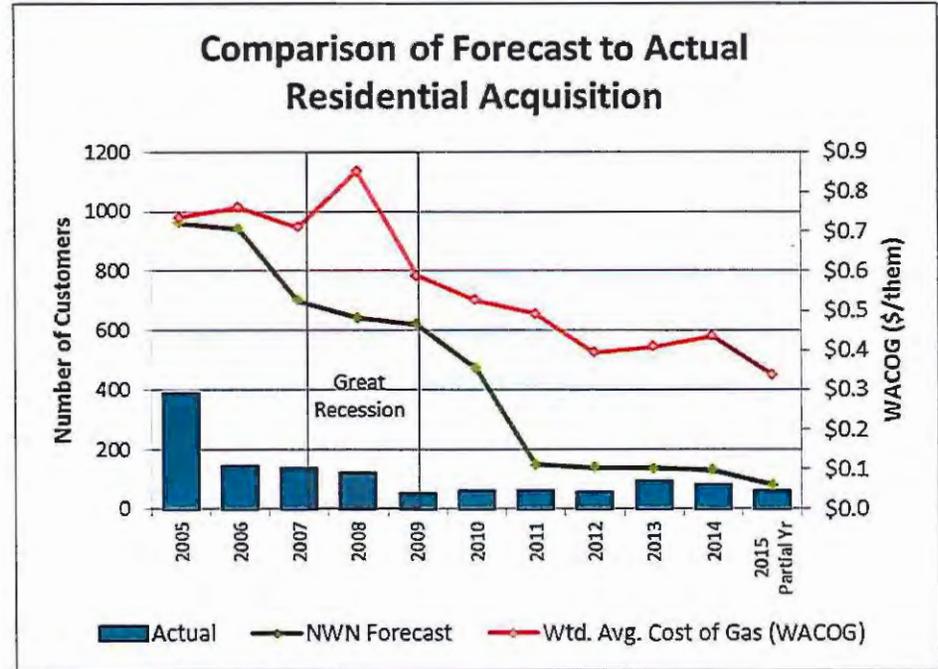
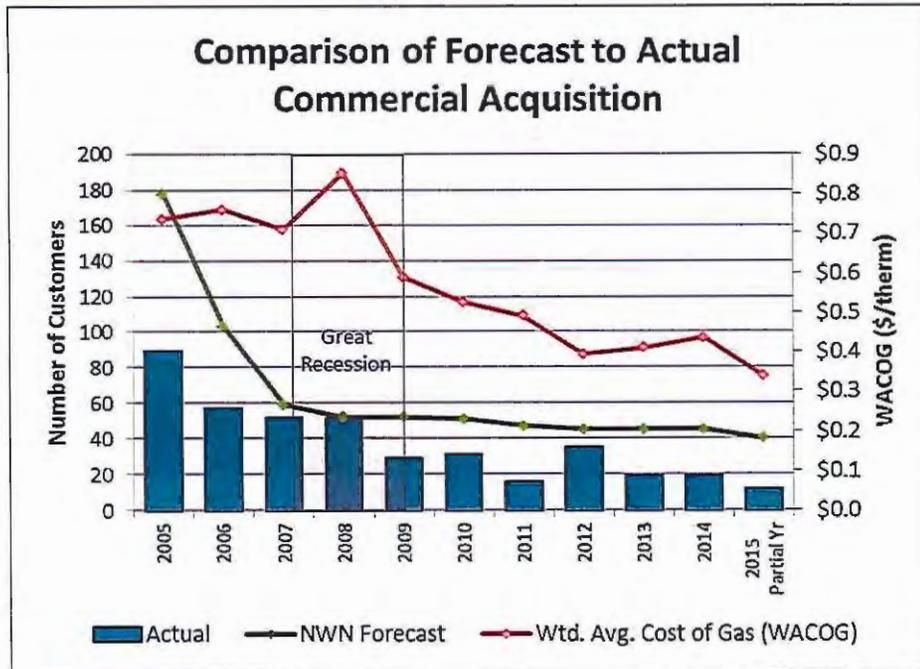


# Gas Prices and the Economy



- Natural gas prices spike to record levels
- Great Recession hits, followed by slow recovery

# Forecast to Actuals



- Penetration of commercial and industrials largely tracks to forecast – coinciding with the strategic focus of economic development.
- First cost barrier significant for residential conversions, given traditional service line policy and economic demographics.

# County Conditions Still Difficult

- Coos County's lagging local recovery
  - Coos County household income 76% of Oregon average
  - Jan. 2016 unemployment of 6.5% vs. Oregon rate of 5.1%
    - Coos County unemployment rate peaked at 13.8% during the Great Recession in 2009
- Many existing businesses and houses small, often un-ducted
  - Wood is primary heating fuel in roughly 20% of homes
  - Electric wall furnaces prevalent
  - Economics of unsubsidized conversions that also require a service line contribution not viable
- Low volume construction and conversion work mean few qualified contractors and higher per unit costs for consumers

# On-Main Market Share: 2005–2014

- Commercial new construction - 50%
  - Smaller buildings hard to serve unless right on main with no adverse construction issues
- Existing commercial - 29%
  - First-cost prohibitive; hard to cost justify with small loads
- Single family new construction - 69%
  - 25% of new construction is < 1,400 sq. ft.
- Existing residential - 22%
  - First cost prohibitive

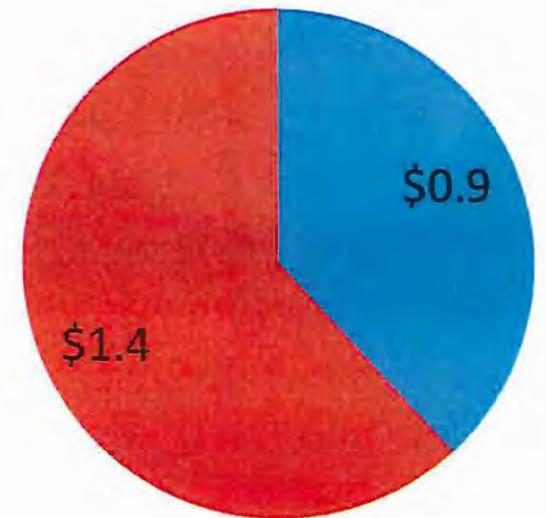
# Gas Share of Businesses and Square Feet

- Gas customers are twice as energy intensive as on-main non-customers
  - Gas customers tend to both larger and more energy intensive per square foot.
  - Gas serves a much larger percentage of business square footage than number of businesses.
- Conversion economics are more difficult for businesses with low potential gas usage per square foot

|                      | Percent of Businesses |           | Percent of Square Feet |           |
|----------------------|-----------------------|-----------|------------------------|-----------|
|                      | Non-Customers         | Customers | Non-Customers          | Customers |
| Commercial Schools   | 49%                   | 51%       | 28%                    | 72%       |
| Commercial Hospitals | 67%                   | 33%       | 7%                     | 93%       |
| Commercial Other     | 70%                   | 30%       | 68%                    | 32%       |
| Industrial           | 78%                   | 22%       | 49%                    | 51%       |

# Annual Energy Cost Savings

- Annual direct benefits from lower energy bills estimated at \$2.3 million
  - Increased disposable income to residential customers
  - Higher profits for non-residential customers
- Does not include indirect benefits
  - Additional local spending by households and businesses results in higher local employment and incomes beyond the gas customer base.



■ Residential ■ Non Residential

# Lessons Learned

- Diversified funding streams coupled with regulatory support can make expansions happen.
- Expansions to promote economic development take a long-term view.
- Energy savings contribute to economic health of depressed communities.
- Early success can be affected by large anchor customers
  - Residential loads can grow slowly, and may not be enough
  - Contractual obligations could help bolster chances of achieving adoption rates
- An ongoing, coordinated economic development plan supported by all stakeholders may be beneficial
- Trade allies are a crucial link to customers
- Changes in the economy have a significant impact
- Conversions need robust first-cost reduction tools, and a longer-term view
- Looking at avoided costs may provide a new economically justified funding stream



Thank you.



# Lakeview, OR Natural Gas Expansion

March 31, 2016

# Lakeview, Oregon

## Quick Review from January Meeting

**Allowances** – How much can Avista invest in a line extension

- Present Methodology - 3x estimated annual revenue from customers
- Allowance is approximately \$2,000 for residential customers; C&I allowances determined on a “site-specific” basis.
- Analysis for serving new communities incorporates all of the various potential allowances for financial feasibility studies



## Current Line Extension Policy

**Costs** – there are many costs that affect line extension economics:

- New development or existing streets (e.g., pavement cuts)
- Type of soil (sandy, basalt, etc.)
- Distance to existing natural gas infrastructure
  - Distance to natural gas main
  - Distance to support personnel, local reps, office space, etc.
- Is an interstate pipeline tap required?

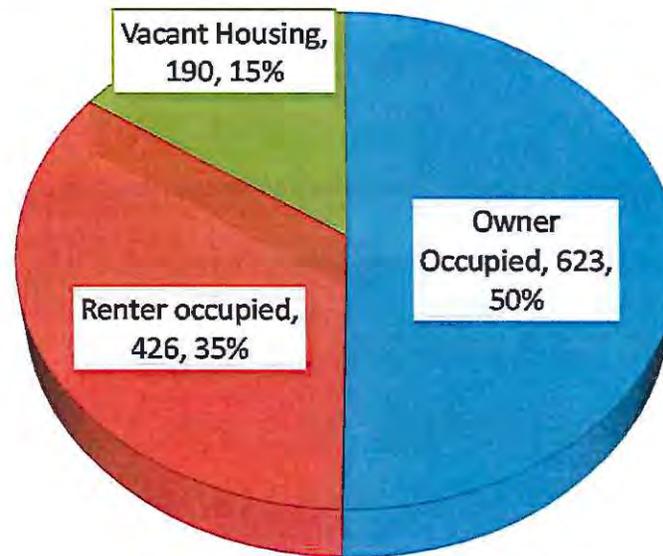


# Lakeview Economics under present Line Extension Policy

## Residential Hookup Estimates

|                       |               |
|-----------------------|---------------|
| Median Housing Value  | \$ 89,216.00  |
| Average Housing Value | \$ 121,744.00 |

### NUMBER OF RESIDENTIAL UNITS - LAKEVIEW



Avista Estimate – 125 homes out of 1,239 homes.



