

Energy Trust Board of Directors Annual Meeting

April 1, 2015

135th Board Meeting

Wednesday, April 1, 2015
421 SW Oak Street, Suite 300
Portland, Oregon

Agenda		Tab	Purpose
12:15 pm	Call to Order (Debbie Kitchin) • Approve agenda		
	General Public Comment <i>The president may defer specific public comment to the appropriate agenda topic.</i>		
	Consent Agenda <i>The consent agenda may be approved by a single motion, second and vote of the board. Any item on the consent agenda will be moved to the regular agenda upon the request from any member of the board.</i> • February 25 Board meeting minutes • Amend Oregon preference policy—R740 • Amend Other renewables policy—R741	1	Action
12:25 pm	President's Report (Debbie Kitchin)		
12:35 pm	Audit Committee (Ken Canon) • Review results of financial audit by Moss Adams • Accept audited financial report for period ending 12/31/14—R742.....	2	Action
1:15 pm	Feature Presentation • Primer on Renewable Energy Certificates (Patrick Nye, <i>Bonneville Environmental Foundation</i> , Betsy Kauffman, <i>Renewable Energy Sector Lead</i> , & Jed Jorgensen, <i>Program Manager</i>)	3	Info
2:10 pm	Break		
2:20 pm	Committee Reports • Policy Committee (Roger Hamilton) • Evaluation Committee (Alan Meyer)..... • Compensation Committee (Dan Enloe) • Finance Committee (Dan Enloe) • Strategic Planning Committee (Mark Kendall)	4 5 6 7	Info Info Info Info
3:10 pm	Staff Report • Highlights (Margie Harris)		
3:50 pm	Adjourn		

**The next meeting of the Energy Trust Board of Directors will be held
Wednesday, May 20, 2015 at 12:15 pm
at Energy Trust of Oregon, 421 SW Oak Street, Suite 300, Portland**

Tab 1 Consent Agenda

- February 25 Board meeting minutes
- Amend Oregon preference policy—R740
- Amend Other renewables policy—R741

Tab 2 Audit Committee

- Presentation on results of financial audit by Moss Adams
- Report of Independent Auditors and Financial Statements
- Accept audited financial report for period ending 12/31/14—R742
- 2014 Management Review status update

Tab 3 Feature Presentation

- Renewable Energy Certificates Report Executive Summary

Tab 4 Policy Committee

- March 10 meeting notes

Tab 5 Evaluation Committee

- February 26 meeting notes
- Solar Market Research report and staff response
- Building Performance Tracking and Controls systems pilot energy savings review, process evaluation, and staff response

Tab 6 Finance Committee

- Notes on January 2015 financial statements
- January financials and contract summary report
- Financial glossary

Tab 7 Strategic Planning Committee

- Executive Director Transition Memorandum
- March 9 meeting notes

Tab 8 Advisory Council Notes

- February 4 RAC meeting notes
- February 4 CAC meeting notes
- March 11 RAC meeting notes—*notes will be sent via e-mail prior to board meeting*
- March 11 CAC meeting notes—*notes will be sent via e-mail prior to board meeting*

Tab 9 Staff Report

- Legislative update

Tab 10 Glossary of Energy Industry Terminology and Acronyms

Tab 1

Board Meeting Minutes—134th Meeting

February 25, 2015

Board members present: Susan Brodahl, Ken Canon, Heather Beusse Eberhardt, Dan Enloe, Roger Hamilton, Mark Kendall, Debbie Kitchin, Alan Meyer, John Reynolds, Anne Root, Eddie Sherman, Warren Cook (ODOE special advisor)

Board members absent: Melissa Cribbins, John Savage (OPUC *ex officio*)

Staff attending: Margie Harris, Ana Morel, Debbie Menashe, Sarah Castor, Amber Cole, Steve Lacey, Fred Gordon, Peter West, Courtney Wilton, Oliver Kesting, Betsy Kauffman, Dave Moldal, Thad Roth, Erika Kociolek, Phil Degens, Hannah Hacker, Juliett Eck, Jay Ward, Sue Fletcher, Kim Crossman, Ed Wales

Others attending: Jim Abrahamson (Cascade Natural Gas), Don Jones, Jr. (PacifiCorp), Lauren Shapton (Portland General Electric), Jason Salmi Klotz (OPUC), Jennifer Anziano (Northwest Power & Conservation Council), Erin Flynn (Portland State University), Sarah Heinicke (Verditas), Rob Bennett (EcoDistricts), John Charles (Cascade Policy Institute), Clay Norris (Northwest Energy Efficiency Alliance), Samantha Taylor (CSG), Eli Caudil (CSG), Kimberly Simpson (CSG), Becky Walker (CLEAResult), Monica Blakesjee-Kish (CLEAResult), Todd Poehlman (CSG)

Business Meeting

President Debbie Kitchin called the meeting to order at 12:19 p.m.

General Public Comments

There were no public comments.

Consent Agenda

The consent agenda may be approved by a single motion, second and vote of the board. Any item on the consent agenda will be moved to the regular agenda upon the request from any member of the board.

MOTION: Approve consent agenda

Consent agenda includes:

- 1) December 12 Board meeting minutes

Moved by: Dan Enloe

Seconded by: Anne Root

Vote: In favor: 11

Abstained: 0

Opposed: 0

Nominating Committee

Election of New Terms of Office, John Reynolds

John Reynolds introduced the resolution. Resolution 734 was amended to note Dave Slavensky is retiring from the board.

**RESOLUTION 734
ELECTING MARK KENDALL AND ANNE ROOT
TO NEW TERMS ON THE ENERGY TRUST BOARD OF DIRECTORS**

WHEREAS:

1. **The terms of incumbent board members Mark Kendall, Anne Root, and David Slavensky expire in 2015.**

2. The board nominating committee has recommended that two of these members' terms be renewed.
3. Board member David Slavensky has ~~decided to resign~~ **chosen not to renew his term**. The Nominating Committee will initiate a search for his replacement.

It is therefore **RESOLVED** that the Energy Trust of Oregon, Inc., Board of Directors elects Mark Kendall and Anne Root, incumbent board members, to new terms of office that end in 2018.

Moved by: Roger Hamilton, as amended

Seconded by: Alan Meyer

Vote: In favor: 9

Abstained: 2; Mark Kendall, Anne Root

Opposed: 0

The board noted they are accepting recommendations for a new board member, ideally from Central Oregon, to fill Dave Slavensky's seat.

Warren Cook joined the meeting at 12:22 p.m.

Election of Officers, John Reynolds

John Reynolds introduced Resolution 735, which elects board officers for 2015.

RESOLUTION 735 ELECTING OFFICERS OF ENERGY TRUST OF OREGON, INC.

WHEREAS:

1. Officers of the Energy Trust of Oregon, Inc. (other than the Executive Director and Chief Financial Officer) are elected each year by the Board of Directors at the board's annual meeting.
2. The Board of Directors nominating committee has nominated the following directors to renew their terms as officers:
 - Debbie Kitchin, President
 - Ken Canon, Vice President
 - Alan Meyer, Secretary
 - Dan Enloe, Treasurer

It is therefore **RESOLVED** that the Board of Directors hereby elects the following as officers of Energy Trust of Oregon, Inc., for 2015:

- Debbie Kitchin, President
- Ken Canon, Vice President
- Alan Meyer, Secretary
- Dan Enloe, Treasurer

Moved by: Anne Root

Seconded by: Susan Brodahl

Vote: In favor: 11

Abstained: 0

Opposed: 0

President's Report

Debbie Kitchin reviewed governance processes and policies in place at Energy Trust. She commended the original board members, including John Reynolds, for putting in place a number of policies to ensure

transparency and openness in Energy Trust operations. The original board implemented these policies from the beginning, recognizing the importance of Energy Trust's work. Since then, the policies have been reviewed on a three-year basis by the Policy Committee and revised as needed, with the full board approving any changes to the policies.

Energy Trust has a board nominating committee that nominates board members for full board approval. The committee looks for balanced representation on the board, including diverse geographical, expertise, ethnicity and age, to strengthen the board and reflect the customers Energy Trust serves.

The board also looks to the Conservation Advisory Council and Renewable Energy Advisory Council to advise staff and the board. The councils include experts in renewable energy and conservation. Board members are encouraged to attend. It was noted that board members John Reynolds and Alan Meyer attend the Renewable Energy Advisory Council, and John Reynolds and Mark Kendall attend the Conservation Advisory Council. Given other demands on time, Susan Brodahl committed to attend Conservation Advisory Council in place of Mark Kendall as her schedule permits. It was noted the Council discussions are valuable as they intersect with the strategies the board is implementing. The minutes from the meetings are sufficient, and attending the meetings in-person provides a complementary perspective on the discussions. The board commented that attending the Council meetings validates their advisory role to the board. The board noted the helpfulness of attending the meetings during the development of the 2015-2019 Strategic Plan last year.

Another governance policy is a requirement that each board member signs a conflict of interest statement annually. In these statements and on an ongoing basis, board members are required to declare any actual or potential conflicts of interests relating to them, family members, or business associates that could be, or be perceived to be, in conflict with Energy Trust's mission and their responsibility as a board member.

As part of her presentation, Debbie displayed the Portland Business Alliance's advocacy interest policy. This policy requires board members to specifically identify situations when their service on another board whose mission and goals may be in conflict with the Portland Business Alliance. She suggested the Energy Trust board consider such a policy.

The board noted Energy Trust is in a good place in terms of its policies, processes and operation procedures. With these approaches in place, Energy Trust continues to be a good steward of ratepayer dollars.

Committee Assignments, Debbie Kitchin

Debbie Kitchin introduced Resolution 736, to establish 2015 board committee assignments.

**RESOLUTION 736
BOARD COMMITTEE APPOINTMENTS**

WHEREAS:

- 1. The Energy Trust of Oregon, Inc. Board of Directors is authorized to appoint by resolution committees to carry out the Board's business.**
- 2. The Board President has nominated new directors to serve on the following committees.**

It is therefore RESOLVED:

- 1. This resolution supersedes Resolution 694, adopted by the board at its February 26, 2014, meeting.**

2. That the Board of Directors hereby appoints the following directors to the following committees for terms that will continue until a subsequent resolution changing committee appointments is adopted:

Audit Committee
Ken Canon, Chair
Melissa Cribbins
Mark Kendall
Heather Beusse Eberhardt
Karen Ward, outside expert
Debbie Kitchin (<i>ex officio</i>)
Board Nominating Committee
John Reynolds, Chair
Roger Hamilton
Alan Meyer
Anne Root
Eddie Sherman
John Savage, OPUC (<i>ex officio</i>)
Debbie Kitchin (<i>ex officio</i>)
Compensation Committee (formerly 401(k) Committee)
Dan Enloe, Chair
Melissa Cribbins
Mark Kendall
Debbie Kitchin (<i>ex officio</i>)
Executive Director Review Committee
Roger Hamilton, Chair
Melissa Cribbins
Ken Canon
John Reynolds
Debbie Kitchin (<i>ex officio</i>)
Finance Committee
Dan Enloe, Chair
Susan Brodahl
Anne Root
Debbie Kitchin (<i>ex officio</i>)
Policy Committee
Roger Hamilton, Chair
Ken Canon
Alan Meyer
John Reynolds
Eddie Sherman
Debbie Kitchin (<i>ex officio</i>)
Program Evaluation Committee
Alan Meyer, Chair
Susan Brodahl
Heather Beusse Eberhardt
Anne Root
Tom Eckman, NWPCC, expert outside reviewer
Ken Keating, expert outside reviewer
Debbie Kitchin (<i>ex officio</i>)

Strategic Planning Committee
Mark Kendall, Chair
Susan Brodahl
Ken Canon
John Reynolds
Eddie Sherman
Warren Cook, ODOE
John Savage, OPUC
Debbie Kitchin (<i>ex officio</i>)

- 3. The executive director, general counsel, or chief financial officer are authorized to sign routine 401(k) administrative documents on behalf of the board, or other documents if authorized by the Compensation Committee.**

Moved by: John Reynolds Seconded by: Alan Meyer
 Vote: In favor: 11 Abstained: 0
 Opposed: 0

Planning

Five-year Regional Technical Forum funding agreement, Jennifer Anziano, Northwest Power & Conservation Council, Regional Technical Forum Manager

Fred Gordon introduced Jennifer Anziano. Fred noted Resolution 738 is to approve a five-year contract with the Regional Technical Forum (RTF). Given the contract's size and five-year duration, the OPUC will also be notified.

Jennifer described the history of the RTF and the value it brings Energy Trust, Bonneville Power Administration, utilities, regulators and evaluators. The RTF is an advisory committee to the Northwest Power and Conservation Council (Power Council). It develops consistent standards and protocols for verification of energy savings for the four-state region. The core role is developing energy saving estimates the region can rely on for more than 70 efficiency measures, plus methodologies for determining energy savings derived from both standard and more complex custom measures and from program level savings.

