



Oregon

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June 6, 2012

Via Electronic Filing Only

OREGON PUBLIC UTILITY COMMISSION
ATTENTION: FILING CENTER
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**RE: Docket No. UM 1565 – In the Matter of the PUBLIC UTILITY
COMMISSION OF OREGON Investigation of Fuel Switching and Cross
Fuel Energy Efficiency Issues.**

Enclosed for electronic filing in the above-captioned docket is
Joint Opening Testimony of Public Utility Commission Staff and Energy
Trust of Oregon.

/s/ Kay Barnes

Kay Barnes

Filing on Behalf of Public Utility Commission Staff and
Energy Trust of Oregon

(503) 378-5763

Email: kay.barnes@state.or.us

c: UM 1565 Service List (parties)

CERTIFICATE OF SERVICE

UM 1565

I certify that I have, this day, served the foregoing document upon all parties of record in this proceeding by delivering a copy in person or by mailing a copy properly addressed with first class postage prepaid, or by electronic mail pursuant to OAR 860-001-0180, to the following parties or attorneys of parties.

Dated this 6th day of June, 2012 at Salem, Oregon

Kay Barnes

Kay Barnes

Public Utility Commission

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UM 1565
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**PUBLIC UTILITY COMMISSION
OF OREGON
AND
ENERGY TRUST OF OREGON**

UM 1565

JOINT OPENING TESTIMONY OF

**JULIET JOHNSON
&
STEVE LACEY**

**In the Matter of the
PUBLIC UTILITY COMMISSION OF OREGON
Investigation of Fuel Switching and Cross Fuel
Energy Efficiency Issues**

June 6, 2012

CASE: UM 1565
WITNESSES: Johnson & Lacey

**PUBLIC UTILITY COMMISSION
OF OREGON**

AND

ENERGY TRUST OF OREGON

STAFF – ETO EXHIBIT 100

JOINT OPENING TESTIMONY

June 6, 2012

1 **Q. PLEASE STATE YOUR NAME AND POSITIONS.**

2 A. My name is Juliet Johnson. I am a Senior Utility Analyst at the Public Utility
3 Commission of Oregon (OPUC). My witness qualifications statement is
4 included as Exhibit Staff – ETO/101.

5 My name is Steve Lacey. I am Director of Operations for the Energy Trust of
6 Oregon (“Energy Trust”). My witness qualifications statement is included
7 as Exhibit Staff – ETO/102.

8 **Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?**

9 A. To provide a neutral description of the current policies and procedures of the
10 Energy Trust relevant to this docket.

11 **Q. PLEASE DESCRIBE THE ENERGY TRUST’S POLICIES REGARDING**
12 **RESIDENTIAL FUEL SWITCHING THAT MAY BE RELATED TO SPACE**
13 **CONDITIONING?**

14 A. Energy Trust provides financial incentives to residential customers for energy
15 conservation measures. These incentives must be “cost-effective” as defined
16 in Order 94-590 in UM 551. Except for certain pilot projects and emerging
17 technologies, Energy Trust screens conservation measures and programs
18 using the OPUC’s utility and societal cost-effectiveness tests, pursuant to
19 Energy Trust Policy 4.06.000, Exhibit Staff – ETO/103. OPUC established
20 these tests in Order 94-590 in UM 551.

21
22 Energy Trust uses the same cost-effectiveness methodology for electric and
23 natural gas measures and programs. When performing an analysis of cost-

1 effectiveness. Energy Trust uses the market cost of different fuels, not life-
2 cycle or source-to-use cost. It does not compare the cost-effectiveness or
3 efficiencies of technologies that use different fuels. Under current Energy Trust
4 policy, Exhibit Staff – ETO/104, Energy Trust may not and does not advocate
5 fuel-switching, but may provide fuel-neutral technical information on efficiency
6 options to the public.