## Lakeview Economics under present Line Extension Policy

| Lakeview          | Projected Customers | Total Therms Per Month Customer Class | Projected Annual therms 360 days | Rate per Therm | Total Annual Revenue |
|-------------------|---------------------|---------------------------------------|----------------------------------|----------------|----------------------|
| Residential Homes | 125                 | 46                                    | 69,000                           | \$ 1.05307     | \$ 86,162            |
| Commercial        | 50                  | 194                                   | 116,400                          | \$ 0.94626     | \$ 120,345           |
| Large Commercial  | 3                   | 5,000                                 | 180,000                          | \$ 0.94626     | \$ 170,939           |
|                   |                     |                                       |                                  |                |                      |
| <b>Totals</b>     | <b>178</b>          | <b>5,240</b>                          | <b>365,400</b>                   |                | <b>\$ 377,445</b>    |

**3 Times Annual Revenue = \$1.132 million allowance**



# Estimated Cost to Serve Lakeview

| Cost to Build Project  |         |                    |              |
|--|---------|--------------------|--------------|
|  | Footage | Type               | Total Cost   |
| Tap  |         | Ruby               | \$ -         |
| Regulation, Heating, Odorizing                                     |         | Gate Stn & Reg Stn | \$ 606,586   |
| High Pressure  | 10000   | 6" Steel           | \$ 1,041,816 |
| Distribution   | 42760'  | 6", 4" & 2" PE     | \$ 6,340,039 |
| Total cost to build Natural Gas System in Lakeview (including Tap) |         |                    | \$ 7,988,441 |



# Summary of Lakeview Economics

|   |                     |
|---|---------------------|
| Cost to build based on Avista Engineering estimates     | \$ 7,988,441        |
| Revenue allowance based on OPUC Tarriff                 | \$ (1,132,336)      |
| Cost for Avista Local Rep. in Community (3 year offset) | \$ 750,000          |
| State Contribution                                      | \$ -                |
| Annual Reservation fees on Ruby Pipeline                | \$ 106,331          |
| <b>Short on Contruction/Costs vs Revenue</b>            | <b>\$ 7,712,437</b> |



## How do we fill the gap?

Revised line extension tariffs:

| <b>Allowance Methodology Eff 3/1/2016 (WA)</b> |                     |              |
|--|---------------------|--------------|
| Residential Allowance                          | \$ 3,836            | per customer |
| Commercial Allowance                           | \$ 5.10             | per therm    |
| Residential Allowance                          | \$ 479,500          |              |
| Commercial Allowance                           | \$ 1,511,640        |              |
| <b>Total Allowance</b>                         | <b>\$ 1,991,140</b> |              |

Result – 76% increase in allowance



## How do we fill the gap?

Use a Long Term Time Horizon – factor in all housing?

| <b>Allowance Methodology Eff 3/1/2016 (WA)</b> |           |                  |              |
|--|-----------|------------------|--------------|
| Residential Allowance                          | \$        | 3,836            | per customer |
| Commercial Allowance                           | \$        | 5.10             | per therm    |
| Residential Allowance                          | \$        | 4,756,640        |              |
| Commercial Allowance                           | \$        | 1,511,640        |              |
| <b>Total Allowance</b>                         | <b>\$</b> | <b>6,268,280</b> |              |



# How do we fill the gap?

- Revised Allowance Methodology
  - approved in WA effective 3/1/2016
  - Incorporate Hookups Beyond 5 years
- State/Local Funding to Offset Capital Costs
- Locality Specific Surcharges
  - Need to be set at an appropriate level given fuel switching economics
- Electric to Natural Gas Fuel Switching Rebates
  - Behind the meter financial assistance
  - Changes in Avoided costs
  - Efficiency of Generation vs. Direct Use



## Outline:

- Energy Source Overview
- Avista – Lakeview
- NW Natural – Coos County
- Key Takeaways

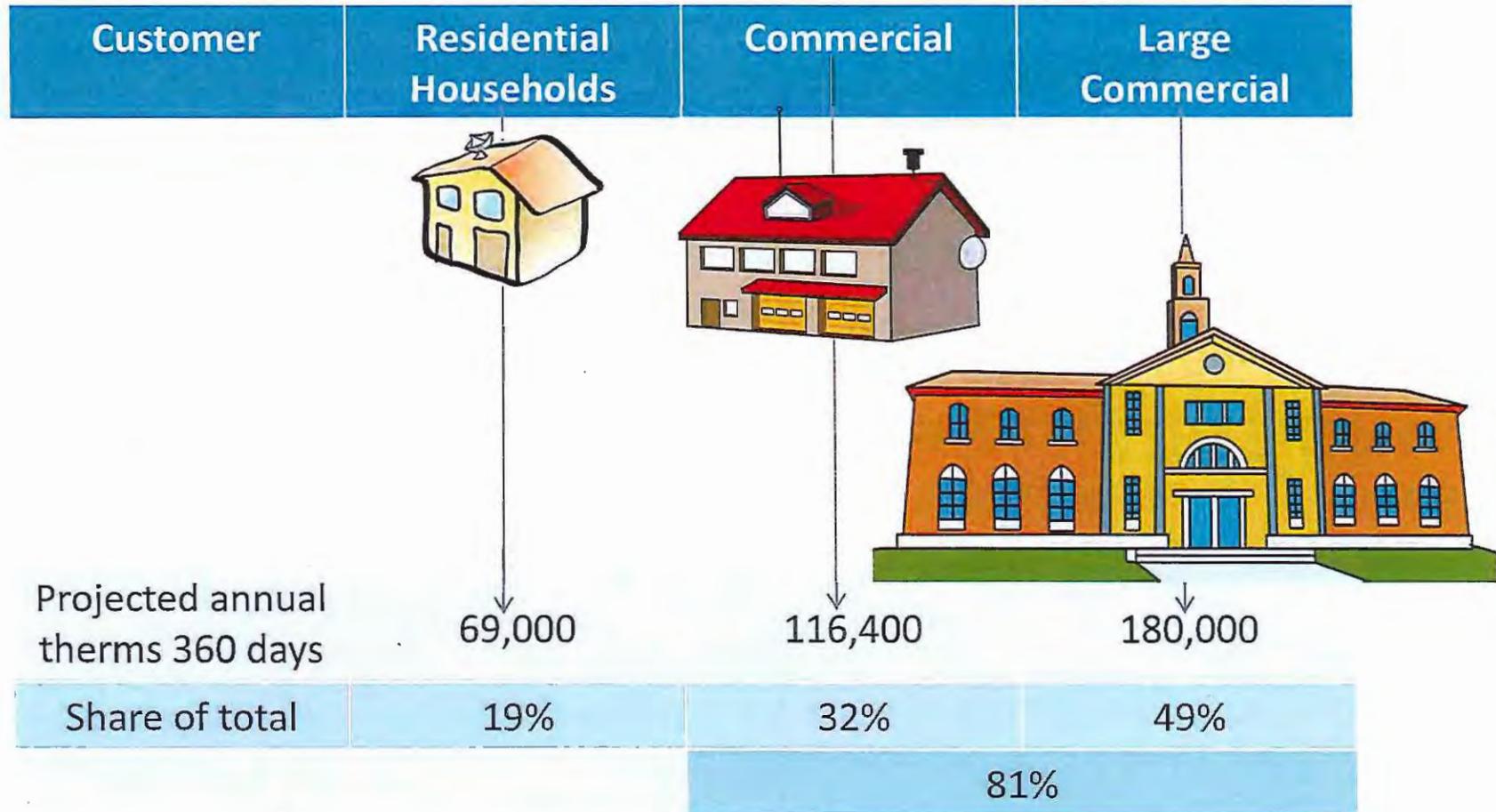
## PUC Staff Observations

# Energy Source Overview

- Census Bureau survey asks about residential primary fuel source for heating. Nationally about:
- 4% heat primarily with propane
- 5% heating oil
- 39% electricity
- 2% wood
- ~50% natural gas

# Avista Lakeview, OR Natural Gas Expansion

# Economies of Scale with Population Density



- **Lakeview projection:** Residential = **19%** of throughput
- **2014 Oregon Actuals<sup>1</sup>:** Residential = **36%** of throughput

<sup>1</sup>(UG 288, Avista/700, Forsyth/5) <sup>4</sup>

# Forecasting Large Customers

- Importance of ensuring throughput
  - *The Oregonian/Oregon Live*, “Iberdrola Renewables told stakeholders in Lake County Wednesday that it would stop working on its planned \$100 million biomass plant in Lakeview”<sup>3</sup> (Red Rock commits funds 2013)
- Customers may not immediately switch
  - Many wait until replacing equipment
- Attractiveness of switching depends on current fuel source
  - *Oregon Public Broadcasting*, Geothermal heating system in Lakeview heats four schools and hospital<sup>4</sup>
  - Warner Creek Correctional Facility
    - Geothermal system with propane backup
    - 2008 Oregon SEED award