The RTF also assists the Power Council in assessing new energy-efficiency opportunities and tracks regional progress toward goals. Based on technical expertise, the RTF has 20-30 voting members appointed by the Power Council. It was noted stakeholders are engaged via subcommittees. The RTF also has a policy advisory committee to review funding and priorities, of which Fred Gordon is a member.

Jennifer showed the budget breakout for 2014 and 2015. The major change is a budget increase for research and evaluation around regional coordination and new measure development. She noted Energy Trust is the second highest funder after Bonneville Power Administration. Jennifer reviewed the representation of the RTF, which includes members from nonprofits, consumer-owned utilities, investor-owned utilities, BPA, consultants, Power Council staff and independents.

Fred noted the RTF is focused on electric savings and Energy Trust rounds out its measure verification and evaluation needs with Energy Trust staff and Program Management Contractor (PMC) staff. He noted the resources the RTF provides would take three Energy Trust full-time employees to deliver. Through the work of the RTF, Energy Trust can rely on credible information from a regional body that looks more in-depth than what Energy Trust possibly could.

Fred and Jennifer clarified the data RTF provides is at a regional level that sometimes references national baselines. California and New England have similar entities.

To clarify for the board, Fred stated Energy Trust funds the RTF on behalf of PGE and Pacific Power in Oregon. He added that there is adequate oversight of the RTF, and Energy Trust's opinions are heard and needs are addressed. He believes the RTF provides a good value for Energy Trust.

The board noted that up until 2010 and 2011 the Power Council tried to do this work with its constrained, existing staff and had a hard time getting funding. The RTF was one of six issues the Northwest Energy Efficiency Taskforce examined. Out of that process came a more formalized funding structure and dedicated staff to keep the RTF organized and to increase its bandwidth.

The board commented the RTF provides opportunities to collaborate region-wide and leverage dollars.

Margie highlighted having a centralized repository for this kind of work makes it far more efficient and affords economies of scale that would not be realized if each organization pursued this work individually.

RESOLUTION 738

APPROVING A FIVE-YEAR CONTRACT WITH THE NORTHWEST POWER AND CONSERVATION COUNCIL TO FUND THE REGIONAL TECHNICAL FORUM

WHEREAS:

3. **The Northwest Power and Conservation Council's Regional Technical Forum (RTF) develops "consistent standards and protocols for verification and evaluation of energy savings, in consultation with all interested parties." The RTF is the Northwest's primary forum for developing benchmarks and measurement protocols to allow utilities and others to compare methods and results and learn from each other's experience in energy conservation.**
4. **Energy Trust has participated in the RTF consistently over the years, and derived significant benefits from RTF work on cost-effectiveness issues, energy savings analysis, and energy efficiency research and evaluation. During 2012-2014, Energy Trust paid \$308,000 per year for this type of work.**
5. **In the past year, Energy Trust and other RTF funders discussed the need for longer-term RTF funding. Based on these discussions, the RTF has developed a five-year (2015-2019) business plan and budget, driven largely by requests from utilities, Energy Trust, NEEA and state energy agencies.**
6. **Proposed 2015-2019 funding contributions for RTF are based on the Northwest Energy Efficiency funding allocation methodology. Energy Trust's share would be \$339,700 in 2015, \$345,000 in 2016, \$371,300 in 2017, \$380,400 in 2018 and \$389,000 in 2019, a total of \$1,825,400**
7. **As proposed, Energy Trust's funding agreement would allow Energy Trust to reduce or terminate funding if the Grant Agreement with the OPUC is terminated or the RTF is "significantly failing to meet its business plan objectives."**

It is therefore RESOLVED that the Board of Directors hereby authorizes the executive director to sign a five-year funding agreement with the Northwest Power and Conservation Council for up to \$1,825,400 for the RTF and its 2015-2019 Business Plan, with termination provisions as described above.

Moved by: John Reynolds

Seconded by: Mark Kendall

Vote: In favor: 11

Abstained: 0

Opposed: 0

Committee Reports

Evaluation Committee, Alan Meyer

Alan noted there are a number of evaluations in the board packet. The board discussed the customer engagement pilot, which evaluated strategies to encourage participation.

It was noted in-home energy reviews were transitioned to online and phone reviews at the start of the year. This was a program cost control strategy and reflected the trend that customers who received an in-home energy review were not any more likely to complete projects. The majority of projects are brought in by trade ally contractors.

The board discussed this program offering shifting to mainly online reviews and whether it may lead to underserving the senior population. They also questioned whether homeowners will be able to properly assess their home without a trained professional on-site. The board questioned whether the shift will keep enough options available to serve all eligible customers. Staff noted customers are satisfied so far with the online and phone energy review options. Staff reviewed the trend of customers mainly taking action by working with trade ally contractors, not by only receiving an in-home energy review report.

The board reviewed the summary of the Strategic Energy Management (SEM) Workshops, and the need to develop an interview guide and data collection instruments to improve savings evaluations for this behavior-based approach. The board discussed how the evaluation integrates with the RTF. Staff clarified Energy Trust is leading on the SEM evaluation.

Regarding the Building Performance, Tracking and Controls Pilot evaluation, the board highlighted how non-energy benefits motivated participating customers.

The board also reviewed the findings of the New Buildings impact and process evaluations.

Finance Committee, Dan Enloe

The board reviewed the December 2014 financial statement. Highlights included revenues at year-end closely aligning with the September forecast, an indication the forecasting process is improving. It was noted incentives paid are greater than 2013 and leveled costs were higher than expected due to completing more projects with fewer savings for each one. The board reviewed the reserves at year-end, including those funds committed for projects in 2015 and beyond.

The board was provided an update on specific renewable energy projects delayed from 2014 and included in the 2015 forecast.

It was noted the high volume of savings booked in the fourth quarter may decrease slightly if savings are shifted to earlier in the year. Program Management Contracts for 2015 now include quarterly savings goals to help distribute acquisition throughout the year.

Policy Committee, Roger Hamilton

The board discussed and heard from staff about the upcoming Renewable Energy Certificates (RECs) report. At the April 1, 2015 board meeting, the Bonneville Environmental Foundation will present report findings from the report with the goal to provide the board with a grounding in REC policy and market conditions.

Staff clarified RECs are reflected in a footnote on financial statements and are not included in the assets.

The board reviewed the committee meeting notes in the board packet, including the active OPUC docket on large customer funding caps, staff progress in implementing three to four process improvements as identified in the 2014 Management Review, and the involvement of Energy Trust in the OPUC’s request to develop an incentive cap proposal in response to Docket 1622 for non-cost-effective natural gas measures.

The board reviewed the background and current opportunities for combined heat and power projects. The combined heat and power policy and proposed amendments received prior review by the committee. The committee and staff support the four main recommended policy changes as described in the language of the resolution.

**RESOLUTION 737
AMENDING THE FOSSIL-FUEL COMBINED HEAT AND POWER POLICY**

WHEREAS:

- 8. **The Combined Heat and Power (CHP) Policy is due for regular review by the Energy Trust board of directors;**
- 9. **Project developers have continued interest in working with Energy Trust for incentive support for combined heat and power projects, and staff has reviewed the current policy language to whether it supports an effective CHP program and complies with legal requirements;**
- 10. **As a result of this review, staff proposes four changes to: (1) clarify the reasons for the policy in the introduction; (2) clarify that incentives will be offered only if a CHP project reduces electricity or natural gas consumption through increased efficiency (consistent with Oregon’s regulatory definition of energy conservation); (3) recognize that risks posed by CHP projects, like other efficiency measures, can be managed with contract provisions, not just incentive adjustments, and (4) not require staff to compare fossil-fuel CHP incentives with renewable energy CHP incentives, because the comparison is impracticable; and,**
- 11. **The Policy Committee supports the suggested amendment and recommends approval.**

It is therefore RESOLVED that the Board of Directors hereby approves amendment of the Combined Heat and Power Policy as shown in Attachment 1.

Moved by: Alan Meyer	Seconded by: Roger Hamilton
Vote: In favor: 11	Abstained: 0
Opposed: 0	

ATTACHMENT 1: Fossil-Fuel Combined Heat and Power Policy

History			
Source	Date	Action/Notes	Next Review Date
Board Decision	December 19, 2002	Approved (R149)	March 3, 2004
Board	March 3, 2004	Reviewed-No Change	February 2005
Board	February 16, 2005	Reviewed & deferred for 6 months	August 2005
Board	September 7, 2005	Revised (R348)	Report to board in early 2006; review implementation in 9/08

Board	December 19, 2008	Revised (R499)	9/2011
Board	December 16, 2011	Revised (R612)	2/2015

Introduction

Fossil-fueled combined heat and power (CHP) projects may have certain economic and environmental advantages, including potential energy efficiencies, which make them of interest to the Energy Trust. At the same time, CHP raises two concerns that the Energy Trust board addresses in this policy: (1) When is CHP energy efficiency, hence eligible for Energy Trust support, as opposed to a generation resource? (2) How should Energy Trust identify and manage the risks that may attend CHP projects?

~~Energy Trust currently supports only renewable energy CHP projects, small market transformation CHP projects, and the use of waste heat for limited purposes.~~

~~The Oregon Public Utility Commission has encouraged the Energy Trust to support CHP projects that reduce customers' on-site energy requirements.~~

Policy

- a. In addition to incentives for other measures, Energy Trust should offer incentives for fossil-fuel CHP generation that increases total system efficiency~~reduces fuel consumption through increased efficiency~~, is more cost-effective than the alternative resource, and would be used on-site. Energy Trust will not offer incentives for fossil CHP power for sale (other than buy-all, sell-all utility buy-sell arrangements with the serving utility).
- b. Energy Trust will use budgets and structures of existing programs, and adjust incentives and/or develop contract terms to reflect any higher level of risk compared to other projects.
- c. Energy Trust will evaluate projects using a cost-effectiveness methodology that is comparable to that used for the same type of facility or dwelling, but which accounts for unique CHP features.
- d. Energy Trust will limit eligibility to facilities that use Pacific Power or PGE electricity.
- ~~e. Energy Trust will provide no higher incentives for CHP projects funded through efficiency programs than comparable CHP projects funded through the renewable program.~~

Strategic Planning Committee, Mark Kendall

The board discussed the implementation strategy for the recently adopted 2015-2019 Strategic Plan. One key issue is implementing, testing and evaluating key metrics to assess progress to the plan goals and strategies. The committee will monitor these topics and report to the board. The committee is also responsible for planning the annual board strategic planning workshop in June.

The board heard a summary of the committee's initial discussions about strategic plan goal metrics related to efficiently achieving savings and generation goals, supporting growth and development of infrastructure in the renewable energy marketplace, evaluating collaboration opportunities and criteria for when to engage with partners, expanding participation, supporting emerging technologies, and continuous operational improvements. Staff is investing in developing such metrics and will report back to the committee.

The committee will also start to include brief reports, summaries and meeting notes in board packets to keep the board apprised of metric development and other activities, including where the committee needs input on planning the retreat.

Margie noted some items mentioned will also be captured in quarterly reports to the OPUC and presentations to the board.

The board took a break 1:55–2:05 p.m.

The board recognized retiring board member Dave Slavensky from 2:05 – 2:20 p.m.

Staff Report

Highlights, Margie Harris

Margie reviewed preliminary 2014 annual results and highlights. She began with a review of a recent commercial project in Medford that will save the customer about \$30,000 a year.

Margie noted Energy Trust expects to exceed the electric efficiency goal and achieve 98 percent of the natural gas goal with corresponding savings of 58 aMW and 5.66 million annual therms. This represents growth in both electric and natural gas efficiency results over 2013 savings. Projected electric savings include 5.3 aMW of market transformation savings both through the NW Energy Efficiency Alliance (NEEA) and Energy Trust activities.

Due to delayed custom projects in both PGE and Pacific Power territories and one cancelled project, Energy Trust installed 2.39 aMW of new renewable energy generation, 53 percent of the annual goal. Margie said these schedule changes were communicated to the board in August and were expected. It was noted the standard solar program achieved 140 percent of goal. Margie expects the renewable energy sector to be in good shape in 2015 with projects shifting from 2014 to be completed this year. There is also a strong forecast for 2016 projects.

Margie reviewed preliminary efficiency savings by utility. Energy Trust expects to surpass or approach energy goals and Integrated Resource Plan targets for three out of four utilities. Margie further detailed the change in progress to goal for Cascade Natural Gas.

The board noted Energy Trust is still well within the 15 percent deviation band the OPUC requires Energy Trust to achieve for each utility energy goal.

Margie reviewed preliminary, unaudited progress to the OPUC minimum performance measures, providing highlights of energy efficiency programs, renewable energy programs and Energy Trust support group accomplishments.

Margie also reviewed preliminary financial results noting year-end revenues matched closely to the budget. Energy Trust delivered more than \$85 million in incentives last year, a 26 percent increase over 2013. Margie described the year-end reserves balance of which the majority of funds are committed for projects completing in 2015 and beyond. Margie noted Energy Trust is tracking reserves closely by utility for both energy efficiency and renewable energy, and is on a path to lower the reserves over the next three years as planned.

