



**Portland General Electric Company**  
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August 28, 2015

*Via Electronic Mail*

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Public Utility Commission of Oregon  
Attention: Filing Center  
PO Box 1088  
Salem OR 97308-1088

**Re: UM 1744 – Portland General Electric Company’s Response Testimony**

Attention Filing Center:

Enclosed for filing in Docket Number UM 1744 is Portland General Electric Company’s Response Testimony of Joe Barra.

If you have any questions or require further information, please call 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,

A handwritten signature in black ink that reads "Karla Wenzel" followed by a small mark that appears to be "E.O."

Karla Wenzel  
Manager, Pricing & Tariffs

Enclosure

**BEFORE THE PUBLIC UTILITY COMMISSION  
OF THE STATE OF OREGON**

**UM 1744**

**In the Matter of  
NORTHWEST NATURAL GAS COMPANY,  
dba NW NATURAL,  
Application for Approval of an Emission Reduction  
Program**

**PORTLAND GENERAL ELECTRIC COMPANY**

Response Testimony of

*Joe Barra*



Portland General Electric

August 28, 2015

## Table of Contents

I. Introduction and Summary .....	1
II. Qualifications .....	7
List of Exhibits.....	8

## I. Introduction and Summary

1 **Q. Please state your name and position with Portland General Electric Company**  
2 **(PGE).**

3 A. My name is Joe Barra. I am a Senior Consultant in Customer Strategy & Business  
4 Development. My qualifications appear in Section II of this testimony.

5 **Q. What is the purpose of your response testimony?**

6 A. My testimony responds to Northwest Natural (NW Natural) UM 1744 Application for  
7 Carbon Emissions Reduction Program filed on June 24, 2015.

8 **Q. Please summarize the points raised in your testimony.**

9 A. My testimony addresses three key points for PGE:

10 1. As a matter of policy, is it appropriate to use ratepayers' funds to promote fuel  
11 switching;

12 2. As a matter of policy it is inappropriate to use funds collected from electric  
13 utility customers for electric energy efficiency to promote natural gas  
14 conservation;

15 3. The methodology used by NW Natural in calculating the avoided greenhouse  
16 gas emissions associated with displaced utility electric generation contains  
17 significant analytical flaws.

18 **Q. Please summarize NW Natural's request in its filing?**

19 A. NW Natural is seeking approval for a carbon emission reduction program to provide  
20 financial incentives to encourage customers to install Combined Heat & Power systems  
21 (the CHP Program). NW Natural proposes to recover the cost of those incentives in  
22 rates. The basis of the incentive is a claimed net reduction in greenhouse gas emissions.

1 **Q. With regard to the first issue, what are PGE’s policy concerns about the use of**  
2 **ratepayers’ funds to promote fuel switching?**

3 A. OAR 860-027-0310(1)(b) defines “fuel switching” as “any substitution of one type of  
4 energy or fuel for another[.]” The CHP Program provides customers an incentive to  
5 displace all or a portion of electric service to that customer with natural gas to achieve  
6 greenhouse gas reductions. NW Natural proposes to recover incentive costs and other  
7 expenses related to the program in rates.<sup>1</sup> This, in essence, uses ratepayer funds to  
8 promote fuel switching from electric to gas. PGE questions NW Natural’s proposed use  
9 of ratepayer funds to promote what is essentially fuel switching to achieve greenhouse  
10 gas reductions. PGE supports PacifiCorp’s testimony by Mary Wiencke on this point.  
11 Not only does NW Natural’s proposal clearly fall under the OAR’s definition of fuel  
12 switching, NW Natural strongly argued against such fuel switching in UM 1565.<sup>2</sup> If the  
13 Commission, as a matter of policy, were to allow this approach, there are a growing  
14 number of electric technologies that would reduce greenhouse gas emissions by  
15 displacing natural gas appliances at the point of use.

16 **Q. With regard to the second issue, how does NW Natural propose to use funds**  
17 **collected from electric utility customers for electric energy efficiency to promote**  
18 **natural gas conservation in its filing?**

19 A. NW Natural’s application anticipates the use of Energy Trust incentives.<sup>3</sup> Although the  
20 incentives are based on natural gas savings, those savings would then be represented as  
21 kWh equivalents, and the incentives paid from funds collected from electric customers

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<sup>1</sup> NWN/200, Speer/4.

<sup>2</sup> UM 1565, NWN/200, Edmonds/3.

<sup>3</sup> NWN/100, Summers/7.