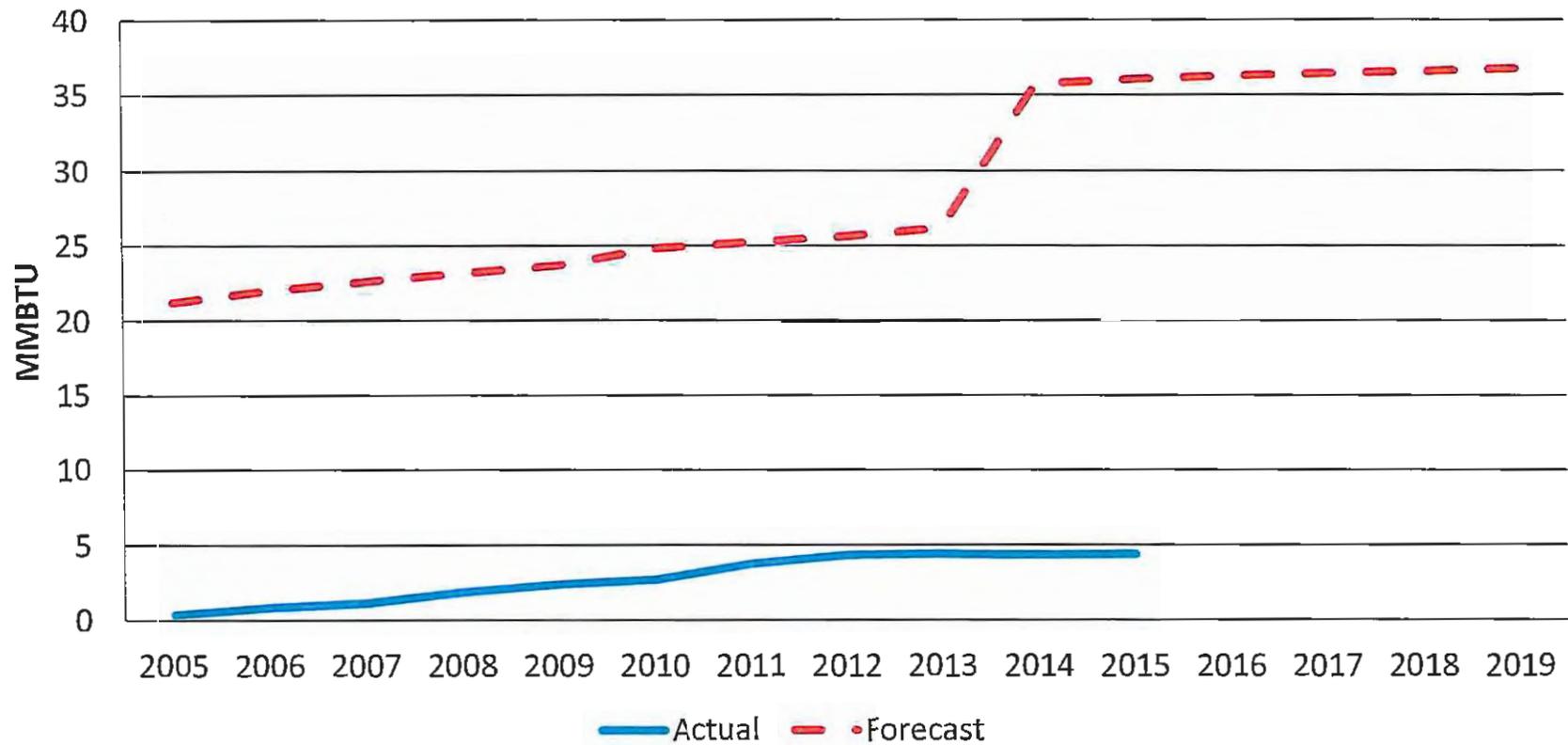
<sup>3</sup>October 13, 2011

<sup>4</sup>December 13, 2013

# NW Natural Coos County, OR Natural Gas Expansion

# NW Natural, Coos County

## Forecast Variance for Total Therms



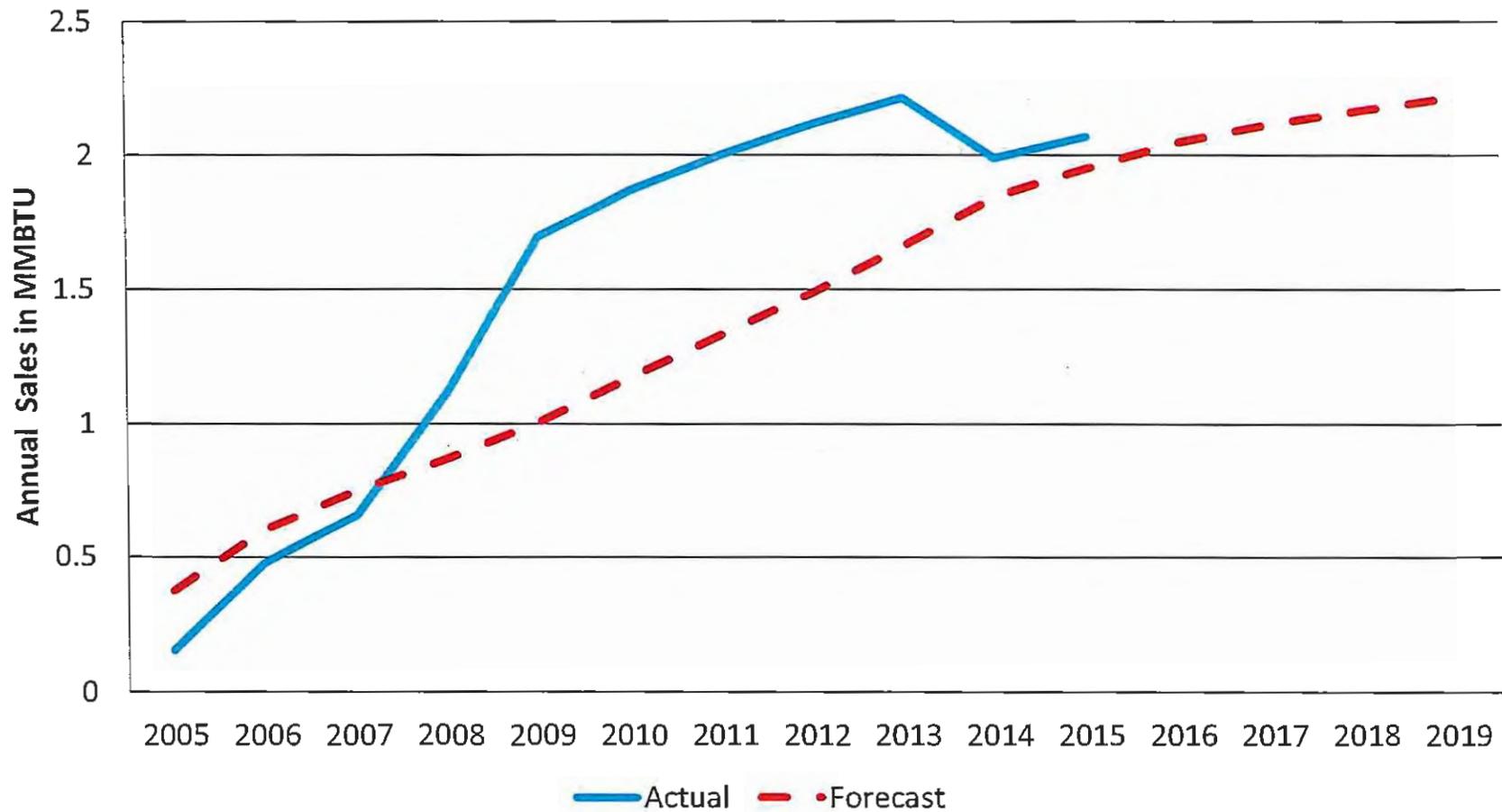
# First Year Sales Forecast

## 94% Weyerhaeuser

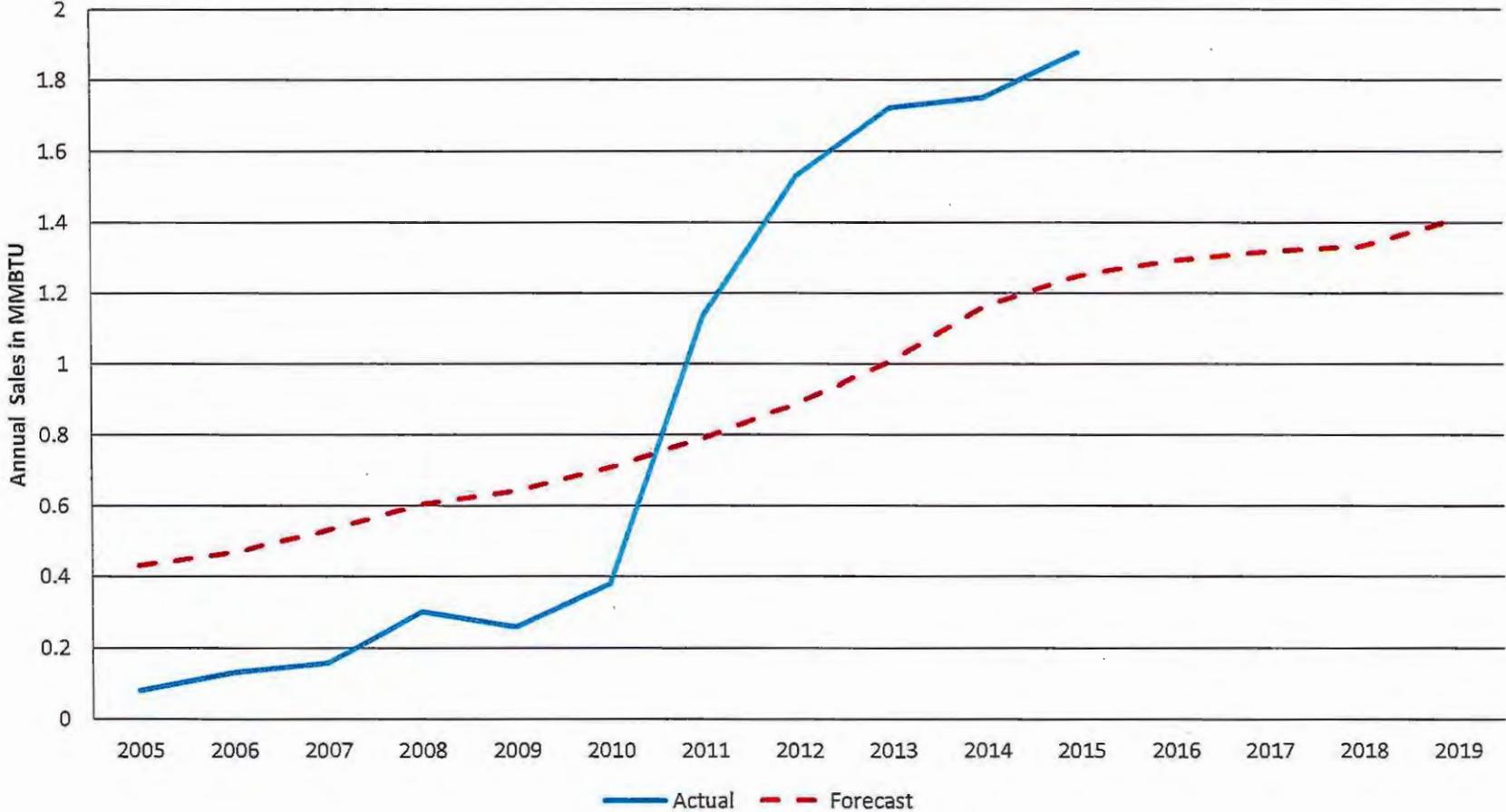


- All Other Customers
- Weyerhaeuser

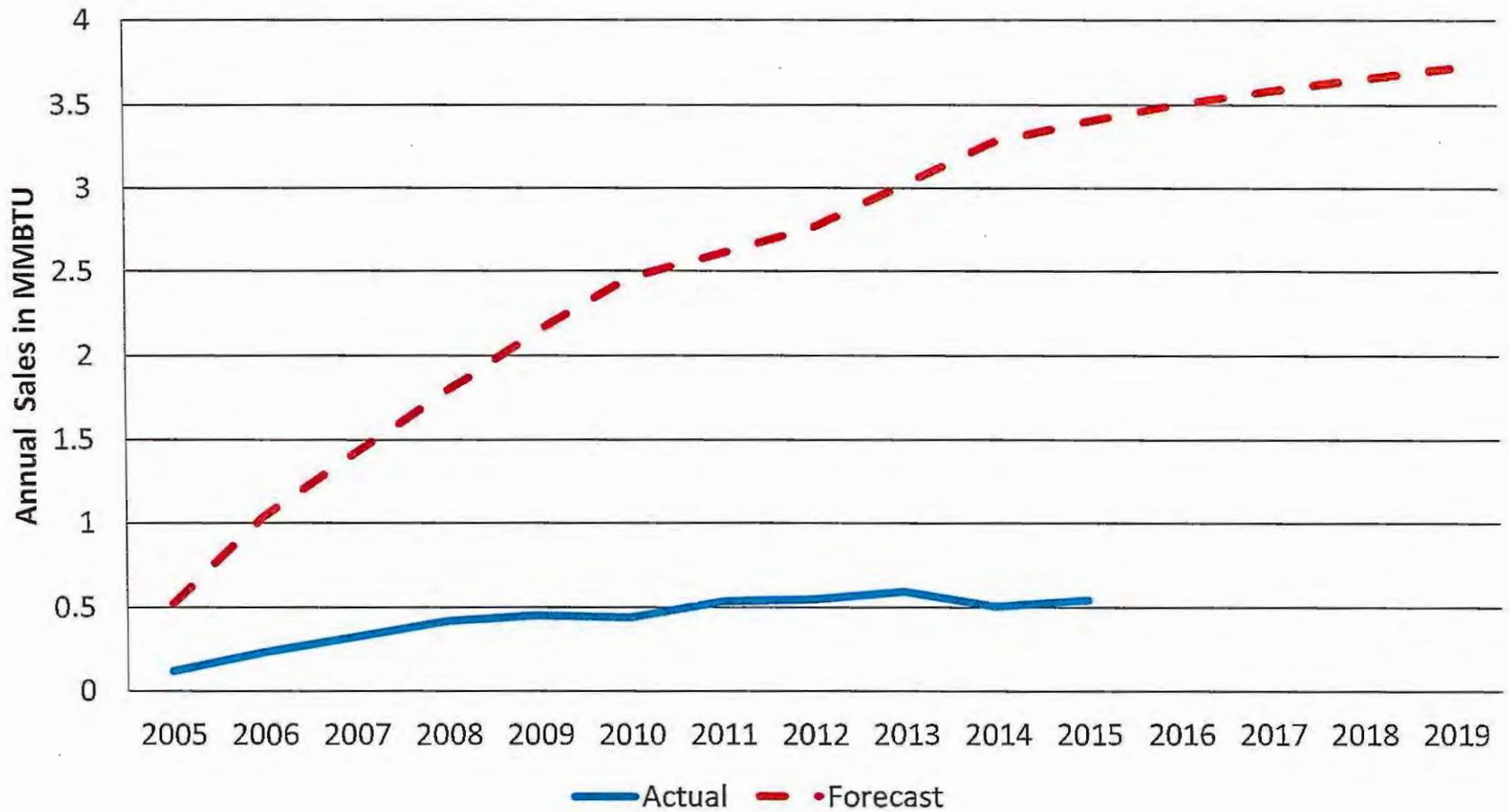
# Forecast Variance for Commercial Therms