In accordance with 2014 Management Review recommendations and OPUC budget/AP comments, Margie noted staff is working to identify three to four internal process improvements to address starting this year. Margie expects to include improvements and benefits from replacement of the IT project tracking system as one focus area.

Margie described a local, low-cost training in the art of participatory leadership that a cross-section of staff attended. This was a deliberate investment to ensure leadership skills are developed and staff have the opportunity to use them. Margie expects to use some of the training tools and techniques at the summer board retreat.

Margie noted the Oregon Solar Energy Industries Association recognized Energy Trust and the Oregon Department of Energy with an Apogee Award for improving the PowerClerk online platform, which now accepts both Energy Trust incentive applications and Oregon Department of Energy Residential Energy Tax Credit applications.

Margie closed with a review of a February 17 event at Arleta School to celebrate six new solar systems to be installed this summer on Portland public schools.

The board thanked Margie and staff for successful year.

Integrated Solutions Implementation quarterly update, Steve Lacey

The Integrated Solutions Implementation (ISI) project is nearing completion of the second of its two phases. Steve reviewed the goals of ISIP, which are to modernize Energy Trust's three core business systems. ISI will also strengthen integrations with internal systems and how they are used by external parties. Through the project, Energy Trust will benefit from process improvements.

Steve previewed the six main benefits from completing the project, including a flexible and more usable platform for ongoing enhancements to accommodate program design changes and functionality needs. ISI will also eliminate functionality no longer being used, leading to additional efficiency gains. Another benefit is investments in the Customer Relationship Management (CRM) system to allow staff to track customer site information and improve customer service. The project will also reduce errors resulting from the time-consuming process for reversing incentive payments, improve search capabilities and simplify how project contract work is tracked.

To meet the June project completion timeline, there will be three main releases of functionality, including adding customer sites to CRM, streamlining incentive payment processing, and improving access to and visibility of customer projects and measures. Steve indicated the project is on budget at this time.

The board recommended budgeting for ongoing improvements and expressed general support for integrating Energy Trust's IT systems.

2015 Legislation update, Jay Ward and Hannah Hacker

Hannah Hacker and Jay Ward presented a 2015 state legislative update. Jay began by reminding the board that Energy Trust provides information to legislators when requested, and provides informational briefings regarding Energy Trust's purpose, budget, results and services to constituents in their districts. Energy Trust does not lobby or take positions on legislative bills.

Jay described his activities as Senior Community Relations Manager, and listed informational briefings he has provided to new legislators in recent weeks.

Jay described OPUC Docket 1713 related to large utility customer funding and a similar legislative bill, HB 2946, drafted by the House Energy and Environment Committee. Jay also reported that Margi Hoffmann will continue as Governor Brown's Energy Advisor. Jay noted Energy Trust has maintained communication with Ms. Hoffmann and she is familiar with Energy Trust.

Hannah called board member attention to about 60 bills staff is tracking because they could affect Energy Trust programs or present new opportunities. Hannah highlighted a number of bills listed in the briefing paper provided in the board packet. She also noted a few bills that have appeared since the printing of the packet, including a bill promoting Green Globes as an energy efficiency rating system. Another bill would require the Oregon Department of Environmental Quality to study replacement of woodstoves with cleaner heating options.

Staff clarified for the board the Senate committee assigned to SB 431 and SB 499. SB 431 reduces public purpose expenditure standard. SB 499 requires nongovernmental entity, as condition of receiving public purpose charge moneys, to be assessed by independent third party. The board noted SB 304, and discussed the Oregon Department of Energy process completed in 2014 regarding improving

transparency in operations at the department. SB 304 caps energy resource supplier assessment at a percent of supplier's gross operating revenue derived within this state in preceding calendar year.

Feature presentation: Eco-districts

Debbie K introduced this topic, noting there was interest among board members in learning more about EcoDistricts.

Rob Bennett, CEO of EcoDistricts, reviewed the benefits of eco-districts, which provide an important approach to accelerate urban regeneration. EcoDistricts work at the neighborhood-scale level to regenerate urban areas. Rob noted the urban development landscape is rapidly shifting to sustainability and the market is large, and an integrated model for implementing district-scale sustainability does not exist. EcoDistricts projects in Portland led to 10 other projects nationwide. EcoDistricts projects utilize a protocol planning manual to establish objectives, set metrics for measuring and reporting on progress, and provide a roadmap to implement the project.

Sarah Heinicke, executive director of Lloyd EcoDistrict, presented next. Lloyd EcoDistrict is one of five pilots established through then-City of Portland Mayor Sam Adams and the Portland Sustainability Commission. Performance areas the EcoDistrict is interested in include transportation, energy and waste reduction, and storm water management. Lloyd EcoDistrict's Energy Action Plan is intended for long-term implementation.

Lloyd EcoDistrict encompasses 11.9 million square feet of commercial and residential development, which is about 400 acres. The area includes key players such as the Convention Center, the Moda Center and the Trail Blazers. The Lloyd EcoDistrict objective is to become the most sustainable business district in America. To do so, they are considering energy efficiency in existing and new buildings, renewable energy installations and district energy. Sarah displayed a chart that forecasts how the 25 percent energy reduction goal will be met by 2035. Sarah described recent energy projects completed by the EcoDistrict, including projects with Energy Trust. Sarah noted there are additional innovative opportunities they would like to pursue with Energy Trust.

Erin Flynn, president and co-chair of South of Market EcoDistrict (SOMA), noted how EcoDistricts can be likened to community organizing in terms of the many partners to involve and limited capacity to complete the work. SOMA is another of the five pilots established in Portland. SOMA includes Portland State University, and encompasses 90 city blocks of nine million square feet of office, residential and university space. SOMA's EcoDistrict roadmap identifies three major objectives, including energy efficiency. Portland State University, within the SOMA boundaries, is part of an Energy Trust Strategic Energy Management cohort. Erin noted there might be opportunity for Energy Trust to help make the transition from a university approach to an EcoDistrict approach.

The board asked questions about how receptive businesses are to EcoDistricts and challenges facing them. The board thanked Rob, Sarah and Erin for their presentations.

Adjourn

The meeting adjourned at 4:27 p.m.

The next regular meeting of the Energy Trust Board of Directors will be held Wednesday, April 1, 2015, at 12:15 p.m. at Energy Trust of Oregon, Inc., 421 SW Oak Street, Suite 300, Portland, Oregon.

Alan Meyer, Secretary

Board Decision

Amend Policy on Oregon Preference

April 1, 2015

Summary

Adopt editorial revisions to the board policy on Oregon Preference.

Background

- In 2003, the board adopted a policy on giving preference to Oregon contractors competing for major Energy Trust contracts.
- The policy states that preference will be given to Oregon contractors if price, fitness, availability and quality are otherwise equal.
- The policy was the result of significant discussion at the time, including whether and how Energy Trust programs support renewable and energy efficiency business development, legal implications, and other factors.
- In later compiling policies for administrative purposes, staff included introductory language summarizing the discussions that preceded the policy. This introductory language was not itself part of the policy adopted by the board in 2003.

Discussion

- In 2003, it made sense to include an acknowledgement of the discussions and analysis that led to the policy adopted by the board.
- The details in the introductory language are no longer current. For this reason, staff proposes with Policy Committee agreement a simplified version of the introduction, shown in the attached.
- Staff proposes no substantive changes in the policy.

Recommendation

Adopt editorial revisions to the board policy on Oregon Preference as shown in the attached.

**RESOLUTION 740
AMEND POLICY ON OREGON PREFERENCE**

WHEREAS:

- 1. In 2003, the board adopted a policy on preference for Oregon contractors competing for major Energy Trust contracts.**
- 2. In later compiling policies for administrative purposes, staff included introductory language summarizing the discussions that preceded the 2003 policy.**
- 3. The details of the introductory language are no longer current, and the introductory language was not itself part of the policy adopted by the board in 2003.**
- 4. Simplifying the introductory language to the policy implies no substantive change in the policy itself.**

It is therefore RESOLVED that the Board of Directors hereby adopts amendments to the introductory language of the Oregon Preference policy, as shown in the attached.

Moved by:

Vote:

In favor:

Opposed:

Seconded by:

Abstained:

Attachment 1

4.14.000-P ~~Approve a~~ Policy on Oregon Preference

History			
Source	Date	Action/Notes	Next Review Date
Board Decision	October 1, 2003	Approved (R207)	October 2006
Policy Committee	September 21, 2006	No changes	October 2009
Policy Committee	November 4, 2009	No change	October 2012
Board Decision	November 19, 2012	Amended (R649)	November 2015

Purpose

To ~~adopt a policy on giving~~give preference to Oregon contractors competing for major Energy Trust contracts if price, fitness, availability and quality are otherwise equal.

Background ~~and Relation to Strategic Plan/Action Plan~~

~~The~~ Energy Trust strategic plan speaks to promoting a healthy business climate for Oregon's renewable energy and energy efficiency businesses. Having enlisted nearly 200 trade allies to date, the Energy Trust clearly is making progress toward this goal. In 2003, in response to inquiries about our policy on giving preference to Oregon contractors, Energy Trust conducted a legal review and engaged its policy emerged from discussion with Energy Trust advisory councils in discussion of the matter2003. At that time, Energy Trust also considered provisions of Oregon law that apply to public agency contracts. Energy Trust is not bound by these laws but these provisions were informative.

The ~~pertinent provisions of Oregon Revised Statutes (ORS)~~ cover public contracting. They provide:

~~(1) In all public contracts, the public contracting agency shall prefer goods or services that have been **manufactured** or **produced** in this state if price, fitness, availability and quality are otherwise equal.~~

~~.....~~

~~ORS 279.021~~

~~(1) After the bids are opened . . . and after a determination is made that a contract is to be awarded, the public contracting agency shall award the contract to the lowest responsible bidder.~~

~~(2) In determining the lowest responsible bidder, a public contracting agency shall:--~~

~~--~~

~~(b) For the purpose of awarding the contract, add a percent increase on the bid of the nonresident bidder equal to the percent, if any, of preference given to that bidder in the state in which that bidder resides.~~

~~.....~~

~~ORS 279.029~~

~~Since the Energy Trust is not subject to Oregon public contracts law, Energy Trust is not bound to the above provisions.~~

~~Most participants in these advisory council meeting do not support provisions of ORS 279.029 that could penalize out-of-state bidders. In advisory council discussions, there was general support for the concept expressed in ORS 279.021 to give of giving preference to an Oregon contractor if competing bidders score equally on other selection criteria. There was no consensus however, on the wording of such a policy. Participants expressed concern that the terms “manufactured” or “produced” may be too restrictive.~~

~~Given the general support for giving preference to Oregon bidders if competitors are equal in other respects, staff recommends the Energy Trust board endorse a policy to grant such a preference if price, fitness, availability and quality are otherwise equal, to bidders whose goods or services are produced, acquired, or available in the State of Oregon.~~

Policy

If price, fitness, availability and quality are otherwise equal, Energy Trust will give preference to a bidder whose goods or services are produced, acquired, or available in the State of Oregon.

CLEAN VERSION:

Purpose

To give preference to Oregon contractors competing for major Energy Trust contracts if price, fitness, availability and quality are otherwise equal.

Background

This policy emerged from discussion with Energy Trust advisory councils in 2003. At that time, Energy Trust also considered provisions of Oregon law that apply to public agency contracts. Energy Trust is not bound by these laws but these provisions were informative. In advisory council discussions, there was general support for the concept of giving preference to an Oregon contractor if competing bidders score equally on other selection criteria.

Policy

If price, fitness, availability and quality are otherwise equal, Energy Trust will give preference to a bidder whose goods or services are produced, acquired, or available in the State of Oregon.

Board Decision

Amend Policy on Other Renewable Energy Projects

April 1, 2015

Summary

Amend the policy on Other Renewable Energy Projects to: (1) include geothermal projects in the “mature technologies” track, (2) recognize \$200,000 as the threshold for board review of early-stage project development assistance, and (3) streamline the review process for non-mature technologies by using a \$200,000 threshold for review of these projects.