7 **Q. WHAT OUTREACH AND MESSAGING DOES THE ENERGY TRUST**
8 **ENGAGE IN THAT MAY INVOLVE FUEL-SWITCHING?**

9 A. Under current Energy Trust policy, Energy Trust may not and does not provide
10 financial incentives to induce customers to convert to another fuel or to replace
11 electric or gas equipment with equipment that uses a different fuel source.
12 Energy Trust policy allows program staff to coordinate messaging with gas and
13 electricity utilities who wish to provide efficiency information or incentives for
14 converting to a different fuel source. Such messages may explain Energy Trust
15 incentives or encourage customers to install high-efficiency equipment using
16 the customer's chosen fuel source.

17 **Q. WHAT INCENTIVES DOES THE ENERGY TRUST PROVIDE RELATED TO**
18 **SPACE CONDITIONING?**

19 A. Energy Trust provides Oregonians with cash incentives to purchase high-
20 efficiency gas and electric equipment used for space heating only. Energy Trust
21 does not limit the incentives that are available to a customer based on the
22 equipment or fuel type that the customer used previously for space heating.

23

1 The value of Energy Trust incentives for high efficiency gas and electric
2 equipment may be up to and usually less than the difference in cost between
3 base and high-efficiency models using the same fuel.

4
5 Current Energy Trust policy does not require Energy Trust to offer comparable
6 incentives for electric and gas equipment. In October, 2011, Energy Trust
7 analyzed the number, energy savings, and incentives provided by Energy Trust
8 for the purchase of electric heat pumps, correlated with the incentive recipient's
9 previous heating fuel. The results are listed in Exhibit Staff – ETO/105.

10 **Q. WHAT PROCEDURES DOES ENERGY TRUST USE TO OFFER**
11 **INCENTIVES RELATED TO SPACE CONDITIONING?**

12 A. Energy Trust determines incentive levels based on market intelligence,
13 evaluation data and other information. It uses this information to gauge what
14 level of incentive is likely to motivate customers to invest in high-efficiency
15 equipment.

16
17 Energy Trust states that it does not assume consumers make choices
18 independent of its incentives. Rather, it assumes incentives are one of several
19 influences, including tax credits and marketing by contractors, retail outlets,
20 utilities, Energy Trust and others.

21
22 If consumers will buy high-efficiency equipment without an incentive, Energy
23 Trust does not offer one. If a market evolves to the point that consumers will

1 predominantly choose high-efficiency equipment, Energy Trust discontinues the
2 incentive.

3
4 In 2009, Energy Trust suggested discontinuing its incentive for high-efficiency
5 gas furnaces, based on analysis suggesting that for the prior 3-5 years, most
6 people replacing gas furnaces bought high-efficiency models regardless of
7 Energy Trust's incentive.

8
9 During the prior 3-5 year period, the Energy Trust incentive ranged in value
10 from \$150 - \$100, plus limited-time promotions; tax credits of up to \$1800 were
11 available. Approximately two-thirds of the customers choosing high-efficiency
12 models had taken no Energy Trust incentive; and participants who took Energy
13 Trust incentives reported high free-rider rates. In addition, a new federal
14 standard was expected to require furnaces to be at least 90% efficient
15 beginning in 2013.

16
17 Energy Trust reviewed the recommendation to discontinue gas furnace
18 incentives at a series of Energy Trust Conservation Advisory Council meetings
19 in 2009. Energy Trust staff suggested these funds be shifted to other uses
20 except where incentives appeared to still have influence, namely in its Savings-
21 Within-Reach (moderate income) program, multifamily rental buildings and NW
22 Natural's Southwest Washington territory.

23

1 The Conservation Advisory Council generally supported the recommendation,
2 with several members suggesting that incentives be phased out in a measured
3 way. Energy Trust subsequently phased out its incentive for high-efficiency gas
4 furnaces for single family residences in Oregon.

5 **Q. PLEASE DESCRIBE THE MARKETING PRACTICES OF THE ENERGY**
6 **TRUST THAT AFFECT FUEL SWITCHING.**

7 A. Energy Trust may provide customers with information, including applicable
8 incentives, about both types of equipment regardless of the customer's current
9 fuel. Energy Trust does not offer incentives for heat-pumps that supplement
10 primary gas furnaces. Energy Trust promotes high-efficiency gas furnaces on
11 its web site and through residential program communications targeted at
12 specific customer groups eligible for gas furnace incentives.