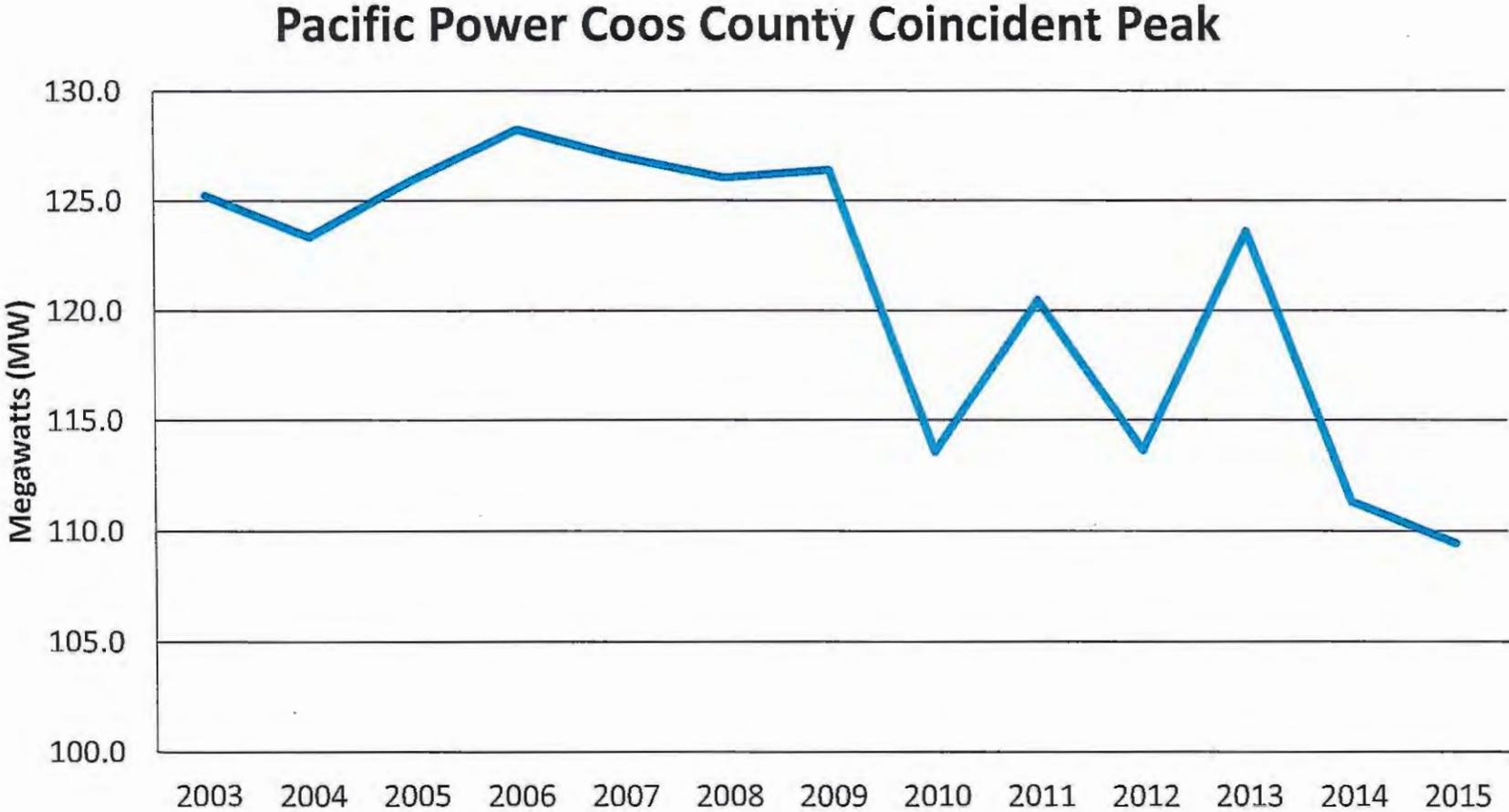
# Forecast Variance for Small Industrial Therms



# Forecast Variance for Residential Therms



# Four Month Coincident Peak



# New Distribution is Expensive

- Present Value Of Subsidy: \$111 Million
  - Initial Distribution Investment \$30 Million
  - Initial Pipeline Investment \$78 Million
  - Ongoing Transport Cost Subsidy \$3 Million
- Identified Annual Benefit: \$2.4 Million

# Key Takeaways

## One size does **NOT** fit all



Areas unserved by natural gas can have very different profiles that include but are not limited to:

- Population (overall adoption potential).
- Interest in becoming a natural gas customer.
- Proximity to interstate pipeline.
- Local economy.
- Housing stock.
- Existing customer base to help subsidize expansion.

These potential variances impact the economic feasibility of each unserved area when calculating the financial viability of an expansion project.



Without large incentives or subsidies behind the customer meter, natural gas uptake will be slow.

Natural gas conversion can be very expensive for potential customers with regard to:

- Customer line extension costs beyond the allowance.
- Cost of ducting a home for natural gas heat.
- Cost of natural gas furnace.
- Cost of gas water heater.

Economic feasibility for gas expansion to unserved areas will be difficult if not impossible without bridging this gap.





Local financial commitment is important for gas expansion to unserved areas to be financially viable.



- Tax breaks for anchor customers.
  - Local bond measures.
  - Surcharge to new customers.
- Waive future franchise fees to offset upfront investment for expansion.
  - Other local government funds.

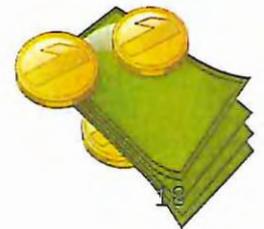




## Potential funding sources beyond those of the local government for the expansion area



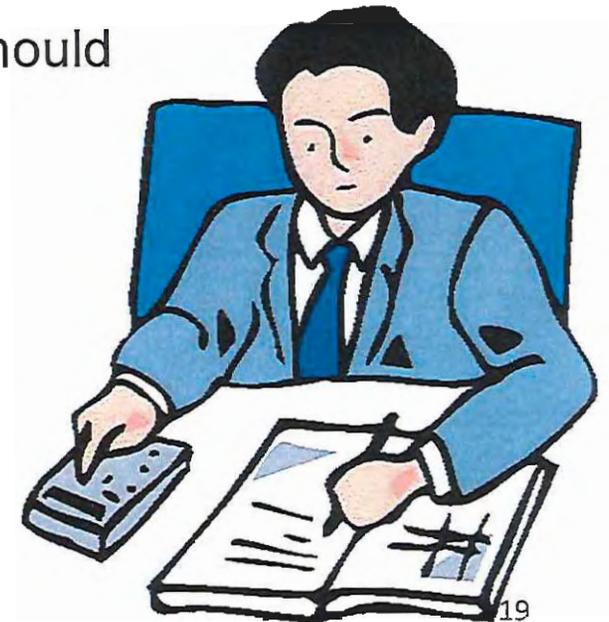
- State business development funds.
- Legislative derived funds directly for the purpose of natural gas expansion.
- Air quality funds.
- State or Federal grants.
- Costs absorbed by all utility customers through rate base.
- Coordination of construction projects to reduce costs.





## Thorough Financial Analysis is Critical

- New rural gas distribution is much more expensive than existing gas distribution.
- Future projects will require substantial subsidies.
- Subsidy of alternative energy sources should be considered.





# Introduction to the Propane Industry

Oregon Public Utility Commission  
Salem, Oregon  
March 31, 2016

Jeffrey M. Petrash  
National Propane Gas Association  
Washington, D.C.



## National Propane Gas Association

- **3000 members**
- **Producers**
- **Service providers**
- **Equipment suppliers**
- **Marketer/retailers**
  - Three large national
  - Several large regional
  - Thousands of small, local
- **38 state and regional associations**

## “THE OTHER WHITE MEAT”

- $C_3H_8$  (versus  $CH_4$  for natural gas)
- Nontoxic, colorless, odorless
- 75% derived from the natural gas stream
- 25% derived from petroleum refining
- 100% percent American
- “Portable natural gas”
- Greenhouse gas emissions (GHG) similar to natural gas
- Criteria pollutants emissions similar to natural gas
- Fugitive propane is not a GHG (unlike natural gas)
- Propane not a groundwater contaminant (unlike fuel oil)
- Two percent of America’s primary energy



# PROPANE AND NATURAL GAS ARE COMPLEMENTARY FUELS



## BEYOND THE BARBEQUE

### Odorized propane

- Only 3% is used in barbeques
- Residential
- Commercial
- Agricultural
- Industrial
- Vehicles

### Non-odorized propane

- Approximately half the market
- Petrochemical feedstock
- Exports



## USES OF ODORIZED PROPANE

- More than 5.5 million U.S. households are heated with propane
- Residential—5 billion gallons—54%
- Commercial—1.8 billion gallons—18%
- Vehicles—0.6 billion gallons—7%
- Industrial—0.5 billion gallons—5%
- Agricultural—1.1 billion gallons—12%

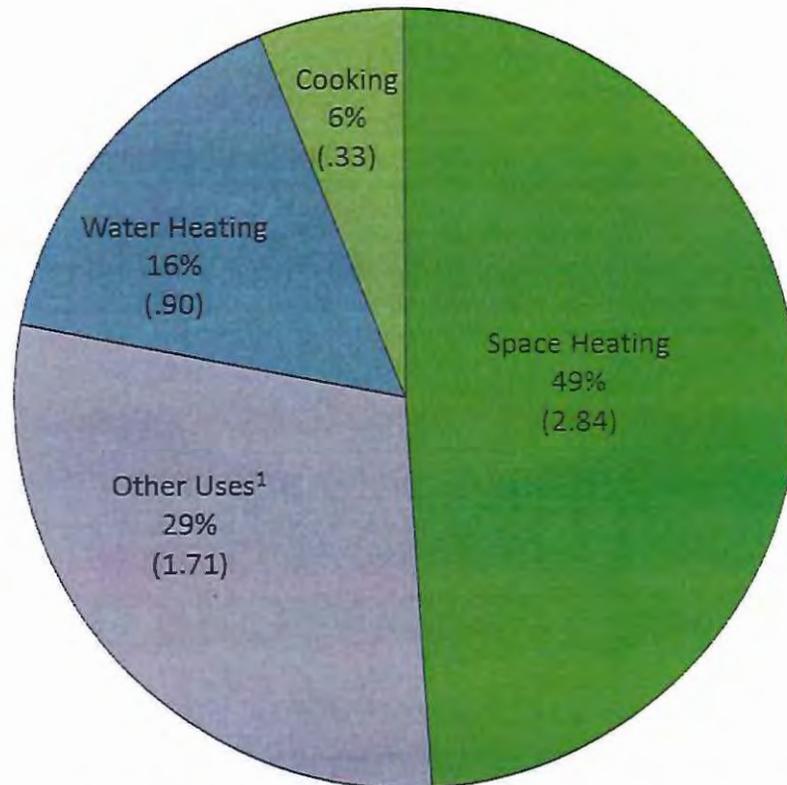


Residential Propane Consumption by End-User  
(billion gallons)

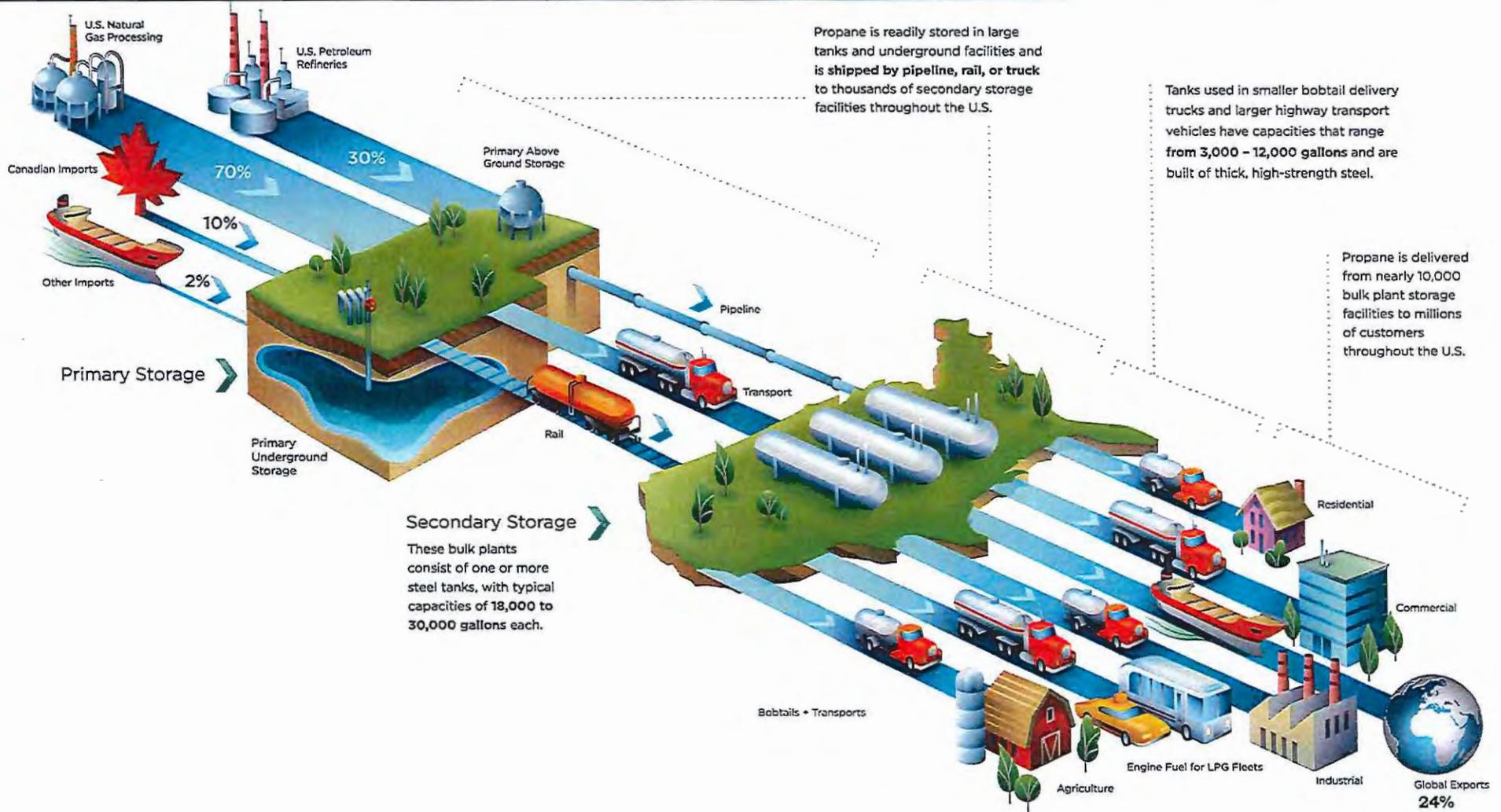
## How do households use propane?