Background

- In 2003, Energy Trust established programs for large, utility-scale projects, solar photovoltaic (PV) projects (coordinated with energy efficiency programs where appropriate), wind projects, and an “Open Solicitation” program for projects involving less established technologies and applications.
- Funding for utility-scale projects usually involved more than \$500,000 and required board approval. The utility-scale program was eliminated by the 2007 Oregon Renewable Energy Act, which limited the use of public-purpose funds to projects of 20 megawatts and less.
- Early on, Energy Trust found that solar photovoltaic projects lend themselves to a standardized process. In addition, Energy Trust wished to incorporate solar PV in energy efficiency programs. This made it advisable to use approval processes comparable to those used for efficiency projects (board review of projects involving more than \$500,000 in incentives).
- Open Solicitation projects, in contrast, were expected to be risky, requiring more extensive review:
 - Projects involving \$50,000 or less in Energy Trust funds could be approved by the executive director.
 - Projects involving \$50,000 to \$125,000 were placed on the board’s consent agenda unless a member asks that a project be moved to the regular agenda.
 - Projects involving over \$125,000 were put on the board’s regular agenda.
 - The Renewable Energy Advisory Council (RAC) would review all projects over \$50,000.
 - A summary of any project under \$50,000 approved by staff was provided subsequently to the board and RAC.
- As Energy Trust acquired experience with renewable projects, the board recognized that not all technologies require such intensive review:
 - In 2005, the Biopower program was established, at first operating through Open Solicitation procedures and later using less intensive review.
 - In 2009, the board created two tracks in the Open Solicitation program (the name changed to “Other Renewables” in 2012): (1) a “mature technologies” track for established technologies (wind and traditional hydropower projects), which the executive director could approve up to \$500,000; and (2) other technologies, which would still require more intensive review.
 - In 2013, the board merged the Biopower program into the Other Renewables program for purposes of budget management, and designated it “mature.”
- The 2015-2019 strategic plan emphasizes early-stage assistance for renewable energy projects (grant-writing, feasibility studies and other expert development assistance). The procedure for approving this assistance has been established in discussion with the RAC and the board: the executive director may approve assistance up to \$200,000: currently, a standard application

process is used for up to \$40,000, and a competitive process for up to another \$150,000. Staff expects to use the standard process for up to \$200,000 in future.

- At this point, then, board review and approval of renewable projects is triggered by various dollar amounts for various technologies:
 - The executive director approves biopower, wind and traditional hydropower project incentives up to \$500,000; the board approves higher incentives.
 - The executive director authorizes early-stage project assistance up to \$200,000.
 - Standardized solar photovoltaic incentives, often linked to energy efficiency projects and involving less than \$500,000, are approved through standard procedures.
 - For less mature technologies:
 - Incentives over \$125,000 require RAC review and board approval.
 - Incentives of \$50,000 to \$125,000 require RAC review and board approval via the consent agenda.
 - Incentives under \$50,000 are approved by the executive director and later reported to the RAC and board.

Discussion

- **Geothermal as a mature technology:** Geothermal energy technology is well understood and staff is fully as comfortable with it as wind, biopower and traditional hydropower technologies. Utility-scale geothermal energy technology is well-developed. The U.S. has more installed geothermal capacity (~3400 MW) than any other country. Both of the projects Energy Trust has funded have used binary technology. Binary technology, which uses a standard commercial technology (essentially running a commercial chiller in reverse), was introduced to the US in the 1980s. Binary technology. The binary supply chain is mature, with suppliers providing products from manufacturers with long business histories and solid warranties. Risk associated with geothermal projects has more to do with resource development than technology.
- **\$200,000 threshold for early-stage assistance:** The 2015-2019 strategic plan's emphasis on early-stage assistance for renewable projects followed a series of discussions with the board and the Renewable Energy Advisory Council. A \$200,000 threshold for board review was assumed in those discussions and is now incorporated in the standardized process for early-stage project development assistance. The staff's current proposal is simply to reflect this threshold in the Other Renewables Policy.
- **\$200,000 threshold for non-mature technologies:** Adopting the same \$200,000 threshold for board review of projects using non-mature technologies would simplify the Other Renewables review process without, staff believes, increasing Energy Trust risk in any meaningful way. Most non-mature technology projects (which, if geothermal is deemed mature, will likely be limited to non-traditional hydropower) require incentives over \$200,000.

Recommendation

Amend the Other Renewable Energy Projects policy by including geothermal as a mature technology and authorizing the executive director to approve \$200,000 or less in incentives for projects using non-mature technologies and early-stage project development assistance.

**RESOLUTION 741
AMEND POLICY ON OTHER RENEWABLE ENERGY PROJECTS**

WHEREAS:

1. The “Other Renewables” policy has two tracks: (1) a “mature technologies” track for established technologies including wind, biopower and traditional hydropower projects, which the executive director may approve up to \$500,000; and (2) other technologies, which require more intensive review, varying on the basis of dollar thresholds.
2. Based on the Energy Trust staff’s recommendation, the board finds that geothermal energy technology is sufficiently well established that it does not require the intensive review afforded to non-mature technologies.
3. The 2015-2019 strategic plan emphasizes early-stage assistance for renewable energy projects, such as grant-writing, feasibility studies and other development assistance. Under current practice, the executive director may approve such assistance up to \$200,000 per project.
4. The board has previously recognized this practice, approves it, and wishes the process for reviewing projects using non-mature technologies to use the same dollar threshold.

It is therefore **RESOLVED** that the Board of Directors hereby adopts amendments to the Other Renewable Energy Projects policy as shown in the attached:

1. Designating geothermal energy technology as a mature technology for purposes of this policy;
2. Authorizing the executive director to approve early-stage renewable project assistance up to \$200,000 per project; and
3. Requiring board review and approval of projects using non-mature technology only if they exceed \$200,000 in incentives.

Moved by:

Vote: In favor:
 Opposed:

Seconded by:

Abstained:

POLICY ~~ESTABLISHING THE MERGER OF THE BIOPOWER PROGRAM INTO~~FOR THE OTHER RENEWABLES PROGRAM PROJECT APPROVAL

The Energy Trust of Oregon, Inc., Board of Directors:

1) Authorizes two tracks for approval of projects incentives within the Other Renewables Program and not covered by other Energy Trust solar energy programs:

a. Mature technologies, i.e., biopower ~~projects~~, traditional hydropower ~~projects~~, wind ~~projects~~, geothermal and such other technologies as the board may designate in the future: The executive director may approve projects involving incentives less than \$500,000; board approval is required for projects involving \$500,000 or more.

b. Other projects:

i. Projects involving incentives of \$5200,000 or less may be approved by the executive director. A summary of any such project will be provided subsequently to the board and Renewable Advisory Council.

~~ii. ii. — Projects entailing incentives of \$50,000 to \$125,000 require review by the Renewable Advisory Council and will be placed on a consent agenda for board action unless a member of the board asks to have the project placed on the regular agenda.~~

~~iii. — Projects involving incentives of more than \$200125,000 will be reviewed by the Renewable Advisory Council and require placed on the regular agenda for board approval.~~

2) Authorizes the executive director to approve up to \$200,000 per project for ~~early-stage project assistance activities~~ such as grant-writing, feasibility studies and other expert development assistance. Procedures for reviewing such awards shall be reported to the Renewable Energy Advisory Council and discussed with the Board.

CLEAN VERSION:

POLICY FOR OTHER RENEWABLES PROGRAM PROJECT APPROVAL

The Energy Trust of Oregon, Inc., Board of Directors:

1) Authorizes two tracks for approval of project incentives within the Other Renewables Program and not covered by other Energy Trust solar energy programs:

a. Mature technologies, i.e., biopower, traditional hydropower, wind, geothermal and such other technologies as the board may designate in the future: The executive director may approve projects involving incentives less than \$500,000; board approval is required for projects involving \$500,000 or more.

b. Other projects:

i. Projects involving incentives of \$200,000 or less may be approved by the executive director. A summary of any such project will be provided subsequently to the board and Renewable Advisory Council.

ii. Projects involving incentives of more than \$200,000 will be reviewed by the Renewable Advisory Council and require board approval.

2) Authorizes the executive director to approve up to \$200,000 per project for early-stage project assistance such as grant-writing, feasibility studies and other expert development assistance. Procedures for reviewing such awards shall be reported to the Renewable Energy Advisory Council and discussed with the Board.

Tab 2



Energy Trust of Oregon

Jennifer Price, Partner
Ashley Osten, Senior Manager

April 1, 2015



Report to the Board

MOSS ADAMS LLP
Certified Public Accountants | Business Consultants

Acumen. Agility. Answers.





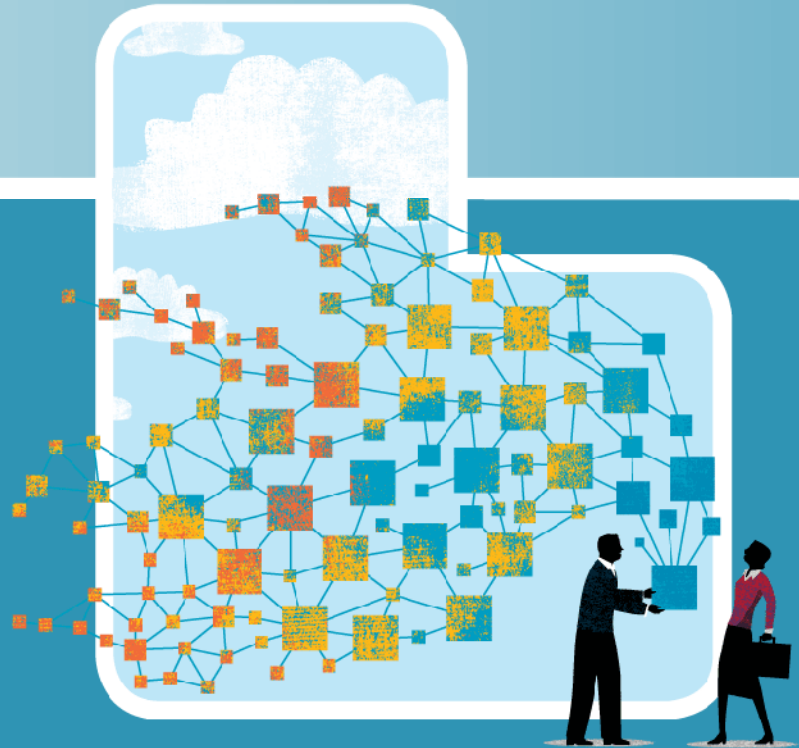
AGENDA

Auditor's Opinion

The Audit Process

Communication with Those
Charged with Governance

AUDITOR'S OPINION



MOSS-ADAMS LLP

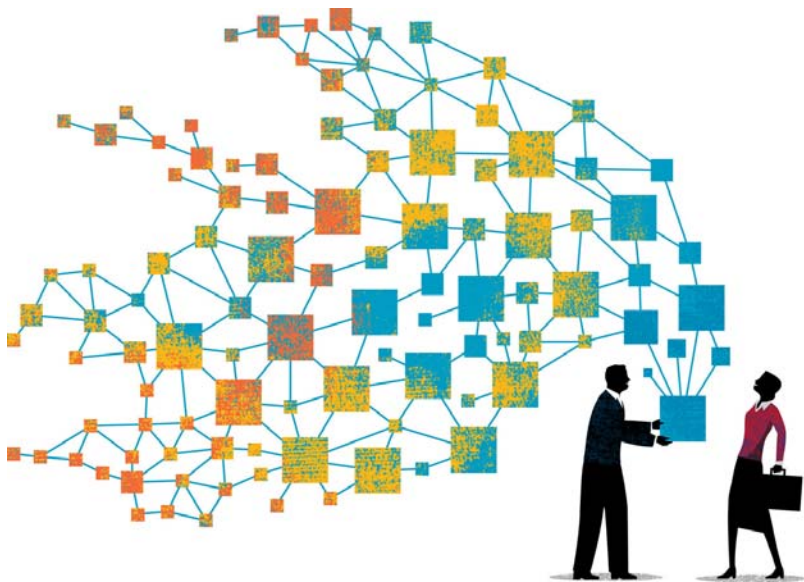
Certified Public Accountants | Business Consultants

Acumen. Agility. Answers.

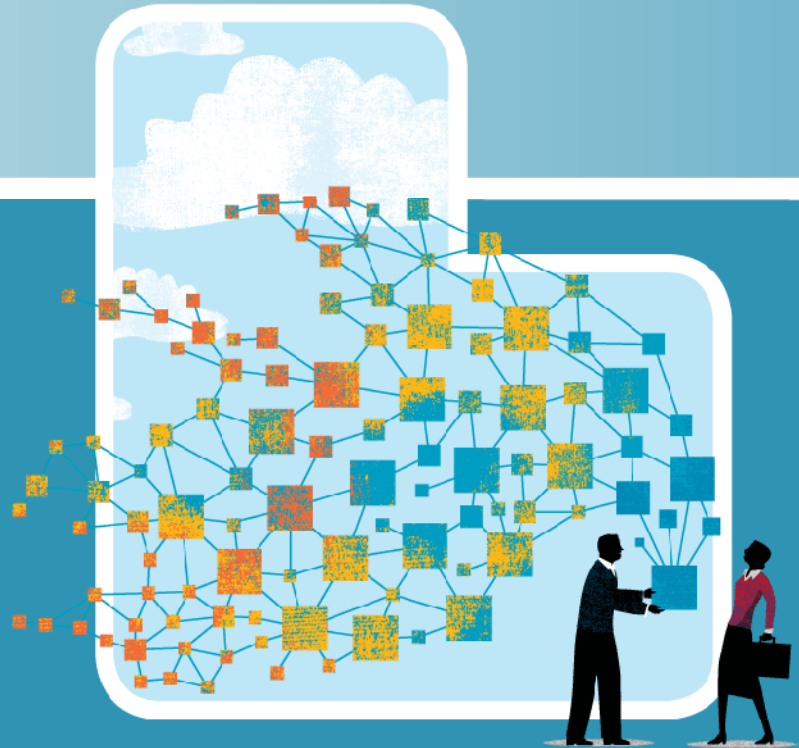
AUDITOR'S OPINION ON THE FINANCIAL STATEMENTS

Unmodified Opinion

- Financial Statements are presented *fairly* in accordance with accounting principles generally accepted in the United States of America.