1 for electric energy efficiency.<sup>4</sup> When asked for support of its approach, NW Natural  
2 produced a DOJ advisory letter dated May 18, 2005 that responded to the narrow  
3 question then posed: “Whether fossil-fueled combined heat and power systems may be  
4 funded by public purpose charges.” (See Exhibit 101). The DOJ advice finds that the law  
5 does not preclude funds collected for electric efficiency from being used this way. PGE  
6 does not question the legal underpinnings but rather questions as a matter of policy,  
7 whether this should be the sanctioned policy approach. Said another way, DOJ opined  
8 that funds *can* be used this way but *should* they be? This is especially important at a time  
9 when there are specific restrictions at the ETO on how much may be paid in incentives  
10 for industrial energy efficiency, and similar restrictions do not exist for natural gas  
11 conservation incentives and industrial customers. Industrial customers are a customer  
12 class targeted by NW Natural’s CHP initiative in this filing.

13 In addition, the Energy Trust has proposed an incentive increase from \$.08kWh to  
14 \$.25kWh for Combined Heat & Power projects. PGE questions whether that increase is  
15 necessary if the CHP Program is approved.

16 **Q. With regard to the third issue, what does NW Natural use to calculate the carbon**  
17 **reductions in its filing?**

18 A. NW Natural proposes to estimate carbon reductions from displaced utility generation  
19 using regional eGRID data for non-baseload fossil fuel generation from 2010. NW  
20 Natural points to guidance from the EPA’s Combined Heat & Power Partnership to  
21 support this methodology.<sup>5</sup>

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<sup>4</sup> NWN/100, Summers/8.

<sup>5</sup> NWN/100, Summers/12-13.

1 **Q. What are your objections to the proposed methodology for calculating carbon**  
2 **reductions?**

3 A. We have multiple objections to the methodology. First, the EPA guidance is to use the  
4 proposed methodology *in the absence of consistent and complete utility import and*  
5 *export data.*<sup>6</sup> PGE tracks greenhouse gas emissions associated with the power we  
6 generate and purchase on behalf of our customers and reports it annually.<sup>7</sup> For NW  
7 Natural sited projects in PGE's service territory, the Commission should rely on accurate,  
8 current, utility specific data.

9 Second, NW Natural proposes to "lock-in" the incentive payment for carbon  
10 reductions for 10 years.<sup>8</sup> The incentive calculation then relies on 2010 data for avoided  
11 utility emissions, when reality is more fluid.<sup>9</sup> For example, PGE's carbon emissions  
12 have declined since 2010, and will likely continue to decline in the coming decade as  
13 more renewables are added and our Boardman generating station ceases coal-fired  
14 operation after 2020.<sup>10</sup> PGE understands the desirability of a fixed project incentive, but  
15 objects to it being based on outdated information that will not accurately reflect actual  
16 carbon reductions. It appears that NW Natural is choosing its numbers to create an  
17 optimal cost effectiveness and carbon reduction outcome rather than using more accurate  
18 and realistic numbers.

19 **Q. Has PGE raised these concerns with NW Natural?**

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<sup>6</sup> [http://epa.gov/chp/documents/fuel\\_and\\_co2\\_savings.pdf](http://epa.gov/chp/documents/fuel_and_co2_savings.pdf)

<sup>7</sup> PGE reports this data to Oregon DEQ annually.

<sup>8</sup> NWN/100, Summers/8.

<sup>9</sup> NWN/101, Summers/34.

<sup>10</sup> PGE reported emission factors from electricity generated from facilities owned or operated by PGE to Oregon DEQ of 0.55 MTCO<sub>2</sub>e/MWh in 2010, 0.47 MTCO<sub>2</sub>e/MWh in 2011, 0.42 MTCO<sub>2</sub>e/MWh in 2012, and 0.39 MTCO<sub>2</sub>e/MWh in 2013.

1 A. PGE was not included in the working group NW Natural formed to consider the  
2 methodology for calculating greenhouse gas reductions. In fact, PGE first learned of the  
3 public workshops associated with this filing by happenstance, one business day prior to  
4 the first workshop. PGE did attempt to raise its concerns at those workshops; however,  
5 NW Natural has not been willing to reconsider the proposed methodology.