While propane is mainly used for home heating, it has many other uses as a residential heat and energy source.

**Five percent of U.S. households heat with propane.**



<sup>1</sup> Other uses include clothes drying, outdoor grills, mosquito traps, etc.  
Source: EIA

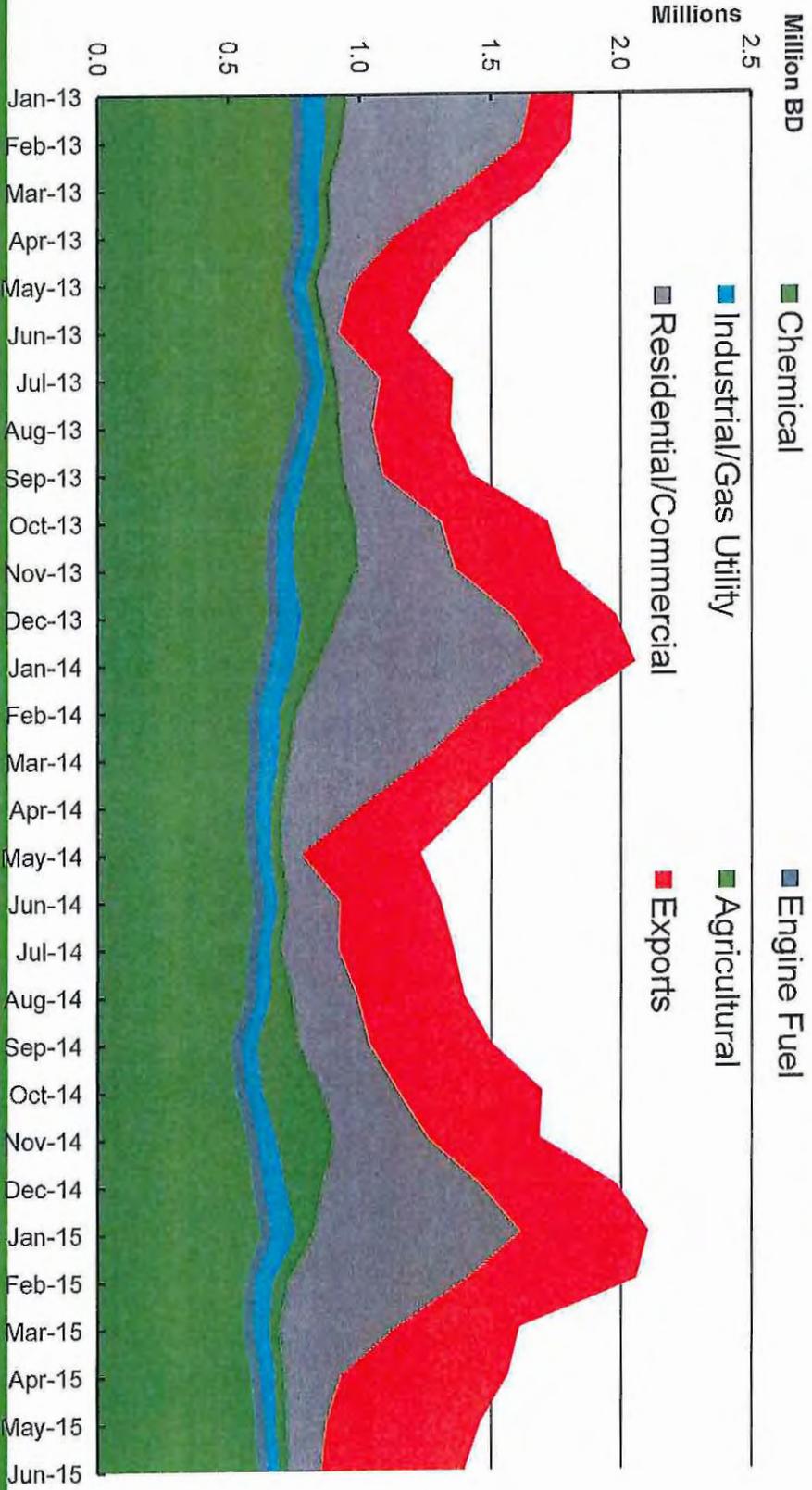




## PROPANE IN OREGON

- **Total: 63 million gallons**
- **Residential: 16 million gallons**
- **Commercial: 15 million gallons**
- **Cylinders: 4 million gallons**
- **Vehicles: 10 million gallons**
- **Industrial: 14 million gallons**
- **Agricultural: 4 million gallons**
- **Market value: \$112 million**
- **Jobs: \$9-10 million**
- **Oregon part of PADD V**

# KEY U.S. PROPANE DEMAND CATEGORIES





## PROPANE MARKETERS

- **Free marketers**
- **Compete with other fuels**
  - Natural gas
  - Electricity
  - Fuel oil
  - Wood
  - Ground source heat pump
- **Compete with each other**
- **Majority are small businesses**



# IT'S ALL ABOUT SHALE!

(NATURAL GAS AND PROPANE)



**LET'S CONNECT EVERYONE!**



**NATURAL GAS \$4**

**SHIPPING AND HANDLING \$9**



## THE REALITIES

- **Facilities built today are much more expensive than facilities built in the past**
- **\$1 million per mile is a benchmark**
- **Population density is necessary to make natural gas service economical**
- **In most circumstances rates for new service would have to be significantly higher than old service to be economic**
- **Conversion costs \$3,500-\$10,000**



# **SUBSIDIZED NATURAL GAS SERVICE COMPETES UNFAIRLY WITH OTHER ENERGY SOURCES**



## THE ECONOMIC TEST

- **Costs: building and operating the new infrastructure**
- **Revenues: delivery revenues for new service**
- **Revenues  $\geq$  costs = economic expansion**
- **Revenues  $<$  costs = uneconomic expansion**



## **UNDERPRICED NATURAL GAS SERVICE**

- **ECONOMICALLY INEFFICIENT**
- **CAUSES MISALLOCATION OF RESOURCES**
- **ARTIFICIALLY CREATES DEMAND FOR THE SERVICE**



## **MOST EXPANSION PROPOSALS DO NOT MAKE SENSE**

- **Revenues will not cover costs**
- **Utility is unwilling to deploy its capital for the expansion**
- **Utility seeks a subsidy to make the expansion**
  - Tax revenues
  - Charging existing customers (rolled-in pricing)
- **Existing customers receive no benefit or minimal benefit**
- **Why should existing customer subsidize utility shareholders**
- **Natural gas service is not a public good**



## OUR OREGON COLLEAGUES



# OTHER ISSUES?

QUESTIONS?



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# Gas Distribution Development in Other States

Prepared by the Oregon Public Utility  
Commission

At a minimum, the work group shall study:

- (a) The commission's policies regarding the extension of natural gas mains;
- (b) Mechanisms for funding the expansion of natural gas services, including the use of tariffs, the imposition of charges and fees, the use of unclaimed refunds and the establishment of accounts dedicated to the expansion of natural gas services;
- (c) The submission of recommendations by public utilities that furnish natural gas;
- (d) Possible processes for including in a public utility's rates the cost of projects involving the extension of natural gas pipelines and other infrastructure necessary for providing natural gas;
- (e) Possible selection criteria for projects involving the extension of natural gas pipelines and other infrastructure necessary for providing natural gas; and
- (f) The potential rate cap for projects involving the extension of natural gas pipelines and other infrastructure necessary for providing natural gas.

Minnesota

Vermont

Delaware

Indiana

Maryland

**At a minimum, the work group shall study:**

**(b) Mechanisms for funding the expansion of natural gas services, including ... the imposition of charges and fees,**

- **Minnesota: New Area Surcharge Rider**
  - Introduced in the 1990s to mitigate an adverse effect on existing customers.
  - New gas service can be brought to communities where it is not economically justified.
  - Recovers Company's revenue deficiency from customers willing to pay more to receive natural gas service.
  - The Minnesota Legislature specifically authorized such rates in Minn. Stat. § 216B.16, subd. 13, enacted in 1992<sup>1</sup>
  - Update enacted in 2015: up to 33% of the costs spread to all customers in Minn. Stat. § 216B.1638<sup>2</sup> No dockets approved, one pending<sup>3</sup>



# Minnesota New Area Surcharges

- Extensions to entire towns in remote areas
- New customers pay a share of the existing system's costs in base rates, plus incremental cost of the new extension in the surcharge, repaid over multiple years<sup>4</sup>
- CenterPoint Energy
  - Alexandria Lakes area
- Xcel Energy
  - Brainerd Lakes area project
  - Barnesville, Holdingford and Pillager
- Minnesota Energy Resources Corporation
  - Ely Lake

## e.g. Ely Lake, Minnesota

- 2014, Commission approves monthly New Area Surcharge of **\$25.45/month**, up to 20 years<sup>5</sup>
- The surcharge calculated in similar fashion as loan
  - Incremental cost of the new extension is principal, interest rate is rate specified in the tariff and term is length of the surcharge in years<sup>6</sup>
- Monthly surcharge is in addition to the regular bill for gas service.
  - Appears on bill as separate line item.



**(b) ... the use of unclaimed refunds and the establishment of accounts dedicated to the expansion of natural gas services;**

- **Vermont:** 2011, Vermont Gas establishes the System Expansion and Reliability Fund for the purpose of facilitating further build-out of its system.
  - Substitutes for an about 5.4% rate reduction.
  - Expected to generate approximately \$4.4 million annually<sup>7</sup>
  - Defers & escrows cost savings from quarterly Purchased Gas Adjustment (declines in the wholesale cost of natural gas)<sup>8</sup>
- Withdraw from The Fund for expansion
  - withdrawal = cost of service – generated revenues*  
associated with the expansion<sup>9</sup>
- e.g. 43 mile expansion into the Vergennes and Middlebury, Vermont, market areas. Commission certificate issued 2013<sup>10</sup>
  - \$55 million estimated withdrawals.<sup>11</sup> Initial filing estimated costs at \$87 million - updated to \$154 million<sup>12</sup>



**(d) Possible processes for including in a public utility's rates the cost of projects involving the extension of natural gas pipelines and other infrastructure necessary for providing natural gas;**

- **Delaware:** 2012, Chesapeake Utilities proposed to recover \$1.25 from all ratepayers monthly for purpose of expansion.
- Delaware's Division of the Public Advocate argued it would result in current customers subsidizing future customers<sup>13</sup>
- 2013, Parties settled at charging only customers within proposed expansion areas:

| RS-1 Residential customer charge | ERS-1 Expansion area residential customer charge |
|----------------------------------|--|
| \$11.75 per month                | \$16.50 per month <sup>14</sup>                  |



**(e) Possible selection criteria for projects involving the extension of natural gas pipelines and other infrastructure necessary for providing natural gas;**

- **Indiana:** Enacted 2013, Chapter 39. Transmission, Distribution, and Storage System Improvement Charges and Deferrals (TDSIC):

Indiana Code § 8-1-39-11 (c) allows gas utilities to extend service in rural areas without requiring a deposit if the extension of service results in a positive contribution to the utility's overall cost of service over a 20-year period.