THE AUDIT PROCESS



MOSS-ADAMS LLP

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THE AUDIT PROCESS



Pre-audit meeting with the Audit Committee to discuss the process



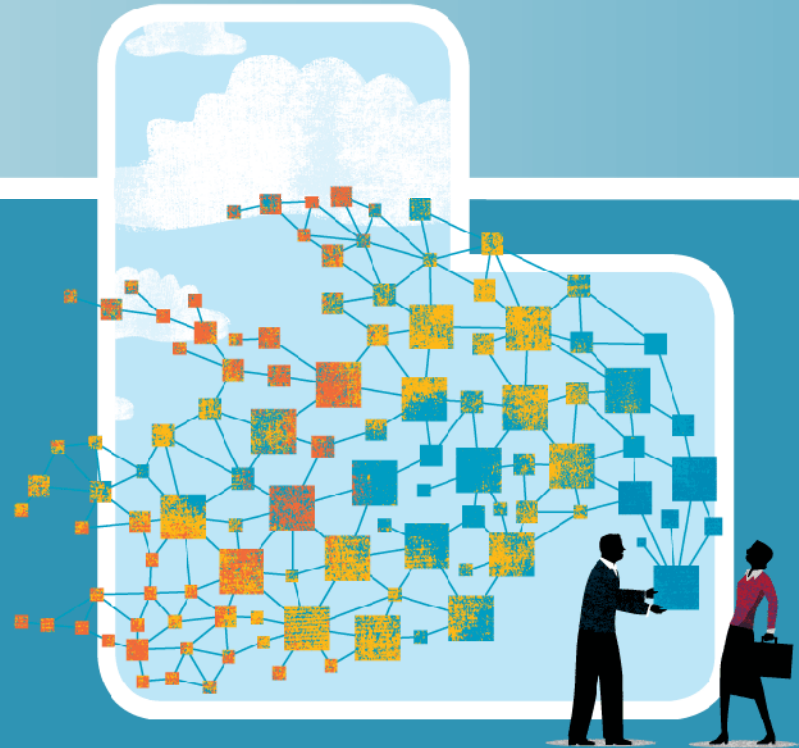
No subsequent change in audit scope

- Reviewed selected internal controls
- Performed required audit procedures



Management and staff well prepared for the audit

COMMUNICATION WITH THOSE CHARGED WITH GOVERNANCE



MOSS ADAMS LLP

Certified Public Accountants | Business Consultants

Acumen. Agility. Answers.

COMMUNICATION WITH THOSE CHARGED WITH GOVERNANCE

- Execution of the planned scope and timing of the audit
- Significant findings arising from the audit
 - Significant accounting practices, including policies, estimates and disclosures (See Note 2)
 - Adjustments posted to the financial statements and adjustments passed by the auditor (None)
 - Significant difficulties encountered in performing the audit (None)
 - Disagreements with management (None)
 - Management consultation with other independent accountants (None)
- Representations obtained from management

INTERNAL CONTROLS

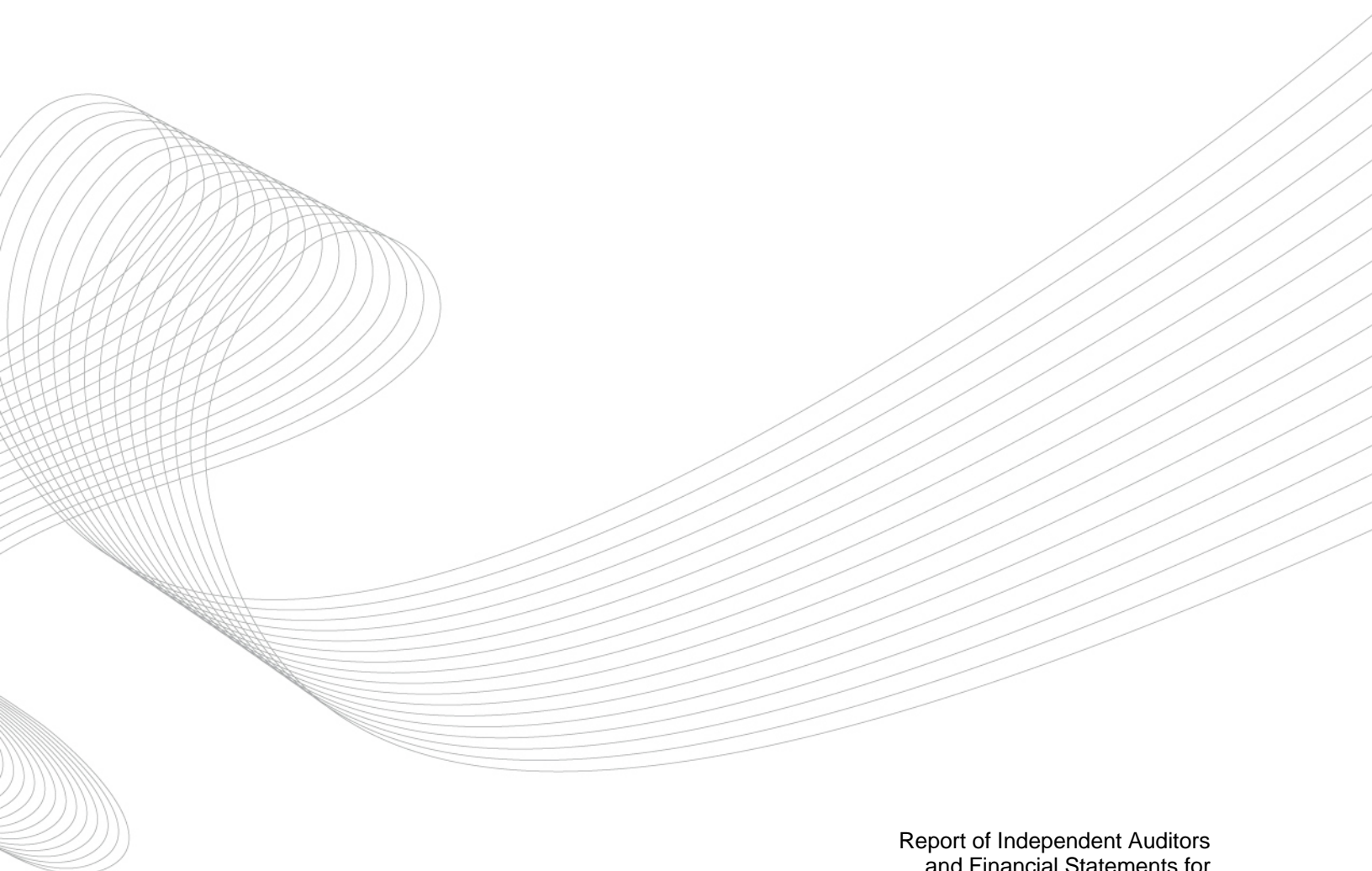
**Material
weaknesses**

**Significant
deficiencies**

**Nothing noted that should be
communicated to the Board**



THANK YOU



Report of Independent Auditors
and Financial Statements for

Energy Trust of Oregon, Inc.

December 31, 2014 and 2013

MOSS ADAMS_{LLP}

Certified Public Accountants | Business Consultants

CONTENTS

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Statements of functional expenses	12-13
Statements of cash flows	14
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REPORT OF INDEPENDENT AUDITORS

To the Board of Directors
Energy Trust of Oregon, Inc.

Report on the Financial Statements

We have audited the accompanying financial statements of Energy Trust of Oregon, Inc., which comprise the statements of financial position as of December 31, 2014 and 2013, and the related statements of activities, functional expenses, and cash flows for the years then ended, and the related notes to the financial statements.

Management's Responsibility for the Financial Statements

Management is responsible for the preparation and fair presentation of these statements in accordance with accounting principles generally accepted in the United States of America; this includes the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error.

Auditor's Responsibility

Our responsibility is to express an opinion on these financial statements based on our audits. We conducted our audits in accordance with auditing standards generally accepted in the United States of America. Those standards require that we plan and perform the audits to obtain reasonable assurance about whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

REPORT OF INDEPENDENT AUDITORS
(continued)

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Opinion

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of Energy Trust of Oregon, Inc. as of December 31, 2014 and 2013, and the changes in its net assets and its cash flows for the years then ended in accordance with accounting principles generally accepted in the United States of America.

Other Matters

Our audit was conducted for the purpose of forming an opinion on the financial statements as a whole. Management's discussion and analysis on pages 3 to 9 is presented for purposes of additional analysis and is not a required part of the financial statements. Such information has not been subjected to the auditing procedures applied in the audit of the basic financial statements, and, accordingly, we do not express an opinion or provide any assurance on it.

Moss Adams LLP

Portland, Oregon
March 18, 2015

MANAGEMENT'S DISCUSSION AND ANALYSIS

ENERGY TRUST OF OREGON, INC. MANAGEMENT'S DISCUSSION AND ANALYSIS

The following narrative overview and analysis of Energy Trust of Oregon Inc.'s financial activities is provided for readers of our annual financial statements. This discussion has been prepared by management and should be read in conjunction with the organization's financial statements and notes. Although the primary focus of this document is the results of activity for the calendar year ended December 31, 2014, comparative data is also presented for previous years as a reference point. We offer this supplemental information to illustrate issues and trends related to Energy Trust's financial health. The financial statements, notes and this discussion are the responsibility of management.

Financial Highlights

- Energy Trust's assets exceeded its liabilities at December 31, 2014, by \$87.2 million (net position). All of this amount is unrestricted. Energy Trust entered into contractual commitments for various energy efficiency and renewable generation project incentives that will result in future year payments not accrued as liabilities in these financial statements. As of December 31, 2014 these commitments are estimated at \$ 65.2 million.
- During 2014, Energy Trust's total net position increased by \$9.3 million. Following are some significant financial highlights accounting for the increase from the prior year.
 - Total revenue of \$163.6 million was almost identical to the 2013 total (\$162.6 million) as well as budget (\$163.0 million). Energy Trust revenues are established annually in collaboration with its affiliated private utilities and the Oregon Public Utility Commission in an amount deemed necessary to acquire all cost-effective energy efficiency and conservation and develop renewable generation in accordance with annually approved goals. Revenue estimates are provided by utilities and are relatively predictable, although weather and other changes in energy consumption does cause some variability.
 - Operating expenses increased by \$24 million or 18 percent from 2013. Total expenses of \$154.3 million were \$21.9 million lower (-12 percent) than the amount budgeted of \$176.2 million. Energy conservation and renewable generation incentive payments increased by \$17.4 million from the prior year (to \$85.2 million) yet were 16 percent below budgeted incentives of \$101 million.
- Energy savings acquired exceeded integrated resource planning goals for electricity, and nearly met such goals for gas. Electric efficiency savings totaled 58.2 average megawatts (aMW), achieving 105.2 percent of the 2014 goal of 55.3 aMW. Natural gas savings totaled 5.659 million annual therms of gas, achieving 97.5 percent of the 2014 integrated resource plan goal of 5.802 million annual therms. Highlights of these savings include:
 - Nearly 79,000 residential sites were served directly in 2014.
 - Business project numbers continue to grow; production efficiency was up 10% and commercial 20%.
 - Strategic energy management has grown to sixty separate projects and comprises 10% of all electric savings and 8% of all gas savings

ENERGY TRUST OF OREGON, INC.

MANAGEMENT'S DISCUSSION AND ANALYSIS

- Lighting accounts of 31% of all business savings.
- Total renewable energy generation of 2.39 aMW, achieving 53 percent of the 2014 goal of 4.49 aMW. Several planned 2014 projects were delayed and are expected to complete in 2015.