13
14 In general, Energy Trust reaches potential customers in two ways. The first is
15 largely indirect through mass communication channels: its internet website,
16 advertising, events, sponsorships, and the like. The second is direct through
17 collaborating with utilities in direct marketing to customers, including the use of
18 bill inserts, newsletters, email, and web promotion on customer account pages.
19 In collaborating with utilities in direct marketing and outreach, Energy Trust and
20 the utility identify opportunities and produce content in various ways. In some
21 cases Energy Trust identifies topics and general messaging and the utility
22 produces the communication for Energy Trust review and comment. In other
23 cases, Energy Trust produces the content for utility review and comment.

1 These collaborative communications generally include Energy Trust's logo and
2 contact information.

3
4 In addition, electric utilities retain funds from what is known as Senate Bill 838
5 collections to help generate customer awareness of Energy Trust programs and
6 services. Energy Trust supports these activities by identifying program priorities
7 and key messaging, and the utility develops and delivers specific marketing
8 communications. These communications may or may not be co-branded with
9 Energy Trust.

10
11 Based in part on information provided in this docket, Energy Trust is currently
12 developing content for its web site to provide consumers with tips and
13 recommendations for comfort cooling. Energy Trust represents that these tips
14 will emphasize no-cost, low-cost cooling strategies applicable to the Northwest.
15 In future Energy Trust-controlled marketing, cooling will not be emphasized as
16 a benefit of heat pumps. Additionally, Energy Trust represents that when
17 collaborating with electric utilities, Energy Trust will work to prioritize efficient
18 heating messages in heat pump marketing.

19 **Q. DOES THIS CONCLUDE YOUR JOINT TESTIMONY?**

20 A. Yes.

CASE: UM 1565
WITNESSES: Johnson & Lacey

**PUBLIC UTILITY COMMISSION
OF
OREGON**

STAFF - ETO EXHIBIT 101

Witness Qualification Statement

June 18, 2012

WITNESS QUALIFICATION STATEMENT

NAME: JULIET JOHNSON, P.E.

EMPLOYER: PUBLIC UTILITY COMMISSION OF OREGON

TITLE: SENIOR UTILITY ANALYST
ELECTRIC AND NATURAL GAS DIVISION

ADDRESS: 550 CAPITOL STREET NE SUITE 215, SALEM, OREGON
97301-2115.

EDUCATION: Master of Science, Civil and Environmental Engineering,
Arizona State University, Tempe, AZ

Bachelor of Science in Engineering, Civil and Environmental
Engineering, Tempe, AZ

Licensed professional engineer in Oregon and Arizona.

EXPERIENCE: Employed with the Oregon Public Utility Commission
(OPUC) from April 2010 to present, currently serving as
Senior Utility Analyst in Electric Rates and Planning Division.
From April 2010 to March 2011 worked as a financial analyst in
the Economics Research and Financial Analysis Division at the
OPUC.

Current responsibilities include oversight of Energy Trust of
Oregon programs. Developed 2012 Energy Trust performance
measures and reviewed and recommended approval of Energy
Trust budget and action plan for 2012. Participating member of
Energy Trust's Renewable Advisory Council and Conservation
Advisory Council. Assist with coordination between Energy
Trust and electric and gas utilities. Reviewed and presented to
the Commission for approval PacifiCorp's and PGE's
supplemental energy efficiency tariff updates for 2012.

Responsible for evaluating demand side resources in electric
utility company Integrated Resource Plans and rate cases.

CASE: UM 1565

WITNESSES: Johnson & Lacey

**PUBLIC UTILITY COMMISSION
OF
OREGON**

STAFF - ETO EXHIBIT 102

Witness Qualification Statement

June 18, 2012

WITNESS QUALIFICATION STATEMENT

NAME: Steve Lacey

EMPLOYER: ENERGY TRUST OF OREGON

TITLE: Director of Operations

ADDRESS: 421 SW Oak St., Suite 300
Portland, OR 90204

EDUCATION: In year 1976, I received a Bachelor of Science degree in Resource Economics from University of Vermont.