- e.g. So far, Lizton Indiana (population <2,000) ruled to qualify, several unincorporated areas proposed<sup>15</sup>
- Cost cap: may not increase utility's total retail revenues by more than 2% in a year (exception: projects with Indiana economic development corporation)<sup>16</sup>



(f) The potential rate cap for projects involving the extension of natural gas pipelines and other infrastructure necessary for providing natural gas.

- **Maryland:** February, 2016 Senate Bill 778
  - Under consideration, concerns Natural Gas Infrastructure Expansion and Reinforcement
  - Proposes to create expansion investment regulatory asset, which gas utility later incorporates into rate base<sup>17</sup>

*... incremental eligible expansion costs added to the [expansion investments]regulatory asset for each year the gas company defers those costs may not increase by more than 0.5% of the gas company's net rate base...*

# Hyperlinks in order of appearance

1. (Xcel - Petition - Mar-2-2015) <https://minnesotapuc.legistar.com/LegislationDetail.aspx?ID=2353311&GUID=A88875F9-1D5A-410E-B9CE-DDF7E3722FFE&Options=&Search=>
2. <https://www.revisor.mn.gov/laws/?id=1&doctype=Chapter&year=2015&type=1>
3. <https://www.edockets.state.mn.us/EFiling/edockets/searchDocuments.do?method=showPoup&documentId={D37BA6B5-5C24-4B4D-BA93-37ACC5B77A87}&documentTitle=20161-117194-01>
4. <http://www.leg.mn/2014/072814WerginPresentation.pdf>
5. <https://www.edockets.state.mn.us/EFiling/edockets/searchDocuments.do?method=showPoup&documentId={3F4B3A85-F530-4071-BA8A-6053AFC9167A}&documentTitle=20163-118842-03>
6. (Briefing Papers) <https://minnesotapuc.legistar.com/LegislationDetail.aspx?ID=1878961&GUID=FE2DB309-8BC0-43ED-A322-B90FCE9055A5&Options=&Search=>
7. <http://psb.vermont.gov/sites/psb/files/docket/7970addison/Simollardes/VGS%20ANGP%20Simollardes%20PFT%20%5b12-20-12%5d.PDF>
8. <http://psb.vermont.gov/sites/psb/files/orders/2011/7712ORDreModifyARPandNoticePHC.pdf>
9. <http://psb.vermont.gov/sites/psb/files/docket/7970addison/DPS/DPS%20Kumar.pdf>
10. <http://psb.vermont.gov/sites/psb/files/7970%20CPG.pdf>
11. <http://psb.vermont.gov/sites/psb/files/docket/7970addison/Simollardes/Exhibit%20Petitioner%20EMS-2.PDF>
12. <http://psb.vermont.gov/sites/psb/files/Docket%207970%20Budget%20Update%2012-19-14.pdf>
13. (Docket # 12-292, Order No. 8479) <https://delafile.delaware.gov/Global/AdvanceSearch.aspx>
14. [http://www.chpkgas.com/wp-content/uploads/2012/11/DE\\_Tariff-Feb-24-2016.pdf](http://www.chpkgas.com/wp-content/uploads/2012/11/DE_Tariff-Feb-24-2016.pdf)
15. [https://myweb.in.gov/IURC/eds/Modules/Ecms/Cases/Docketed\\_Cases/ViewDocument.aspx?DocID=0900b631801c83c4](https://myweb.in.gov/IURC/eds/Modules/Ecms/Cases/Docketed_Cases/ViewDocument.aspx?DocID=0900b631801c83c4)
16. <http://www.in.gov/legislative/bills/2013/SE/SE0560.1.html>
17. <http://mgaleg.maryland.gov/2016RS/bills/sb/sb0778f.pdf>



## A Propane Primer

Propane is a naturally occurring hydrocarbon commonly found in the production stream of oil and natural gas wells. With the chemical formula  $C_3H_8$ , it is one of the least complex hydrocarbons (technically an alkane). It is closely related to methane (natural gas), which, with the chemical formula  $CH_4$ , is the least complex of the hydrocarbons. Chemically, only ethane ( $C_2H_6$ ) separates natural gas and propane. More complex hydrocarbons include butane, pentane, hexane, and octane. The molecular proximity of propane to methane has important real-world consequences, as we will discuss below.

Like natural gas, propane is colorless, odorless, and tasteless. (For both products the smell that people associate with them is artificially added at the retail level.) Both are gaseous at normal temperatures and pressures. As a result, both are readily usable as fuels in a number of applications. While natural gas liquefies at -162 Centigrade, propane liquefies at -42 Centigrade. With pressure, propane becomes a liquid at somewhat higher temperatures—hence “liquefied petroleum gas” (LPG), another name for propane. An important consequence of the difference in the temperatures at which the two compounds liquefy is that propane can be stored and transported in relatively lightweight containers and with much greater ease and economy than natural gas (in either a gaseous or liquefied state). While large volumes of propane are transported by petroleum products pipelines, it is also commercially feasible to transport it by rail, truck, ship, and barge. Technically those modes are possible for natural gas, but they are not generally economically feasible—on a retail basis—because natural gas, whether compressed or liquefied, requires much heavier storage containers and higher pressure or lower temperature. At ordinary temperatures and pressures natural gas is lighter than air, while propane is heavier than air.

Propane is produced (as with other more complex hydrocarbons) through two processes. First, it can be extracted from natural gas streams in natural gas processing plants. Second, it can be produced by refiners as part of the crude oil cracking process. Today the former method of production accounts for more than seventy percent of domestic supply. North American supplies of propane are adequate to meet the entire U.S. demand. Unlike customers of gasoline, diesel fuel, and heating oil, propane customers are not dependent upon supplies from foreign nations. (Although some propane is imported, the volume is dramatically less than the volume of exports.) Propane is in essence a byproduct, and, from a commercial perspective, production varies not so much with the demand for propane as the demand for the products of which it is a byproduct (natural gas and refinery products).



The nation is in the midst of a boom in natural gas production, largely involving the production of natural gas from shale formations. Because natural gas liquids draw higher prices in the market than natural gas on a British thermal unit (Btu) basis, producers are aggressively seeking shale gas that is rich in hydrocarbon liquids. As a result, domestic supplies of propane will be plentiful for the indefinite future.

Propane has applications in residential and commercial markets for heating (furnaces, boilers, and gas logs), water heating, cooking, and clothes drying. It is well known across America, even among those who do not use it as a primary home fuel, as a fuel source for barbecues, outdoor stoves, heaters, and the like. About fourteen million American families use propane for these various applications. Approximately six million households heat with propane. Similarly, propane has wide usage as a cooking fuel in recreational vehicles and boats. Additionally, propane commands a significant market as a transportation fuel, for forklifts, buses, vans, trucks, and cars. Indeed, there are more propane vehicles on the road than either electric or natural gas vehicles. Propane is also used as a fuel in the industrial sector both for space heating and process applications. Propane is used on nearly one million farms for irrigation pumps, grain dryers, standby generators, and other farm equipment.

Propane is a low-carbon fuel. At the point of combustion it produces 62 kg of CO<sub>2</sub>/MMBtu, compared to 53 kg for natural gas, 71 kg for gasoline, and 93 kg for bituminous coal. Factoring in upstream emissions, propane produces 74 kg of CO<sub>2</sub>/MMBtu, compared to 65 kg for natural gas, 91 kg for gasoline, and 221 kg for electricity. (The large number for electricity reflects the significant thermal loss in generation and the thermal loss in transmission and distribution.) A key fact in regard to carbon emissions is that when propane is released (*i.e.*, fugitive) into the atmosphere, it has essentially no greenhouse gas (GHG) effect because it deteriorates rapidly. In contrast, natural gas released into the atmosphere is approximately 25 times more potent than CO<sub>2</sub> as a GHG.

Propane accounts for approximately two percent of the primary energy consumed in the United States, compared to 29 percent for natural gas, 28 percent for coal, and 41 percent for petroleum products. Yet propane accounts for only one percent of the nation's GHG emissions.

Propane is essentially "portable natural gas." Most propane today is produced alongside natural gas. It is used in the same applications as natural gas. Propane has an emissions profile similar to natural gas but with the added benefit of not being a GHG itself. Propane has the important benefit of being easily transportable to areas where there is no natural gas infrastructure.

# Appendix E: Line Extension Economics

September 15, 2016

Senate Bill 32  
Study of Natural Gas Expansion to  
Unserved Areas  
*2016 Report to the Legislative Assembly*

Summary of Estacada Economics

|   |                  |    |
|---|------------------|----|
| Cost to build based on NWN Engineering estimates    | 7,563,847        |    |
| Revenue allowance based on OPUC tariff              | (748,627)        |    |
| Cost for NWN Local Rep in Community (3-year offset) | -                | 1/ |
| State Contribution                                  | -                |    |
| Annual Pipeline Reservation Fees                    | 39,013           |    |
| Short on Construction Costs vs Revenue              | <u>6,854,233</u> |    |

1/ NWN has not estimated representation costs, but costs could be mitigated by the proximity of the Estacada market to the greater Portland metro and NWN service area

## Summary of Lakeview Economics

|   |                     |
|---|---------------------|
| Cost to build based on Avista Engineering estimates     | \$ 7,988,441        |
| Revenue allowance based on OPUC Tarriff                 | \$ (1,132,336)      |
| Cost for Avista Local Rep. in Community (3 year offset) | \$ 750,000          |
| State Contribution                                      | \$ -                |
| Annual Reservation fees on Ruby Pipeline                | \$ 106,331          |
| <b>Short on Contruction/Costs vs Revenue</b>            | <b>\$ 7,712,437</b> |

September 15, 2016

Senate Bill 32  
Study of Natural Gas Expansion to  
Unserved Areas  
*2016 Report to the Legislative Assembly*

# Appendix F: Work Group Member Comments

September 15, 2016

Senate Bill 32  
Study of Natural Gas Expansion to  
Unserved Areas  
*2016 Report to the Legislative Assembly*



**Portland General Electric Company**  
121 SW Salmon Street • Portland, Oregon 97204  
PortlandGeneral.com

June 30, 2016

Public Utility Commission of Oregon  
Attn: Lisa Gorsuch  
201 High Street, S.E.  
P.O. Box 1088  
Salem, OR 97308-1088

**RE: PGE's SB 32 Work Group Recommendations**

PGE appreciates this opportunity to offer comments on the draft Findings and Conclusions of the Senate Bill (SB) 32 Work Group concerning Natural Gas Expansion to Unserved Areas - 2016 Report to the Legislative Assembly. SB 32 directs the PUC to form a work group to conduct a study on methods by which a natural gas utility may expand the utility's service to areas that do not have access to natural gas. The legislation further directs the work group to review the Commission's authority and policies to authorize the expansion of natural gas services. PGE appreciates the work of Commission staff and the work group and offers the following comments in response to the draft Findings and Conclusions:

- Generally, PGE recommends the Workgroup articulate the factual bases of each finding within the discussion section of each finding.
- In the discussion for the second finding, it states:
  - "A natural gas utility's expansion into unserved areas does provide service-related benefits to the utility's existing customers and the Commission can allocate costs associated with these benefits to the utility's existing ratepayers."*
  - The declaration that expansion into unserved areas provides benefits to existing customers seems at odds with the Commission's review and treatment of the River District development (PGE Advice No. 97-15) in the PGE service territory. In that case, the burden rested with the company to demonstrate benefits to existing customers—it was not presumed. As I discussed at the May 5 meeting of the Work Group, the River District involved the company covering the initial costs of trenching, conduit and vaults, essentially the necessary service backbone in the NW Portland area described in our Tariff, Rule I. As customers connect to the system they each pay a per square foot charge to connect. For a standard 200 x 200 foot block, the initial fee was \$33,280. After 2007, the connection fee was adjusted based on PGE's cost of capital.