6 **Q. Does PGE have other issues with this filing?**

7 A. At this point, PGE is narrowly focused on the issues raised. However, the NW Natural  
8 filing was lengthy and complex, and the number of data responses provided additional  
9 detail and added complexity. In some instances, NW Natural's data responses either  
10 corrected information or provided responses we found to require additional follow-  
11 up. Further, PGE is concerned about the limited involvement in discussions held prior to  
12 the March 16, 2015 workshop due to a lack of notification given to PGE, as mentioned.  
13 SB 844 requires the utility to involve stakeholders prior to filing an application with the  
14 Commission. Since the CHP Program clearly affects PGE and its customers, PGE should  
15 have had full opportunities for participation and input in the process including  
16 involvement in the working group. Given the voluminous nature of data produced and  
17 the expedited statutory timeline for this application, PGE has not had the time to fully  
18 reconcile all of NW Natural's responses to the data requests associated with this filing.  
19 Thus, PGE reserves the right to raise other issues regarding NW Natural's application in  
20 a future round of testimony.

21 **Q. What does PGE recommend in regards to the issues raised?**

22 A. PGE recommends the Commission deny the CHP Program as filed by NW Natural.  
23 With regard to the use of ratepayer funds to promote programs that involve elements of



1 fuel switching, PGE requests the OPUC issue policy guidance. If permitted in this  
2 context, PGE notes there are similar opportunities to promote customer fuel switching  
3 from gas to electric. Further, PGE requests that the Commission provide policy direction  
4 to Energy Trust of Oregon such that Energy Trust incentives based on claimed natural  
5 gas savings are not paid from funds collected from electric customers for electric energy  
6 efficiency. Finally, the Commission should reject the carbon emissions value used for  
7 the CHP Program incentive calculation as it is both outdated and inaccurate for potential  
8 projects located in PGE's service territory.

1 **II. Qualifications**

2 **Q. Mr. Barra, please state your educational background and qualifications.**

3 A. I received a Bachelor of Arts degree from William Paterson University in 1973. Since  
4 joining PGE in 1994, I have managed new product and business development initiatives,  
5 including those related to distributed generation. From 1988 to 1993, I managed new  
6 product development and directed energy services for commercial and industrial  
7 customers at PacifiCorp.

**List of Exhibits**

<b><u>PGE Exhibit</u></b>	<b><u>Description</u></b>
101	DOJ Advice Letter.

**DEPARTMENT OF JUSTICE**  
**INTEROFFICE MEMO**

DATE: May 18, 2005

TO: Commissioners Lee Beyer, Ray Baum and John Savage

FROM: Stephanie S. Andrus, Assistant Attorney General  
Regulated Utility & Business Section

SUBJECT: Whether fossil-fueled combined heat and power systems may be funded by public purpose charges.

ORS 757.612 directs electric companies to collect from retail customers charges to fund the following public purposes: new cost-effective local energy conservation, new market transformation efforts, the above-market costs of new renewable energy resources and new low-income weatherization. Through a Grant Agreement, the Commission has authorized the Energy Trust of Oregon, Inc. (ETO) to direct the expenditure of public purpose funds for three of the public purposes: new cost-effective local energy conservation, new market transformation efforts and the above-market costs of new renewable energy resources. In this memorandum, I address whether combined heat and power (CHP) technologies that run on natural gas or other fossil fuels are properly characterized as "new cost-effective local energy conservation," and thus, eligible for funding from public purpose charges under ORS 757.612.

CHP is the sequential or simultaneous generation of multiple forms of useful energy (usually mechanical or thermal) in a single integrated system. CHP systems consist of a number of individual components – prime mover (heat engine), generator, heat recovery, and electrical interconnection, configured into an integrated whole. CHP enhances the advantages of distributed generation by the simultaneous production of useful thermal and power output, thereby increasing overall efficiency.<sup>1</sup> As a general matter, the CHP technologies that would be funded by the ETO would be properly classified as distributed generation, because to the extent such technologies are funded through the ETO, the technologies likely would be at the customer's site. Accordingly, the only CHP technologies considered in this memorandum are distributed generation.<sup>2</sup>

As has already been noted by counsel for ETO in notes provided to Commission Staff,<sup>3</sup> CHP appears to fit within the definition of local energy conservation contained in the Grant Agreement executed by the Commission and ETO that allows ETO to direct public purpose expenditures for local energy conservation. Section 6.a. of the Grant Agreement specifies that for purposes of the agreement, "local energy conservation" has the meaning given that term under OAR 860-038-0005, and that the term "conservation" has the meaning given that term under OAR 860-027-0310(1).

OAR 860-038-0005(31) provides,

"Local energy conservation" means conservation measures, projects, or programs that are installed or implemented within the service territory of an electric company.