EXPERIENCE: I have been employed by the Energy Trust of Oregon since June 2002 to present. I am currently Director of Operations and provide leadership over Planning and Evaluation, Communications and Customer Services and IT organization groups. I develop and present energy efficiency activity reports to the Executive Director, the Board of Directors, legislators and other external parties and provide input as part of executive management team. In my previous role as Efficiency Program Director I was responsible for organizing and managing the development and implementation of all Energy Trust energy efficiency programs, overseeing annual efficiency program budget of approximately \$80 million. I chaired and facilitated regional advisory council meetings.

Subsequent to my tenure at Energy Trust, I have 18 years of experience in the energy field. I am a Certified Energy Manager and directed field implementation of Green Mountain Power a Vermont utility's energy efficiency programs, providing facility management expertise to commercial and industrial customers including IBM, BF Goodrich Aerospace, and Ben & Jerry's Homemade. I directed the operation of a regional branch office for ICF International, a large energy consulting firm and developed and managed a commercial lighting program in New York State.

I initiated, specified and managed the installation of the first HUD housing facility cogeneration system utilizing innovative financing mechanism in Burlington VT.

CASE: UM 1565
WITNESSES: Johnson & Lacey

**PUBLIC UTILITY COMMISSION
OF
OREGON**

STAFF – ETO EXHIBIT 103

**Exhibits in Support
Of Joint Opening Testimony**

June 6, 2012

Staff - Energy Trust Exhibit 103

**4.06.000-P Cost-Effectiveness Policy and General Methodology
for Energy Trust of Oregon**

History			
Source	Date	Action/Notes	Next Review Date
Board Decision	February 27, 2002	Approved (R83)	March 22, 2002
Board	March 22, 2002	Reviewed, Revised	April 3, 2002
Board	April 3, 2002	Reviewed, Revised (Minutes)	April 2005
Board	September 7, 2005	Revised (R353)	September 2008
Board	February 13, 2008	Revised (R464)	February 2011
Board	December 16, 2011	Revised (R596)	December 2014

Introduction

The Energy Trust of Oregon seeks a future that includes sufficient, stable, and affordable power available to all customers through sustained investment in energy efficiency and renewable resources that reduce the economic and environmental costs of using gas and electricity. To properly evaluate such investments, Energy Trust compares the cost of energy-saving programs and measures to the cost of alternative sources of natural gas and electric energy. The cost of alternative sources is known as "avoided cost". The Oregon Public Utility Commission (PUC), the Washington Utilities and Transportation Commission (WUTC), the Northwest Power and Conservation Council (NPCC) and the Northwest Energy Efficiency Alliance (Alliance) use similar approaches and assumptions to analyze the cost-effectiveness of energy efficiency investments. Consistent with these approaches, this policy encompasses two tests to determine cost-effectiveness and describes the key variables or economic model inputs that define these tests in Energy Trust analysis.

The Oregon Renewable Energy Act of 2007 (SB 838) allows supplemental energy efficiency funding, i.e., more than the three-percent public purpose charge authorized in the 1999 law. The 2007 Act, together with the agreements that fund Energy Trust natural gas efficiency programs in Oregon, support Energy Trust programs that help utilities meet goals that are determined through Integrated Resource Planning. In that process, the OPUC reviews and may acknowledge avoided cost forecasts from each utility. Because Energy Trust funding is significantly affected by this process, the following policy is designed to be consistent with OPUC guidance and, to the extent practical, with utility integrated resource plans. Energy Trust may consider prospective costs and benefits over a period of more than one year, as appropriate, for emerging technologies and market transformation ventures.

Policy

Energy Trust adopts the Utility System and Societal tests, as described below, as its primary determinants of whether efficiency investments meet cost-effectiveness criteria. The economic comparison will be presented as a benefit-to-cost ratio. Programs and measures that pass both tests, or are likely to over time, are eligible for Energy Trust investment. Both tests consider energy impacts on customers who are influenced by the program, and long term market effects of programs and measures (e.g., sales, or efficacy of efficient technologies beyond the direct program participants) where such effects are significant and likely. The difference between the Utility System and Societal tests is that the Societal Test includes all costs (not just Energy Trust costs) and savings of program participants and others who were influenced to act by Energy Trust programs. The Utility System Test includes Energy Trust costs only, and savings from program participants and others who were influenced to act by Energy Trust programs.