PGE's SB 32 Work Group Recommendations  
Page 2

At the time that the matter was pending before the Commission, PUC staff expressed the interest that existing ratepayers not be burdened by any of the costs. There was no finding or presumption that the expansion into the unserved area provides service related benefits to the utility's existing customers. The burden was clearly placed on the utility to demonstrate such benefit to existing customers in that instance.

- SB 32's finding and declaration that "access to natural gas is in the public interest" does not alter the Commission's previous treatment that a utility has the burden to demonstrate such benefits. Instead, the legislation requires the commission to study its policies related to expansion and "methods" for expansion. One of those methods is to allow the utility to make a showing that existing customers would benefit.
- PGE recommends that the discussion of this finding be amended to state that the gas utility may make a showing that the expansion provides benefits to existing customers or to change the referenced sentence to the conditional: "If a natural gas utility's expansion into unserved areas provides service-related benefits to the utility's existing customers, the Commission may allocate costs associated with those benefits to the utility's existing ratepayers."
- Finding #3 seems to be inconsistent with finding #2. Finding #3 describes how the Commission would determine whether expansion into unserved territory will result in benefits to existing customers. Finding #2 presumes that those benefits exist.
- The discussion in finding #4 repeats the statement that "expansion will have system benefits that accrue to all the utility's customers." PGE does not oppose the ability of a utility to attempt to make such a showing, but believes that the burden is on the utility to do so.

Thank you for the opportunity to comment. We look forward to reviewing the Draft Report.

Should you have any questions or comments regarding this filing, please contact me at (503) 464-8718. Please direct all formal correspondence and requests to the following email address [pge.opuc.filings@pgn.com](mailto:pge.opuc.filings@pgn.com)

Sincerely,



For  
Karla Wenzel  
Manager, Pricing and Tariffs



June 30, 2016

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**Re: NWGA Comments on SB 32 Report to the Legislature**

Dear Ms. Gorsuch,

Thank you for facilitating the meetings of the SB 32 Work Group chartered by the Legislature. As you develop the final draft of the Oregon Public Utilities Commission (PUC) report to the Legislature, the Northwest Gas Association (NWGA) offers the following comments for consideration.

In passing and signing SB 32, the Legislature and the Governor found and declared, "[T]hat having access to natural gas is in the public interest and... is necessary for the communities of this state to preserve local economies, enlarge tax bases and generate additional economic opportunities."

In order to fulfill the Legislature's expectations of the SB 32 Work Group, the final report must chart a clear path by which natural gas service will be extended to certain currently unserved areas of the state. Toward the objective of providing the Legislature with a report that responds to its intent and holds the promise of meaningful progress, the NWGA makes the following suggestions:

- 1) The SB 32 report should detail the specific actions the PUC intends to actively pursue in order to promote the extension of natural gas service to unserved areas of the state.
- 2) Recommendations for legislative action necessary to ensure that natural gas service is extended to unserved areas of the state ought to be included in the SB 32 report.
- 3) The Legislature would benefit from a summary in the SB 32 report of the successful efforts of other states in implementing policies to extend natural gas service to unserved areas. The report should break down the mechanisms each state is employing to good effect. We suggest the report include summaries of the Georgia STRIDE program, Mississippi's Supplemental Growth Rider and Pennsylvania's GETGAS program.
- 4) Most importantly, per Section 2(1)(c) of SB 32, the report to the Legislature should incorporate recommendations made by the NWGA (representing the natural gas utilities) during the work group process. The NWGA's recommendations include:

- a. Modifying Line Extension Policies.
- b. Allowing Natural Gas Expansion Tariff Riders.
- c. Enabling Portfolio Treatment of Allowable Investments.
- d. Approving Geographical Surcharges.
- e. Providing for Customer Assistance.
  - i. Permitting the use of surplus line extension allowances;
  - ii. Authorizing fuel conversions & consideration of electric avoided costs.

The NWGA believes that a report incorporating the elements listed above will be responsive to the task set forth by the Legislature: to create a practical road map that will deliver natural gas to a number of Oregon communities currently just out of reach.

Thank you for your consideration,

A handwritten signature in blue ink, appearing to read "Dan Kirschner", with a long horizontal flourish extending to the right.

DAN S. KIRSCHNER  
EXECUTIVE DIRECTOR



July 26, 2016

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**Re: NWGA Comments on SB 32 Report to the Legislature, Final Draft – UM 1748**

Dear Ms. Gorsuch,

Thank you for the opportunity to comment on the final draft of the Public Utility Commission of Oregon (OPUC) report to the Legislature regarding extending natural gas service to unserved communities in Oregon. The Northwest Gas Association (NWGA) offers the following comments for consideration.

We appreciate the time and effort that OPUC Staff, and all members of the Work Group put into this process. NWGA believes that the process provided an opportunity for meaningful conversation, and led to a greater mutual understanding of the important issues surrounding the topic of extending the natural gas system in Oregon. Although NWGA is disappointed in some aspects of the report, as described below, the process also points to positive opportunities.

To reiterate our prior comments, it is important that in passing SB 32 in 2015 the Legislature found and declared, "...that having access to natural gas is in the public interest and... is necessary for the communities of this state to preserve local economies, enlarge tax bases and generate additional economic opportunities." These findings and declaration provide a clear legislative emphasis on creating solutions to get natural gas to currently unserved communities.

NWGA's general takeaway from the Work Group process is that the OPUC Staff and customer representatives feel that, although the OPUC has some role to play in this regard, its role is limited and it may lack the authorities necessary to ensure that this system expansion happens. If that is accurate, we believe that the report should more clearly articulate this conclusion, given that it was the legislative genesis for requesting this report.

The NWGA's primary objective throughout this process has been to provide input and recommendations that would help the PUC be responsive to the Legislature's request by charting a clear path by which natural gas service could be extended to unserved communities that desperately need and want it. For instance, we submitted a proposal identifying a number of levers that would help facilitate service extensions including:

- 1) Modifying Line Extension Policies.
- 2) Allowing Natural Gas Expansion Tariff Riders.
- 3) Enabling Portfolio Treatment of Allowable Investments.
- 4) Approving Geographical Surcharges.
- 5) Providing for Customer Assistance.
  - a. Permitting the use of surplus line extension allowances;
  - b. Authorizing the use of electric energy efficiency incentives for fuel conversions.

The NWGA also offered the following suggestions to strengthen the PUC's initial draft report:

- 1) Incorporate recommendations of natural gas utilities per Section 2(1)(c) of SB 32;
- 2) Summarize successful efforts of other states.
- 3) Detail specific actions the PUC intends to actively pursue relative to extending service;
- 4) Include specific recommendations for legislative action to authorize new tools.

Although the final draft of the PUC's report includes these recommendations, it neither analyzes the NWGA's specific proposals, nor makes any recommendation or otherwise offers guidance to the Legislature or the utilities concerning how practically to extend natural gas service to Oregon's unserved communities. We believe the report could be improved by noting the following items:

- 1) There appeared to be a broad consensus that the OPUC should consider allowing utilities to modify their line extension policies to better take into consideration the longevity of customers on the gas system. This could help facilitate line extensions that both allow expansion of the system, and appropriately protect current customers.
- 2) The Work Group discussed that legislative action may be required to accomplish some of the recommendations offered by NWGA and its members, and that a broad effort among state agencies and other contributors may be a necessary part of accomplishing the stated goals of SB 32.

Finally, although we recognize that there was not unanimity among the work group, NWGA would like to note that we believe the OPUC may be able to take further steps to implement our recommended approaches within its existing authorities than is currently outlined in the report. We look forward to continued work on these topics to determine if some of these approaches can be implemented through discussions with the OPUC Staff and other stakeholders in the future.

Having commented on the substance of the PUC's final draft report to the Legislature, the NWGA respectfully offers a few edits for clarity and/or to correct mischaracterizations:

- 1) On page 6, the narrative states: "Today, more than 95 percent of the residents of Oregon's incorporated areas have access to natural gas." NWGA believes it would be appropriate to identify what the source for this statement is, as that was not discussed at the Work Group.
- 2) On page 6: "Two key factors affect-correlate highly with an incorporated area's access to natural gas service. The first is population size."
- 3) On page 9, a number of edits which more accurately portray the principles in question:

Subject to the Commission's review, Oregon's natural gas utilities ~~decide~~ make decisions about whether or not to extend service into unserved areas. The utilities also establish ~~their own~~ line extension policies, which the Commission reviews and approves to help ensure that the rates paid by all ratepayers are fair, just, and reasonable.

The Commission and the utilities ~~does do~~ not require ~~a new customers~~ to pay all the costs associated with a line extension up front. Rather, ~~the Commission seeks to equitably divide these costs between new and existing customers based on the benefit that the line extension will provide to the utility system, including increased revenue generated by new customers~~ line extension policies allow the utility to invest some amount without a direct charge to the customer (usually referred to as a construction allowance), in light of the increased revenue the

new customer will generate through the rates they will pay in the future. The new customer pays for expected costs above the construction allowance through a direct charge (usually referred to as a contribution). Line extension policies are generally designed to ensure that new customers pay the construction and other costs associated with securing natural gas service, either through an up-front contribution or through their rates over time.

~~The amount of line extension costs recouped through the rates of existing customers is called a "construction allowance." The construction allowance is a cap on how much of the costs of a line extension is covered by all ratepayers. Any costs above the construction allowance must be paid by the new customers through a surcharge or through other funds secured by the utility or others to fund the expansion.~~

Subject to review and approval by the Commission, each utility sets its own formula for calculating the construction allowance. Each utility currently calculates this allowance differently. NW Natural's construction allowance for new residential customers is three five times the annual average revenue margin expected from a new customer. Avista's construction allowance for new residential customers is "three (3) times the estimated gross revenue as determined by the Company to be derived from bonafide applicants for such service[.]" Cascade's construction allowance for new residential customers is 4.5 times the estimated gross margin (gross revenue less cost of gas) to be derived from the new customer.

At any time, each utility can file a tariff to change its construction allowance formula. The utility must justify the change and show that the formula results in fair and reasonable rates for all ratepayers.

- 4) On page 11, under Estacada: "In 20152005, Northwest Natural..."
- 5) On page 15, first bullet: "The natural gas utilities argue-stated that the current construction allowance formulas likely fail to capture all system benefits that accrue to existing ratepayers over the life of extension projects account for the longevity of new customers on the system. The utilities recommend that other construction allowance methodologies - such as the Perpetual Net Present Value Methodology - should be used-considered to calculate the share of project costs paid by existing customers construction allowances."
- 6) On page 15, third bullet: "...unused line extension allowances from successful line extensions should-could effectively be banked..."
- 7) On page 15, fourth bullet: "Utility filings for rate recovery should-could include targeted surcharges, as necessary, to cover shortfalls in project funding."
- 8) On page 16, first bullet (continued from previous page): "Use ratepayer funds to assist conversions to natural gas for specific end-uses. The gas utilities recommend that the funds dedicated for energy efficiency incentives or tied to unused line extension allowances should-be used to help cover the cost of conversions to natural gas space heat and water heating from other sources of energy converting from electric space and water heating to natural gas, where these conversions result in cost effective energy efficiency savings:"
- 9) On page 17: "The SB 32 Workgroup adopted-had a robust discussion on a variety topics. At a very high level, there was general agreement on the following findings and conclusions:"

- 10) On page 17, under Finding 2 Discussion: "Construction allowances may not reflect the full benefits to ratepayers of service extensions amount that can be invested in extending service to new customers, while holding existing customers neutral over time. Line extensions may be evaluated over too short a time period and other benefits may not be captured in construction allowance formulas."
- 11) On page 18, Finding 3: "*Customers located within the area that is served after expansion will receive different benefits from expansion (access to new service) than customers outside the newly-served area (access to existing service), and both sets of customers may be charged accordingly.*" (these changes attempt to specify the differences which are mostly a matter of order, timing, etc.)