OAR 860-027-0310(1)(a) provides,

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<sup>1</sup> This description of CHP was obtained from an Environmental Protection Agency website regarding CHP.

<sup>2</sup> Distributed generation produces electricity at or near the place where it's used, in homes, businesses and public facilities. Therefore, the power does not have to be moved to consumers from remotely located power plants.

<sup>3</sup> See Attachment (Notes from John Volkman).

"Conservation" means any reduction in electric power or natural gas consumption as the result of increases in efficiency of energy use, production, or distribution. Conservation also means cost-effective fuel switching.

As noted by counsel for ETO, the determination of whether CHP is local energy conservation under the Grant Agreement turns on whether combined heat and power projects: (1) reduce electricity or natural gas consumption (2) through increased efficiency in energy use, production or distribution. As further noted by counsel for ETO, the answer to that two-pronged question is "yes," because CHP reduces energy consumption by more efficient use of fuel (the fuel accomplishes more work with the same unit of energy because the CHP process makes use of what otherwise would be waste heat from electricity production). Because power is produced at the customer's site instead of at a remotely located power plant, CHP also improves efficiency of distribution (through reduced line losses and possible reductions in needed distribution investments).

However, concluding that CHP satisfies the definition of local energy conservation found in the Grant Agreement between the Commission and ETO does not necessarily resolve the issue of whether CHP is local energy conservation contemplated by ORS 757.612. This is because it is possible that the definition of local energy conservation the Commission used in the Grant Agreement is broader than authorized under ORS 757.612.<sup>4</sup> Accordingly, it is necessary to consider whether the Commission's interpretation of local energy conservation is consistent with the legislative intent underlying ORS 757.612.

#### **Is the definition of local energy conservation found in the Grant Agreement beyond the scope of ORS 757.612?**

When an agency's interpretation or application of a provision of law is at issue, a reviewing court's standard of review will depend on whether the phrase at issue is an "exact term," an "inexact term," or a "delegative term." Exact terms impart relatively precise meanings, and their applicability in a case involves only agency fact finding. Inexact terms are less precise. Although they embody a complete expression of legislative meaning, that meaning may not always be obvious. As to inexact terms, the task of the agency, and ultimately of the court, is to determine what the legislature intended by using those words.<sup>5</sup> Finally, delegative terms express incomplete legislative meaning that the agency is authorized to complete. As to delegative terms, the agency's task is to complete the general legislative policy decision. The court reviews the agency decision concerning a delegative term to determine whether it is within the range of discretion allowed by the more general policy of the statute.<sup>6</sup>

The term "cost-effective local conservation measures" found in ORS 757.612 is an inexact term and accordingly, we should determine whether the Commission's definition of the term is consistent with the legislature's intent.

To implement the provisions of ORS 757.612, the Commission enacted several administrative rules, now found in Chapter 860, Division 38, of the Oregon Administrative Rules. The definition of "local energy conservation" promulgated by the Commission for purposes of implementing ORS 757.612 does not specifically define "conservation." To fill out the definition of "local energy conservation" in the Grant Agreement, the Commission and ETO used a definition of "conservation" found in Chapter 860, Division 27 that predates enactment of ORS 757.612. That definition of "conservation" is included in an administrative rule in which the Commission "encourages energy utilities to acquire cost-effective conservation resources."

What may be problematic about using the definition of conservation found in Division 27 of the administrative rules to implement ORS 757.612 is the fact that ORS 757.612 applies to public purpose charges collected only from electric utilities, and the Division 27 definition of conservation encompasses conservation of both electricity and natural gas. Accordingly, by using the broad Division 27 definition of

<sup>4</sup> Counsel for ETO also noted that this question is the nub of the legal issue. See Attachment.

<sup>5</sup> *Springfield Education Association v. School District*, 290 Or 217, 223-24 (1980).

<sup>6</sup> *Id.*, 290 Or at 228-29.

conservation for purposes of implementing the public purpose charge statute, the Commission could create scenarios in which electric customers are subject to a charge to encourage natural gas customers to conserve natural gas. In fact, such a scenario is possible if CHP is funded by public purpose funds.

However, no express language in the statute leads to the conclusion that the legislature did not intend such a broad interpretation of conservation. Although it is possible to speculate that the legislature did not intend that customers of electric utilities would fund, through the public purpose charge, conservation of natural gas as well as electricity, that intent is not expressly stated in the statute.