For programs and measures that pass these cost-effectiveness tests, in configuring programs Energy Trust may consider other factors identified in its strategic plan and action plans.

Costs

The societal cost definition is in alignment with the OPUC docket no. UM-551's definition of Total Resource Cost (Societal) perspective as including total costs and total benefits in cost effectiveness calculations.^[1] The following costs will be included in the societal perspective:

1. Total cost of efficiency measures and actions,^[2] including costs to Energy Trust and participants
2. Energy Trust administrative costs
3. Energy Trust program management costs

The utility system test includes only the Energy Trust incentives and items 2 and 3, above, i.e., all Energy Trust efficiency costs, not those paid by consumers. Costs excluded: The value of Oregon and/or Federal tax credits will be deducted from the cost of measures because similar tax credits are not included in avoided costs used by Energy Trust. Program administration or management costs of local programs that are paid by federal or state agencies will not be included, as they are often associated with non-energy considerations such as equity, employment, etc., and are not included in the benefit/cost tests under PUC guidance.

^[1] In Washington, the primary cost/benefit criterion is the societal test, applied to entire programs. In addition to following this guidance, Energy Trust will continue to apply the test to specific measures to assure consistency of programs across states (for administrative efficiency) and optimal rate payer value.

^[2] For equipment or structures that would be purchased regardless of efficiency actions, this is the incremental cost of upgrading the efficiency of the purchase beyond common practice.

Benefits

In the societal test, Energy Trust will include the following benefits:

1. The value of the electrical and/or gas energy saved based on the avoided cost forecasts of the utilities whose customers are served by the Energy Trust, as reviewed and approved by the PUC.^[3] Periodically, Energy Trust will work with the utilities and PUC to develop an average, or merged cost forecast. This will be done separately for the electric utilities and gas utilities, so that Energy Trust program decisions are based on a single set of price forecasts for each fuel. Energy Trust may include factors such as hedge value, if not considered in the utility forecasts, based on agreement with the utilities and PUC.
2. Non-energy benefits will be quantified by a reasonable and practical method. Unless and until the OPUC develops an alternative approach, Energy Trust may use proxies for these benefits where research shows that the benefits are large, they cannot be practically quantified, and they clearly influence consumer decisions.
3. For electricity, both line losses and avoided Transmission and Distribution construction.
4. Natural gas capacity benefits and benefits from reduced transmission and delivery losses will be included where significant and quantifiable.
5. In addition, the Energy Trust will apply in its analysis the 10% credit for energy efficiency as required under the Northwest Power Act and OPUC docket no. UM-551. This credit recognizes the benefits of conservation in addressing risk and uncertainty.

Avoided costs based on integrated resource planning will be provided to the Energy Trust by utilities. The utility system test will include items 1, 3, 4 and 5, above.

Currently, utility avoided costs include the forecast value of reduced carbon dioxide emissions. Oregon PUC guidance provides that other environmental pollutant costs may be considered only when specified by the PUC.

Discount rates

Energy Trust will revise avoided costs and discount rate from time to time to be consistent with the cost of capital used in the utilities' Integrated Resource Plans.

In analysis and reporting, Energy Trust will use a discount rate based on OPUC-reviewed integrated resource planning discount rates used by the utilities whose customers are served by the Energy Trust. Periodically, Energy Trust will work with the utilities and OPUC to derive a single discount rate close to those employed by the utilities. This discount rate will be used to compare the costs and benefits of efficiency investments to other investments.

^[3] This includes the value of avoided peak energy use.

In conclusion, Energy Trust programs and measures will be reviewed using both the Utility System and the Societal tests. If the benefit-to-cost ratio is greater than 1.0, a program should be considered cost-effective and may be considered for Energy Trust efficiency funding.