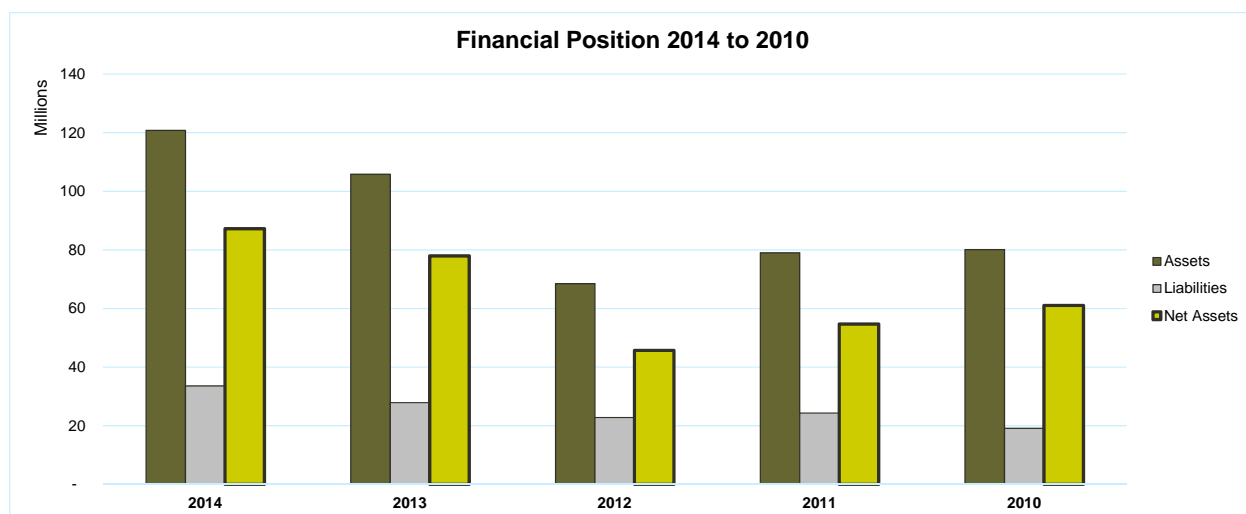
Overview of the Financial Statements

This discussion and analysis is intended to serve as an overview to Energy Trust's financial statements. The financial statements consist of the following:

The *statements of financial position* show the various assets owned or controlled, related liabilities and other obligations, and the various categories of net position. As noted earlier, net assets may serve over time as a useful indicator of Energy Trust's financial position. Energy Trust assets exceeded liabilities by \$87.2 million at year end. Almost all Energy Trust assets are held in cash and investments; capital and other assets comprise around four percent of the total. Liabilities are centered in accounts payable, and reflect primarily year-end incentive payments. Energy Trust carries no long term debt.

Statement of Financial Position					
(in millions of dollars)					
	2014	2013	Change '13 to '14	2012	Change '12 to '13
Cash & Investments	115.9	101.7	14.2	64.0	37.7
Restricted Cash	-	0.1	(0.1)	0.5	(0.4)
All other Assets	4.9	4.0	0.9	4.0	-
Total Assets	120.8	105.8	15.0	68.5	37.3
Total Liabilities	33.6	27.9	5.7	22.8	5.1
Board Designated Net Assets	-	0.1	(0.1)	0.5	(0.4)
Assets Available for Programs & Operations	87.2	77.8	9.4	45.2	32.6
Total Liabilities & Assets	120.8	105.8	15.0	68.5	37.3

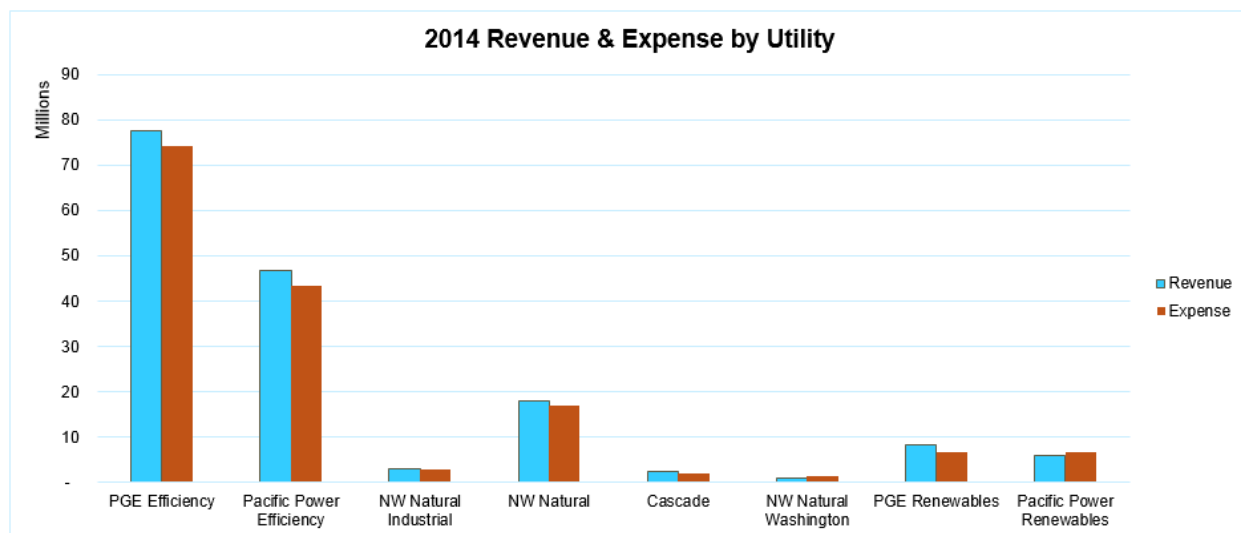
ENERGY TRUST OF OREGON, INC. MANAGEMENT'S DISCUSSION AND ANALYSIS



The *statements of activities* show the various revenues and expenses, reconciling the beginning net position to the end of year total. These statements show how Energy Trust's net assets changed during the year. Net assets increased by \$9.3 million in 2014, due to an operating surplus. Revenues decreased very slightly while spending increased significantly.

Statements of Activities (in millions of dollars)					
	<u>2014</u>	<u>2013</u>	<u>Change '13 to '14</u>	<u>2012</u>	<u>Change '12 to '13</u>
Public Purpose Funding	88.9	88.0	0.9	82.9	5.1
Incremental Funding	74.5	74.5	0.0	63.2	11.3
Other Income	0.2	0.1	4.0	0.3	(0.2)
Total Funding	<u>163.6</u>	<u>162.6</u>	<u>1.0</u>	<u>146.4</u>	<u>16.2</u>
Program Expenses	149.2	126.0	23.2	150.2	(24.2)
Administrative Expenses	5.1	4.3	0.8	5.2	(0.9)
Total Expenses	<u>154.3</u>	<u>130.3</u>	<u>24.0</u>	<u>155.4</u>	<u>(25.1)</u>
Increase (Decrease) in Net Assets	<u>9.3</u>	<u>32.3</u>	<u>(23.0)</u>	<u>(9.0)</u>	<u>41.3</u>

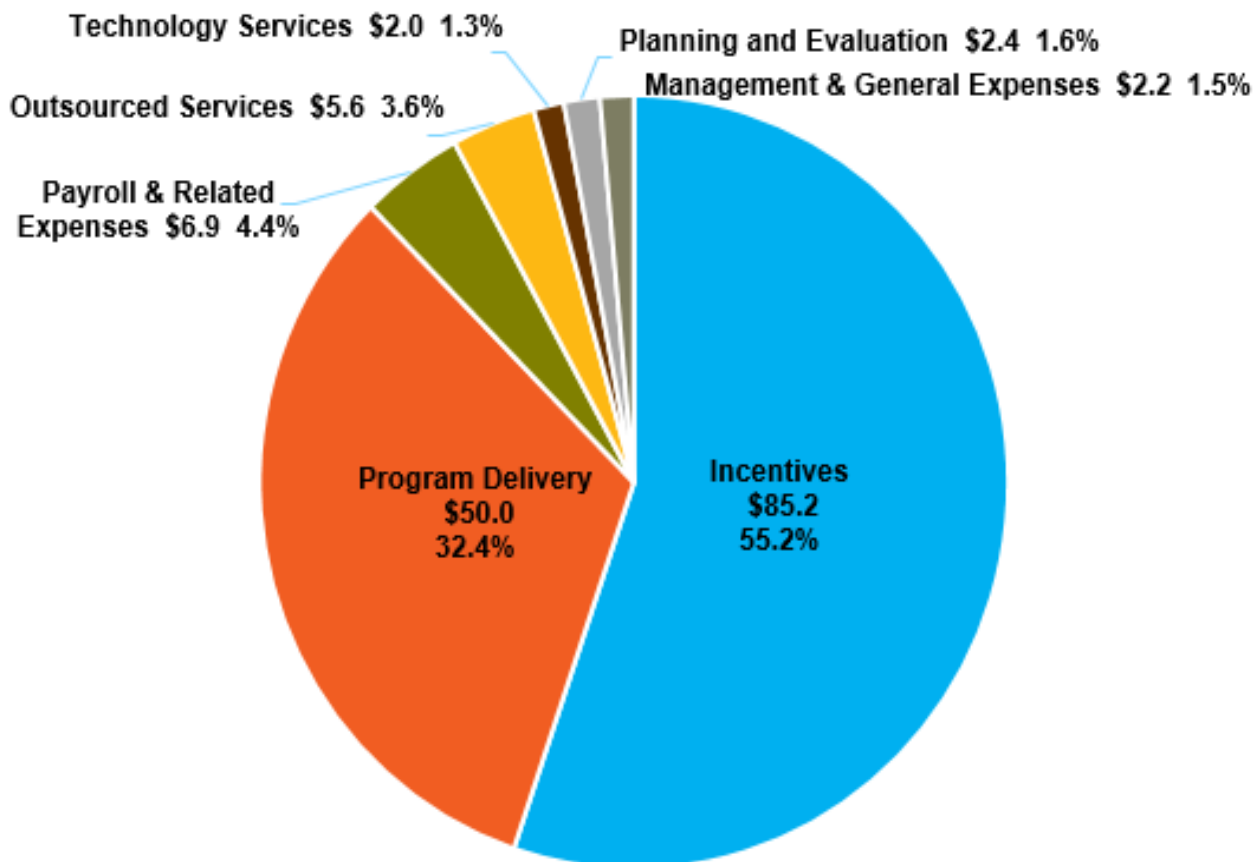
ENERGY TRUST OF OREGON, INC. MANAGEMENT'S DISCUSSION AND ANALYSIS



The *statement of functional expenses* shows costs by major category organized into program and administrative categories. In 2014, program expenses comprised 96.7 percent of total costs; administrative expenses of 3.3 percent made up the remainder.

Statement of Functional Expenses					
<i>(in millions of dollars)</i>					
	2014	2013	Change '13 to '14	2012	Change '12 to '13
Energy Efficiency	136.1	118.1	18.0	128.4	(10.3)
Renewable Resources	13.1	7.9	5.2	21.8	(13.9)
Program Expenses	149.2	126.0	23.2	150.2	(24.2)
Management & General	2.7	2.6	0.1	3.4	(0.8)
Communications & Outreach	2.4	1.7	0.7	1.8	(0.1)
Administrative Expenses	5.1	4.3	0.8	5.2	(0.9)
Total Expenses	154.3	130.3	24.0	155.4	(0.9)

2014 Functional Expenses (millions of dollars)



Actual expenses increased in all categories as overall spending rose 18% from \$130.3 million to \$154.3 million. However, the percentage breakdown among functions remained relatively consistent. Incentives as a percent of total spending increased from 52% to 55%; program delivery costs declined from 35% to 32%. The percentage of spending in all other categories fluctuated very little from last year and remains about 13% of the total.

ENERGY TRUST OF OREGON, INC.

MANAGEMENT'S DISCUSSION AND ANALYSIS

The *statement of cash flows* shows various cash activities by type, reconciling beginning cash and cash equivalents to the ending cash and cash equivalents amount, which is shown in the Statements of Financial Position. Energy Trust cash receipts come primarily from public purpose and supplemental funding, derived from a small percentage charge on utility customer bills. Outflows are predominantly payments for incentives and program contracts, as well as payments for payroll, outsourced services, IT, and other operating expenses. Outflows also include investment purchases. Overall, cash receipts were less than cash payments for the year, and cash and cash equivalents decreased by \$25.1 million in 2014. The decrease is largely due to an increase in investments of \$39.2 million.

	2014	2013	Change '13 to '14	2012	Change '12 to '13
Net Cash from operating activities	16.1	37.5	(21.4)	(9.3)	46.8
Net Cash used for capital assets	(1.4)	-	-	-	-
Net Cash from investing activities	(39.8)	(25.0)	(14.8)	0.2	(25.2)
(Decrease) Increase in Cash	(25.1)	12.5	(36.2)	(9.1)	21.6
Cash Beginning of Year	76.5	64.0	12.5	73.1	(9.1)
Cash End of Year	51.4	76.5	(25.1)	64.0	12.5

Key Economic Factors and Budget Information for Next Year

- Oregon's economy has for the most part recovered from the 2008 recession. The state's unemployment rate still exceeds the national average, but dropped from 7.0 percent to 6.7 percent in 2014. Per capita personal income lags national averages by around 10 percent, but is expected to grow by about 4.0 percent in 2015.
- The improved economic conditions create opportunities for energy efficiency projects in certain market segments, such as new construction. They also may lead to increased opportunities to attract capital investments in facility improvements and equipment. However, even though the economy is showing favorable signs of rebuilding, not all parts of the state are recovering. It is expected the energy efficiency market will remain challenging due mainly to:
 - The ongoing adjustment in the marketplace stemming from the 2011 phase out of state business energy tax credits
 - Cost effectiveness challenges stemming primarily from low natural gas prices that lengthen project payback and make customer investment in energy efficient projects less compelling

ENERGY TRUST OF OREGON, INC. MANAGEMENT'S DISCUSSION AND ANALYSIS

- Market maturation and saturation - the “easy fruit” has in certain segments already been picked. A significant portion of future savings is expected to come from underserved, harder-to-reach and more expensive parts of the market.