In conclusion, NWGA appreciates the efforts put into the Work Group by all involved. We view it as unfortunate, however, that the final draft of the PUC's SB 32 Report to the Legislature does not provide substantive recommendations that the Commission or the utilities can undertake to extend natural gas to unserved and underserved areas as directed by the legislature.

We think the report could be improved by noting there was a broad openness to modifying utilities' line extension policies, but do not believe that this will be sufficient to accomplish the legislative goals expressed in SB 32. The report should also make the apparent conclusions about the limited role the OPUC believes it can play in expanding the natural gas system more clear. In our view, doing so will help provide the legislature more clarity about the context that seems to underlie the approach taken in the OPUC's report.

Thank you for your consideration,



DAN S. KIRSCHNER  
Executive Director

Senator Whitsett  
SB 32 Comments  
July 12, 2016

- 1.) Senate Bill 32 states in part that the Legislative Assembly "*finds and declares that having access to natural gas is in the public interest and that the extension of natural gas pipelines and other infrastructure necessary for providing natural gas to areas that do not have access to natural gas is necessary for the communities of this state to preserve local economies, enlarge tax bases and generate additional economic opportunities,*" That statement would appear to direct OPUC to determine and delineate pathways for natural gas service expansion both under existing statutory authority and under OPUC recommended amendments to existing law. The draft report appears to do neither.
- 2.) To my knowledge, Avista has not abandoned their efforts to extend natural gas service to Lakeview. They appear to be remain actively engaged in that effort.
- 3.) What other history of natural gas expansion to underserved or unserved areas has occurred in Oregon. For instance, how and when did 21 of 43 small towns located within 15 miles of a natural gas pipeline acquire natural gas service? How and when did 15 of 32 small towns located within approximately 10 miles of a natural gas pipeline acquire natural gas service?
- 4.) Why has OPUC not addressed questions regarding the existing expansion of natural gas service to Shady Cove? Under what authority and economic reasoning was that expansion authorized by the Commission? Will Commission staff provide an Appendix E type table for the Avista Shady Cove expansion project?

- 5.) Regarding alternative funding sources, why would only “new” revenue from the investor owned natural gas utilities public purpose charge be considered? Does OPUC have statutory prohibitions or Commission objection by rule that would prevent existing public purpose charge moneys collected from investor owned natural gas utility customers to be expended toward expansion of natural gas services to unserved or underserved areas?
  
- 6.) The text of the draft report suggests that investor owned natural gas utilities are authorized to file for a change in tariff pretty much at will. However, it is my understanding that OPUC must approve such an application. What history can OPUC describe of utilities applying for such tariff changes? What has been the Commission’s history of approval or denial of such tariff change requests?

## Response To SB 32, 2016 OPUC Draft Report to Legislative Assembly

Ken Kestner, Lake County Commissioner

26 July 2016

1. I'll reiterate the points made by Senator Doug Whitsett.
2. I'll emphasize the strategy of collaborative/coordinated & bundling multi-funding scenario, as local, multiple state agencies/depts., LDCs, etc.  
On the State's behalf, as others have emphasized, I encourage the 'transparency', which should apply to all other state-funded endeavors.
3. Likewise, I emphasize in the 'construction allowance' that multi-benefits AND long-term benefits be considered.  
I recognize that PERPETUITY means 'forever' and the objection by some providers, so therein I stress emphasis on a reasonable LONG-TERM approach, which might encompass several decades. *(I understand that "Reasonable" is interpreted differently by different people; that's where Legislative Assembly can embody an interpretation.)*
4. LDCs' recommendation of OPUC adopting the legislative policy statement in SB 32 is noteworthy.  
Having such policy embodied in OPUC gives a tone of emphasis to further facilitate LDCs efforts to expand Nat Gas, as facilitate changes in tariff, etc.
5. On surcharges, as reasonable new customers' surcharges, such would contribute to the local funding contribution.  
I'm a little reserved, though not fully opposed, on the Geographical Surcharges concept. A small percentage with possible long-term return to existing customers would be palatable for me.
6. On subject of 'customers' assistance', if considered, I agree such should be applicable & fair to all energy providers.
7. I do like the notion of "banked" amounts of any unused portions of line extension allowances.

## NORTHWEST INDUSTRIAL GAS USERS

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Executive Director

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July 26, 2016

**VIA E-MAIL**

Oregon Public Utility Commission  
Attn: Lisa Gorsuch  
550 Capitol Street, N.E., #215  
P.O. Box 2148  
Salem, Oregon 97308-2148  
[lisa.gorsuch@state.or.us](mailto:lisa.gorsuch@state.or.us)

Re: SB 32 –Northwest Industrial Gas Users' Comments on Draft Report

Dear Ms. Gorsuch:

Per your request to the members of the SB 32 Workgroup, I am providing comments to you on the Draft Report to the Legislative Assembly ("Draft Report").

At the outset, I want to thank Staff for sharing this draft and for capturing the discussion that occurred during the workshops. I do not have any suggested changes to the Draft Report.

The initial sections of the Draft Report do a good job reflecting the history of the extension of natural gas service. In both the description of how line extensions work and in the case study section, the common principle is that line extensions are primarily paid for by the customers who seek the new service and that existing ratepayers contribute only to the extent that they will benefit from an expanded system. Natural gas service and electric service are often viewed as similar services simply using a different fuel, but the reality is that there are fundamental differences in these services and how they have evolved. Natural gas service has traditionally been developed as the result of customers deliberately choosing that fuel source. As such, expansions of a natural gas system have occurred only when it makes economic sense for the customer to pay for that service, including the costs of expanding a system to provide the service.

As the Coos County case study similarly demonstrates, sometimes it is a broader community that makes the economic decision to obtain new service, in which case other public funds (i.e. bond revenue or lottery funds) may be appropriate for use to expand the system.

The specific findings included in the Draft Report also accurately capture the limits of, and opportunities for, system expansion. For example, if construction allowances do not accurately reflect all of the benefits to the existing system, there may be opportunity to revise line extension policies for that purpose. This is not anathema to the existing system, which contemplates that all customers will pay for the benefits they receive. Similarly, there may be opportunities for having surcharges to multiple customers in an expanded area as described in Finding 3. This approach of having a community pay for incremental capacity is precisely how all interstate pipeline expansions have been priced by FERC since the mid-1990s and it is reasonable to model a state system after this federal approach.

I look forward to reviewing the comments of other Workgroup members and assisting the PUC in developing the final report.

Sincerely,

/s

Edward A. Finklea



July 26, 2016

Public Utility Commission of Oregon  
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Re: Joint Consumer-Owned Utility Comments on OPUC Docket 1748, Access to Natural Gas Infrastructure in Underserved Areas

Oregon's Consumer-Owned Utilities (COUs) appreciate the opportunity to comment on the OPUC draft report to the 2016 Legislature on SB 32, Access to Natural Gas Infrastructure in Underserved Areas. Our comments are focused on the mechanism for funding the expansion of natural gas service.

The draft report concludes that large amounts of funding will be necessary to cover the cost of gas service extension to underserved areas. (Draft Report, Page 18.) In a cost versus benefits analysis, Oregon's COUs do not support using Oregon General Fund dollars to provide gas service in COU territories. Oregon's COUs already deliver safe, reliable, and affordable carbon-free electricity to our customers. Oregon COU's obtain the majority of their power from the Bonneville Power Administration (BPA). We follow a regional electric power plan to guarantee adequate and reliable energy at the lowest economic and environmental cost to the Northwest. COU customers are already benefitting from at-cost power that is largely carbon-free. Spending state taxpayer dollars to extend natural gas services to areas served by consumer-owned utilities would do little, if anything, to reduce carbon emissions in our electric system or reduce global CO2 levels. In fact, extending natural gas services to these areas likely would increase CO2 emissions as customers switch from largely carbon-free electricity to natural gas.

We do not support using taxpayer or lottery revenue to fund natural gas service expansion. We have a fundamental objection to using taxpayer dollars to subsidize a private for-profit company when the customers are already being well-served by a non-profit utility providing at-cost, clean, renewable power.

We appreciate being part of this process. Thank you for the opportunity to comment.

Ted Case, ORECA

Beth Vargas-Duncan, OMEU

Danelle Romain, OPUDA

Jason Heuser, EWEB



*Representing the Propane Gas Industry for  
Alaska, Hawaii, Oregon and Washington*

**Comments of the Pacific Propane Gas Association  
On the SB 32 Work Group 2016 Draft Report to the Legislative Assembly  
July 20, 2016**

The Pacific Propane Gas Association (PPGA) once again appreciates the opportunity to be heard with respect to its views on the issues being considered by the Senate Bill 32 natural gas working group. PPGA particularly appreciates the manner in which Staff has conducted the working group sessions and has heard the varying viewpoints of the different stakeholders in the process. PPGA commends Staff for its even-handed presentation of these views in the draft report.

PPGA endorses the reading given to Senate Bill 32 by Staff. The legislature has certainly recognized the benefits of natural gas as a fuel and has required the Oregon Public Utility Commission to convene a work group to solicit input from stakeholders and to explore means by which natural gas service might be made available to more consumers. The end result of this process is a report to the Legislature, not a plan to expand natural gas service to all citizens of Oregon. As Staff appears to have concluded, the reading of the statute championed by the natural gas utilities includes an element that is simply not there.

PPGA appreciates the recognition by Staff of its views on these issues. The types of expansions of natural gas service in Oregon that were addressed by the working group all appear to be uneconomic—delivery revenues for the service will not cover the costs of providing the service. Indeed, were the delivery revenues sufficient to cover the cost of service these expansions would already have occurred, as Northwest Natural, Avista, and Cascade presently have the means to undertake them, with no necessary change in policy or law. And there is no doubt that they have ready access to capital markets to fund such expansions. As the draft report points out, 95 percent of Oregonians in incorporated areas already have access to natural gas service.

As PPGA has expressed previously, natural gas expansions that are not economic run counter to sound public policy if they are subsidized by either taxpayers or existing captive natural gas customers. Utility shareholders, who have decided not to deploy their own capital, should not be subsidized by either taxpayers or captive utility customers. On the other hand if utility shareholders do desire to put their capital at risk in financing an expansion, then PPGA would have no objection. Subsidized natural gas expansion is wrong for many reasons, including:

- It violates the fundamental utility regulatory principle that costs should be allocated to those who cause them to be incurred
- It underprices the service to those who receive it, resulting in an inflated demand for the service
- By underpricing the service and inflating the demand, it causes an inefficient allocation of resources

- Natural gas service is not a public good such as parks and highways, where the costs involved are shared among all citizens
- Even if natural gas service were a public good, citizens would benefit more from funding any number of more worthy ventures
- It is unfair to the captive customers who are compelled to subsidize new customers and utility shareholders and who receive little, if any, benefit from the expansion
- It unfairly, and without justification, tilts the competitive playing field against competing energy sources such as electricity, propane, fuel oil, and wood.

PPGA recognizes that natural gas expansion can benefit existing natural gas customers. This is, however, an inherently fact-specific analysis, of the type for which utility regulators have great experience. Broad generalizations have no place in assigning expansion costs to existing customers. Clearly there will be instances in which existing customers receive benefits in terms of system reliability, but these will be fact specific. In contrast, benefits associated only with increased throughput (for example, spreading general and administrative costs over more units of throughput) will usually be so modest as to be difficult to measure. Additionally, benefits for existing natural gas customers are to be found in the numbers in the utility's books—not hypothetical and unverifiable economic development and environmental “benefits”.

At the heart of this inquiry is the cold fact that expanding a natural gas network is an exceedingly expensive venture, with system costs hovering around \$1 million per mile. As the report points out, two factors are determinative—population and distance to a natural gas distribution or transmission line. The result is that high population density near natural gas lines leads to affordable expansion; low population density remote from a natural gas line leads to unaffordable expansion. Most of Oregon that is unserved falls in the latter category; it is the unavoidable fact. Natural gas service to these communities will simply not be possible without significant wealth transfers. Neither the Oregon Public Utility Commission nor the Legislature have it within their powers to change these facts. As the report concludes, the cost of natural gas expansion is a major impediment.

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