CASE: UM 1565
WITNESSES: Johnson & Lacey

**PUBLIC UTILITY COMMISSION
OF
OREGON**

STAFF – ETO EXHIBIT 104

**Exhibits in Support
Of Joint Opening Testimony**

June 6, 2012

4.03.000-P Fuel-switching Policy

History			
Source	Date	Action/Notes	Next Review Date
Board Decision	February 27, 2002	Approved (R84)	February 2005
Board Decision	May 4, 2005	Amended (R331)	May 2008
Policy Committee	December 2, 2008	Reviewed-no changes	May 2011

Summary:

The Energy Trust Board needs to provide guidance to the staff on a number of issues that will be important in designing Trust programs. This decision memo addresses fuel-switching. In their discussions, the Conservation Advisory Council and the Energy Policy Committee concluded that these guidelines are consistent with the PUC guidelines and advance Trust objectives.

Purpose:

Give Trust staff guidance on technical and policy issues as it develops new Energy Trust programs.

Policy:

- This policy applies only to energy efficiency measures, not to solar-thermal, geothermal or other renewable energy systems.
- Energy Trust should not advocate fuel-switching, but may provide fuel-neutral technical information on efficiency options. That is, Energy Trust may undertake technical studies to identify efficiency opportunities and make recommendations for making an application more efficient for an energy source specified by the energy user. If the energy user expresses interest in converting to another energy source, Energy Trust may perform analysis showing the economics of alternative systems, including the savings and incentives for installing high-efficiency options for the energy source. This type of assistance should help customers consider the merits of their options.

- However, the Energy Trust should not provide financial incentives for converting or replacing electric or gas equipment to another fuel.
- Energy Trust should work with gas and electricity suppliers who wish to provide efficiency information and/or incentives for conversion, where the customer deems that appropriate.
- Energy Trust should revisit the Policy periodically to assess whether the Energy Trust is missing compelling opportunities.

CASE: UM 1565
WITNESSES: Johnson & Lacey

**PUBLIC UTILITY COMMISSION
OF
OREGON**

STAFF – ETO EXHIBIT 105

**Exhibits in Support
Of Joint Opening Testimony**

June 6, 2012

ATTACHMENT 2 2011 ANALYSIS OF HEAT-PUMP INCENTIVES
Staff - Energy Trust Exhibit 105 - Heatpump Incentive Analysis

Count of Heat Pumps Incented by Prior System Heating Fuel

	2003	2004	2005	2006	2007	2008	2009	2010	2011*	Total
Electric	0	80	359	758	865	1,161	1,377	1,467	835	6,902
Gas	0	6	41	94	221	261	329	315	117	1,384
Other ¹	0	7	31	59	95	277	135	105	56	765
N/A ²	11	44	133	83	18	23	15	20	45	392
Total	11	137	564	994	1,199	1,722	1,856	1,907	1,053	9,443

Percentage of Heat Pumps Incented by Prior System Heating Fuel

	2003	2004	2005	2006	2007	2008	2009	2010	2011*	Total
Electric	0%	58%	64%	76%	72%	67%	74%	77%	79%	73%
Gas	0%	4%	7%	9%	18%	15%	18%	17%	11%	15%
Other ¹	0%	5%	5%	6%	8%	16%	7%	6%	5%	8%
N/A ²	100%	32%	24%	8%	2%	1%	1%	1%	4%	4%

Sum of Heat Pumps Incentives (\$) by Prior System Heating Fuel

	2003	2004	2005	2006	2007	2008	2009	2010	2011*	Total
Electric	\$ -	16,000	73,400	194,800	242,500	301,200	411,950	459,700	267,400	1,966,950
Gas	\$ -	1,200	8,400	19,000	40,400	47,150	72,850	77,350	28,400	294,750
Other ¹	\$ -	1,400	6,200	11,800	17,600	51,400	28,400	25,450	14,750	157,000
N/A ²	\$ 2,200	8,800	26,900	16,400	2,800	4,900	3,100	5,950	11,700	82,750
Total	\$ 2,200	27,400	114,900	242,000	303,300	404,650	516,300	568,450	322,250	2,501,450

Notes:

1. Other includes oil and wood fuels.
2. N/A includes fields left blank or otherwise indiscernible values.