- The 2015 budget lowers revenue by 10.3 percent. In coordination with utilities, rates have been lowered to initiate a planned drawdown of program reserves.

- Planned spending in 2015 is slightly lower than the 2014 budget (169.9m vs. 170.2m). Normal inflationary expense growth has been offset to a large degree by tighter budgeting. Actual spending should grow at moderate levels. New strategies are needed to reach more and different customers. This entails higher volume, smaller projects which yield lower savings and higher transaction costs.

Most of these factors were known and considered in preparing Energy Trust's budget for 2015.

Requests for Information

This financial report is designed to provide a general overview of Energy Trust of Oregon, Inc's finances for all those with an interest in the non-profit organization's financial results. Questions concerning any of the information provided in this report should be directed to the following:

Energy Trust of Oregon
421 SW Oak, Suite 300
Portland, Oregon 97204
www.energytrust.org
Attention: Courtney Wilton, CFO

FINANCIAL STATEMENTS

ENERGY TRUST OF OREGON, INC.
STATEMENTS OF FINANCIAL POSITION

ASSETS

	December 31,	
	2014	2013
Cash and cash equivalents	\$ 51,411,365	\$ 76,484,638
Restricted cash and cash equivalents	-	77,988
Investments	64,490,244	25,270,363
Other receivables	35,292	4,027
Notes receivable, net of allowance	86,789	-
Accrued interest receivable	288,238	4,249
Advances paid to contractor	1,482,149	2,015,420
Prepaid expenses	405,430	526,087
Property and equipment, net	1,846,427	815,468
Other assets	765,516	614,102
	\$ 120,811,450	\$ 105,812,342

LIABILITIES AND NET ASSETS

LIABILITIES

Accounts payable and accrued expenses	\$ 31,929,270	\$ 26,333,338
Accrued payroll and related expenses	1,305,368	1,184,189
Deferred rent liability	349,692	364,244
	33,584,330	27,881,771

COMMITMENTS AND CONTINGENCIES

NET ASSETS

Unrestricted		
Board-designated for specific purposes	-	77,988
Available for programs and general operations	87,227,120	77,852,583
	87,227,120	77,930,571
	\$ 120,811,450	\$ 105,812,342

ENERGY TRUST OF OREGON, INC.
STATEMENTS OF ACTIVITIES

	Years Ended December 31,	
	2014	2013
Funding		
Public purpose funding	\$ 88,889,205	\$ 87,989,637
Incremental funding	74,514,179	74,475,379
Contribution revenue	13,400	13,430
Total funding	<u>163,416,784</u>	<u>162,478,446</u>
Investment returns		
Interest and dividends on investments, net of amortization	269,922	96,391
Interest on notes receivable	514	-
Unrealized loss on investments	<u>(90,740)</u>	<u>-</u>
Total investment returns	<u>179,696</u>	<u>96,391</u>
Total revenues	<u>163,596,480</u>	<u>162,574,837</u>
Expenses		
Program expenses		
Energy efficiency	136,063,489	118,136,627
Renewable resources	<u>13,094,590</u>	<u>7,918,895</u>
Total program expenses	<u>149,158,079</u>	<u>126,055,522</u>
Administrative expenses		
Management and general	2,684,052	2,592,480
Communication and outreach - general	<u>2,457,800</u>	<u>1,677,816</u>
Total administrative expenses	<u>5,141,852</u>	<u>4,270,296</u>
Total expenses	<u>154,299,931</u>	<u>130,325,818</u>
INCREASE IN NET ASSETS	9,296,549	32,249,019
NET ASSETS, beginning of year	<u>77,930,571</u>	<u>45,681,552</u>
NET ASSETS, end of year	<u>\$ 87,227,120</u>	<u>\$ 77,930,571</u>

ENERGY TRUST OF OREGON, INC.
STATEMENT OF FUNCTIONAL EXPENSES
FOR THE YEAR ENDED DECEMBER 31, 2014

	Energy Efficiency	Renewable Resources	Total Program Expenses	Management and General	Communication and Outreach - General	Total Administrative Expenses	Total Expenses
EXPENSES							
Incentives	\$ 74,218,412	\$ 10,958,831	\$ 85,177,243	\$ -	\$ -	\$ -	\$ 85,177,243
Program management	49,774,172	215,839	49,990,011	-	-	-	49,990,011
Payroll and related expenses	3,036,838	944,823	3,981,661	1,905,242	968,157	2,873,399	6,855,060
Outsourced services	3,812,372	431,269	4,243,641	227,953	1,133,504	1,361,457	5,605,098
Planning and evaluation	2,320,876	80,005	2,400,881	1,682	-	1,682	2,402,563
Customer service management	601,931	28,631	630,562	-	-	-	630,562
Trade Allies Network	351,892	23,961	375,853	-	-	-	375,853
Supplies	10,313	3,109	13,422	8,610	3,780	12,390	25,812
Postage and shipping	4,143	1,323	5,466	1,764	1,017	2,781	8,247
Telephone	2,608	894	3,502	1,702	1,166	2,868	6,370
Printing and publications	97,937	4,891	102,828	1,213	8,470	9,683	112,511
Occupancy expenses	190,356	65,237	255,593	111,043	64,660	175,703	431,296
Insurance	30,121	10,323	40,444	17,571	10,232	27,803	68,247
Equipment	15,139	74,863	90,002	7,396	4,307	11,703	101,705
Travel	40,271	21,281	61,552	27,402	34,232	61,634	123,186
Meetings, trainings, and conferences	55,859	20,586	76,445	46,100	11,612	57,712	134,157
Bank fees	-	-	-	2,000	-	2,000	2,000
Depreciation	47,719	16,354	64,073	27,837	16,209	44,046	108,119
Dues, licenses, and fees	63,824	17,023	80,847	8,969	6,145	15,114	95,961
Miscellaneous	16,659	-	16,659	-	-	-	16,659
IT services	1,372,047	175,347	1,547,394	287,568	194,309	481,877	2,029,271
Total expenses	<u>\$ 136,063,489</u>	<u>\$ 13,094,590</u>	<u>\$ 149,158,079</u>	<u>\$ 2,684,052</u>	<u>\$ 2,457,800</u>	<u>\$ 5,141,852</u>	<u>\$ 154,299,931</u>

See accompanying notes.

ENERGY TRUST OF OREGON, INC.
STATEMENT OF FUNCTIONAL EXPENSES
FOR THE YEAR ENDED DECEMBER 31, 2013

	Energy Efficiency	Renewable Resources	Total Program Expenses	Management and General	Communication and Outreach - General	Total Administrative Expenses	Total Expenses
EXPENSES							
Incentives	\$ 61,726,181	\$ 6,038,120	\$ 67,764,301	\$ -	\$ -	\$ -	\$ 67,764,301
Program management	45,199,598	198,299	45,397,897	-	-	-	45,397,897
Payroll and related expenses	2,804,042	835,895	3,639,937	1,892,490	862,012	2,754,502	6,394,439
Outsourced services	3,298,598	381,093	3,679,691	151,676	568,505	720,181	4,399,872
Planning and evaluation	1,848,883	83,478	1,932,361	-	-	-	1,932,361
Customer service management	980,836	23,313	1,004,149	-	-	-	1,004,149
Trade Allies Network	344,662	15,599	360,261	-	-	-	360,261
Supplies	8,021	2,366	10,387	8,642	3,089	11,731	22,118
Postage and shipping	3,537	872	4,409	1,620	826	2,446	6,855
Telephone	3,593	1,587	5,180	1,841	856	2,697	7,877
Printing and publications	90,242	5,008	95,250	821	6,434	7,255	102,505
Occupancy expenses	202,991	64,134	267,125	118,134	60,739	178,873	445,998
Insurance	30,876	9,755	40,631	17,969	9,239	27,208	67,839
Equipment	18,745	34,589	53,334	5,552	2,854	8,406	61,740
Travel	42,108	16,967	59,075	21,685	4,158	25,843	84,918
Meetings, trainings, and conferences	28,845	12,171	41,016	37,988	6,059	44,047	85,063
Bank fees	-	100	100	5,343	-	5,343	5,443
Depreciation	50,300	17,823	68,123	29,273	15,051	44,324	112,447
Dues, licenses, and fees	79,301	16,239	95,540	25,832	3,007	28,839	124,379
Miscellaneous	3,433	-	3,433	18	-	18	3,451
IT services	1,371,835	161,487	1,533,322	273,596	134,987	408,583	1,941,905
Total expenses	\$ 118,136,627	\$ 7,918,895	\$ 126,055,522	\$ 2,592,480	\$ 1,677,816	\$ 4,270,296	\$ 130,325,818

ENERGY TRUST OF OREGON, INC.
STATEMENTS OF CASH FLOWS

	Years Ended December 31,	
	2014	2013
CASH FLOWS FROM OPERATING ACTIVITIES		
Cash received in public purpose funding	\$ 88,889,205	\$ 87,989,637
Cash received in incremental funding	74,514,179	74,475,379
Cash received from other funders	-	108,262
Interest received	437,292	96,564
Cash received from other sources	13,400	13,430
Cash paid to contractors, suppliers, and employees	<u>(147,742,125)</u>	<u>(125,223,546)</u>
Net cash from operating activities	<u>16,111,951</u>	<u>37,459,726</u>
CASH FLOWS FROM INVESTING ACTIVITIES		
Acquisition of property and equipment	(1,401,746)	(95,038)
Purchases of investments	(71,109,817)	(25,270,363)
Sales and maturities of investments	31,348,351	-
Issuance of notes receivable	(100,000)	-
Decrease in restricted cash and cash equivalents	<u>77,988</u>	<u>384,703</u>
Net cash from investing activities	<u>(41,185,224)</u>	<u>(24,980,698)</u>
(DECREASE) INCREASE IN CASH AND CASH EQUIVALENTS	(25,073,273)	12,479,028
CASH AND CASH EQUIVALENTS, beginning of year	<u>76,484,638</u>	<u>64,005,610</u>
CASH AND CASH EQUIVALENTS, end of year	<u>\$ 51,411,365</u>	<u>\$ 76,484,638</u>
RECONCILIATION OF INCREASE IN NET ASSETS TO NET CASH USED IN OPERATING ACTIVITIES		
Increase in net assets	\$ 9,296,549	\$ 32,249,019
Adjustments to reconcile change in net assets to net cash from operating activities:		
Depreciation	370,787	331,907
Change in notes receivable allowance	13,211	-
Unrealized loss on investments	90,740	-
Amortization of bond premium	450,845	
Net changes in:		
Other receivables	(31,265)	115,346
Accrued interest receivable	(283,989)	173
Advances paid to contractor	533,271	93,594
Prepaid expenses	120,657	(260,258)
Other assets	(151,414)	(140,272)
Accounts payable and accrued expenses	5,595,932	4,840,094
Accrued payroll and related expenses	121,179	189,116
Deferred rent liability	<u>(14,552)</u>	<u>41,007</u>
Net cash from operating activities	<u>\$ 16,111,951</u>	<u>\$ 37,459,726</u>

ENERGY TRUST OF OREGON, INC.

NOTES TO FINANCIAL STATEMENTS

Note 1 - Organization

Energy Trust of Oregon, Inc. (Energy Trust), a nonprofit 501(c)(3) organization, began collecting public purpose revenues in March 2002. By the terms of its grant agreement with the Oregon Public Utility Commission (OPUC), it is charged with investing in cost-effective energy conservation, funding above-market costs of small scale renewable energy resources and encouraging energy efficiency market transformation efforts in Oregon.

All Energy Trust funds originally came from a 1999 energy restructuring law, which required Oregon's two largest investor-owned utilities to collect a three percent public purpose charge from their customers. A portion of that charge is transferred to Energy Trust, and the remainder is dedicated to energy conservation efforts in low-income housing and K-12 schools, as well as low-income housing improvements. The sunset date for collection of the public purpose charge is 2026.

The law authorized the OPUC to direct a majority of these public purpose funds to a non-governmental entity for investment. Energy Trust was created for this sole purpose. In November 2001, Energy Trust entered into a grant agreement with the OPUC to guide Energy Trust's electric energy work. The grant agreement was developed with extensive input from key stakeholders and interested parties, and it has been amended several times since 2001. The agreement is reviewed annually by the OPUC and is automatically extended annually for an additional three years unless Energy Trust or the OPUC give notice otherwise.