"It is a familiar rule that the courts will usually accord considerable weight to an agency's interpretation of a statute it administers where that interpretation is permissible."<sup>7</sup> Here, electric consumers obtain an indirect benefit from conservation of natural gas. This is because reductions in natural gas usage keep natural gas prices down, which in turn keep wholesale power prices down because power market prices are highly correlated with natural gas prices. Further, with respect to CHP, the Environmental Protection Agency (EPA) states that CHP systems are 50 percent more efficient than the separate production of electricity and thermal energy that CHP systems displace.<sup>8</sup>

In light of the facts that there is a benefit to electric consumers when natural gas consumers conserve and that energy is used more efficiently with CHP, it appears the Commission's broad interpretation of local energy conservation in connection with its implementation of ORS 757.612 is "permissible," and entitled to deference. *Cf. American Co. v. Lohdell*, 55 Or App 451, 463-66 (1982) (Public Utility Commissioner has broad authority to allocate costs among utility customers to encourage conservation).

#### **Other issues raised by classifying CHP as local energy conservation.**

Another issue that is raised if the ETO concludes that CHP is properly classified as a local conservation measure eligible for public purpose funding under ORS 757.612 is whether public utilities will be prohibited from investing in CHP. If CHP is properly classified as local energy conservation and thus, properly funded through public purpose funds under ORS 757.612, electric companies may be precluded from recovering from customers any funds the utilities themselves spend on CHP for the purpose of conservation. The answer to this question turns on whether the 3% public purpose expenditure standard in ORS 757.612 is both a ceiling and floor for public purpose expenditures. If the 3% standard is both a ceiling and floor, and if CHP is properly classified as local conservation measure under ORS 757.612(1), electric utilities would be precluded from recovering from customers any of the utility's investment in CHP that is made for purposes of local conservation.

A related issue that is raised is how classification of CHP as a local energy conservation measure would affect a utility's ability to plan for CHP as a supply-side resource when developing least-cost plans and to acquire CHP as a least-cost resource. Notably, PacifiCorp has stated in its Integrated Resource Plan (IRP) that it intends to include CHP facilities as eligible resources in supply-side RFPs and that it will include CHP in supply-side procurement.<sup>9</sup> Similarly, Idaho Power states in its 2004 IRP that it intends to issue requests for proposals for CHP: in 2005 for 12 megawatts and in 2008 for another 36 megawatts.<sup>10</sup> In its recently acknowledged IRP, PGE cites an enabling agreement to purchase power from a CHP facility operated by one of its industrial customers.<sup>11</sup>

Given that it is possible to distinguish between CHP used as conservation and CHP used as a supply-side resource, it does not appear that allowing certain conservation-related CHP to be funded as a public purpose would preclude electric utilities from treating CHP as a supply-side resource and from including costs of such CHP in rates. To the extent that a CHP facility provides electricity to the utility

<sup>7</sup> *Smith v. Peet*, 29 Or App 625, 629 (1977).

<sup>8</sup> U.S. EPA Combined Heat and Power Partnership, [http://www.epa.gov/chp/what\\_is\\_chp.htm](http://www.epa.gov/chp/what_is_chp.htm).

<sup>9</sup> 2004 PacifiCorp Integrated Resource Plan at p. 10.

<sup>10</sup> 2004 Idaho Power Integrated Resource Plan at p. 78.

<sup>11</sup> Final Action Plan, March 2004, Portland General Electric 2002 Integrated Resource Plan, at p. 41.

rather than offsets a consumer's end-use requirements, it is not being used for local conservation. Accordingly, such CHP is a supply-side resource and is not subject to the limitations and requirements found in ORS 757.612.<sup>12</sup>

Finally, notwithstanding the fact that supply-side and conservation CHP are distinguishable, the same CHP facility may be used for both. For example, a paper mill can use most of its CHP capacity to offset loads (CHP as conservation), but oversize the CHP system relative to load, enabling the company to sell excess electricity to the utility or in the wholesale market (CHP as a supply-side resource). Accordingly, to the extent the ETO does fund CHP through the conservation provisions of the public purpose charge, it must ensure that it is only funding CHP, or portions thereof, that are used for conservation as opposed to a supply-side resource.

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<sup>12</sup> A "buy-all, sell-all" arrangement does not affect the determination of whether a CHP facility is local conservation or a supply-side resource. Under such an arrangement, the utility purchases 100% of the CHP facility's output and the self-generation consumer purchases 100% of its electricity requirements from the utility. Such an arrangement is simply a pricing agreement with the utility.