In 2007, the Oregon State Legislature passed Senate Bill 838 (OSB 838) and it was signed by the governor, which allowed electric utilities to request an increase in rates to pursue additional energy conservation opportunities. In 2008, PacifiCorp and Portland General Electric elected to send funds related to OSB 838 to Energy Trust to pursue energy conservation opportunities for retail electricity purchasers of less than one average megawatt. This precludes Energy Trust from providing services with this funding to some larger commercial and industrial customers. These funds are reported separately in the statement of activities as "incremental funding." The funds received from PacifiCorp and Portland General Electric may be used for conservation efforts in addition to activity funded by the public purpose funds.

In addition to its work under the 1999 energy restructuring law, Energy Trust administers natural gas conservation programs for residential and commercial customers of NW Natural. Under the terms of the 2003 agreement with the OPUC, NW Natural collects and transfers to Energy Trust a surcharge of the total monthly amount billed to non-industrial customers. Energy Trust uses these funds for energy efficiency efforts to benefit NW Natural's Oregon residential and commercial customers. In 2009, Energy Trust began administering energy efficiency programs for qualified industrial customers of NW Natural.

ENERGY TRUST OF OREGON, INC. NOTES TO FINANCIAL STATEMENTS

Note 1 – Organization (continued)

In 2006, Energy Trust began administering natural gas conservation programs for residential and commercial customers of Cascade Natural Gas Corporation (Cascade) under public purpose agreements. Each agreement provides for a different methodology for determining the amount of funds to be provided to Energy Trust.

In 2009, Energy Trust entered into a Washington Customer’s Public Purpose Funds Transfer Agreement with NW Natural. Under the terms of the agreement, NW Natural agrees to transfer funds (Washington Funds) and customer information to Energy Trust to design and administer cost-effective energy efficiency programs for existing homes and businesses to NW Natural customers in Washington. In 2010, the agreement was amended to include similar programs for builders constructing new homes in NW Natural’s Washington service territory. The agreement expires on February 28, 2016.

Note 2 – Summary of Significant Accounting Policies

Basis of accounting – The accompanying financial statements have been prepared on the accrual basis of accounting in accordance with accounting principles generally accepted in the United States of America.

Basis of presentation – Energy Trust is required to report information regarding its financial position and activities according to three classes of net assets under generally accepted accounting principles:

- **Unrestricted** – Net assets that are not subject to donor stipulations.
- **Temporarily restricted** – Net assets subject to donor imposed stipulations that may or will be met, either by actions of Energy Trust and/or the passage of time. When a restriction is met, temporarily restricted net assets are reclassified to unrestricted net assets and reported in the statement of activities as net assets released from restrictions. There were no temporarily restricted net assets at December 31, 2014 or 2013.
- **Permanently restricted** – Net assets subject to donor imposed stipulations which must be maintained permanently by Energy Trust. Generally, the donors of these assets permit the use of all or part of the income earned on any related investments for general or specific purposes. There were no permanently restricted net assets at December 31, 2014 or 2013.

Concentrations of credit risk – Energy Trust’s cash and cash equivalents may subject Energy Trust to concentrations of credit risk, as the fair value of securities is dependent on the ability of the issuer to honor its contractual commitments. Energy Trust’s non-interest bearing cash balances may exceed federally insured limits. Energy Trust has not experienced any losses in such accounts to date.

ENERGY TRUST OF OREGON, INC.

NOTES TO FINANCIAL STATEMENTS

Note 2 – Summary of Significant Accounting Policies (continued)

Cash and cash equivalents – For purposes of financial statement classification, Energy Trust considers all unrestricted, highly-liquid investments with an initial maturity of three months or less to be cash and cash equivalents.

Restricted cash and cash equivalents – Energy Trust had money market instruments with a value of \$77,988 reported as restricted cash and cash equivalents at December 31, 2013. There was no restricted cash and cash equivalents at December 31, 2014. These funds were held in CDARs accounts for the benefit of program recipients, as designated by the Board of Directors of Energy Trust.

Investments – Holdings consist of fixed income investments certificates of deposit, commercial paper, and U.S. government issues. The fixed income funds and certificates of deposit have initial maturities generally ranging from four to twelve months. Certificates are generally non-negotiable and non-transferable, and may incur substantial penalties for withdrawal prior to maturity. Investments are measured at fair value in the statements of financial position. Investment income or loss (including gains and losses on investments, interest, and dividends) is included in the statement of activities as increases or decreases in unrestricted net assets unless the income or loss is restricted by donor or law.

Property and equipment – Property and equipment are stated at cost less accumulated depreciation and are depreciated using the straight-line method over their estimated useful lives, which generally range from three to five years. It is Energy Trust's policy to capitalize property and equipment over \$5,000.

Deferred rent liability – Energy Trust leases office space under a non-cancellable lease. The lease contains a provision for increases in rental rates as well as abated rent. Rent expense is recognized on the straight-line basis with the difference between the expense and rent payments being recognized as deferred rent. Deferred rent was \$349,692 and \$364,244 for the years ended December 31, 2014 and 2013, respectively.

Revenue recognition – All funding is considered available for unrestricted use unless specifically restricted by the donor. Public purpose and incremental funding are recognized when funds are received from the funding source.

Contributions received are recorded as unrestricted, temporarily restricted, or permanently restricted support, depending on the existence or nature of any donor restrictions. Contributions, including unconditional promises to give, are recognized as revenue in the period pledged. Contributions of assets other than cash are recorded at their estimated fair value on the date of their contribution.

Expense allocation – The costs of providing various programs and supporting services have been summarized on a functional basis in the statements of functional expenses. Accordingly, certain costs have been allocated among the programs and supporting services benefited.

ENERGY TRUST OF OREGON, INC.
NOTES TO FINANCIAL STATEMENTS

Note 2 – Summary of Significant Accounting Policies (continued)

Advertising – Energy Trust expenses advertising costs as incurred. Advertising costs include activities to create or stimulate a desire to use Energy Trust’s services that are provided without charge. Advertising expense amounted to \$1,328,145 and \$1,279,658 for the years ended December 31, 2014 and 2013, respectively.

Income taxes – Energy Trust is exempt from federal and state income taxes under Section 501(c)(3) of the Internal Revenue Code. No provision for income taxes is made in the accompanying financial statements, as Energy Trust has no activities subject to unrelated business income tax. Energy Trust is not a private foundation.

Energy Trust recognizes the tax benefit from uncertain tax positions only if it is more likely than not that the tax positions will be sustained on examination by the tax authorities, based on the technical merits of the position. The tax benefit is measured based on the largest benefit that has a greater than 50% likelihood of being realized upon ultimate settlement. Energy Trust recognizes interest and penalties related to income tax matters, if any, in administrative expense.

Energy Trust had no unrecognized tax benefits at December 31, 2014 or December 31, 2013. No interest and penalties were accrued for the years ended December 31, 2014 or 2013. Energy Trust files an exempt organization return in the U.S. federal jurisdiction and is no longer subject to income tax examinations by taxing authorities for years before 2011 for its federal filings.

Renewable energy certificates – In the process of funding above-market costs of renewable energy resources, Energy Trust negotiates the contractual ownerships of Renewable Energy Certificates (REC) with funding recipients. A single REC represents one megawatt-hour of generation of qualifying electricity from eligible resources including, among others, solar, wind, and biomass. In 2011, Energy Trust amended policy 4.15.000-P to remove provisions allowing the sale of RECs. As of December 31, 2014 and 2013, the fair value of RECs has not been recorded as it is not considered material to the financial statements.

Use of estimates – The preparation of financial statements in conformity with accounting principles generally accepted in the United States of America requires that management make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements, and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from those estimates.

Fair value of financial instruments – At December 31, 2014 and 2013, the carrying values of cash and cash equivalents, restricted cash, receivables, accounts payable and accrued expenses, and accrued payroll and related expenses approximate fair value due to the short-term nature of these instruments. Energy Trust has determined these financial instruments to be Level 1 measurements in the fair value hierarchy. See Note 6.

ENERGY TRUST OF OREGON, INC.

NOTES TO FINANCIAL STATEMENTS

Note 2 – Summary of Significant Accounting Policies (continued)

Subsequent events – Subsequent events are events or transactions that occur after the statement of financial position date but before the financial statements are issued. Energy Trust recognizes in the financial statements the effects of all subsequent events that provide additional evidence about conditions that existed at the date of the statement of financial position, including the estimates inherent in the process of preparing the financial statements. Energy Trust’s financial statements do not recognize subsequent events that provide evidence about conditions that did not exist at the date of the statement of financial position but arose after the statement of financial position date and before the financial statements are available to be issued.

Energy Trust has evaluated subsequent events through March 18, 2015, which is the date the financial statements were issued.

Note 3 – Investments

Investments are stated at fair value as determined by quoted market prices and consist of the following at December 31:

	<u>2014</u>	<u>2013</u>
Fixed income investments	\$ 28,644,013	\$ -
Certificates of deposit greater than 90 days	26,729,911	25,270,363
Commercial paper	4,988,800	-
U.S. government issues	4,127,520	-
	<u>\$ 64,490,244</u>	<u>\$ 25,270,363</u>

ENERGY TRUST OF OREGON, INC.
NOTES TO FINANCIAL STATEMENTS

Note 4 - Property and Equipment

Property and equipment consist of the following at December 31:

	<u>2014</u>	<u>2013</u>
Computer equipment and software	\$ 1,653,762	\$ 1,401,967
Office equipment and furniture	679,343	600,662
Leasehold improvements	<u>318,964</u>	<u>313,333</u>
	2,652,069	2,315,962
Less accumulated depreciation	<u>1,831,551</u>	<u>1,500,494</u>
	820,518	815,468
Work in process	<u>1,025,909</u>	<u>-</u>
	<u>\$ 1,846,427</u>	<u>\$ 815,468</u>

At December 31, 2014, work in process consisted of various software projects.

Note 5 - Lines of Credit

Energy Trust maintained an unsecured line of credit in the amount of \$4,000,000. Interest on the line was based on the prime rate less 0.5% (2.75% at December 31, 2013). The line matured on December 5, 2014 and was not renewed. As of December 31, 2013, no borrowings were outstanding under the line of credit.

Note 6 - Fair Value Measurements

Accounting literature defines fair value as the price that would be received to sell an asset, or paid to transfer a liability, in an orderly transaction between market participants at the measurement date. Energy Trust determines fair value based on quoted prices when available or through the use of alternative approaches, such as matrix or model pricing, when market quotes are not readily accessible or available. The valuation techniques used are based on observable and unobservable inputs. Observable inputs reflect market data obtained from independent sources, while unobservable inputs reflect Energy Trust's market assumptions. These two types of inputs create the following fair value hierarchy:

ENERGY TRUST OF OREGON, INC.

NOTES TO FINANCIAL STATEMENTS

Note 6 – Fair Value Measurements (continued)

Level 1 – Quoted prices in active markets for identical assets or liabilities.

Level 2 – Quoted prices for similar instruments in active markets; quoted prices for identical or similar instruments in markets that are not active and model-derived valuations whose inputs are observable or whose significant value drivers are unobservable.

Level 3 – Unobservable inputs that are supported by little or no market activity and that are significant to the fair value of the asset or liability. Unobservable inputs are used to measure fair value to the extent that observable inputs are not available. Energy Trust’s own data used to develop unobservable inputs is adjusted for market consideration when reasonably available.

Energy Trust used the following methods and significant assumptions to estimate fair value for its assets measured and carried at fair value in the financial statements:

Investments – Investments are comprised of fixed income funds, certificates of deposit, commercial paper, and U.S. government issues. Investments fair values are based on quoted market prices. If a quoted market price is not available, fair value is estimated using quoted market prices for similar securities.

Deferred compensation assets – Deferred compensation assets are comprised of U.S. mutual funds for which fair value is obtained from an independent pricing service. The fair value measurements consider observable data that may include dealer quotes, cash flows, or the U.S. Treasury yield curve. Deferred compensation assets are recorded in other assets within the statement of financial position.

ENERGY TRUST OF OREGON, INC.
NOTES TO FINANCIAL STATEMENTS

Note 6 – Fair Value Measurements (continued)

The following table presents the fair value measurements of assets recognized in the accompanying statements of financial position measured at fair value on a recurring basis, and indicates the fair value hierarchy of the valuation techniques utilized by Energy Trust to determine such fair value:

Fair Value Measurements at Report Date Using:				
	Fair Value at December 31, 2014	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
Deferred compensation assets:				
U.S. mutual funds	\$ 630,176	\$ 630,176	\$ -	\$ -
Investments:				
Fixed income investments				
U.S. corporate bonds	14,712,212	14,712,212	-	-
Canadian corporate bonds	5,043,180	5,043,180	-	-
Other foreign corporate bonds	8,108,040	8,108,040	-	-
Municipal bonds	780,581	780,581	-	-
Certificates of deposit	26,729,911	-	26,729,911	-
Commercial paper	4,988,800	-	4,988,800	-
U.S. government issues	4,127,520	4,127,520	-	-
Total investments	64,490,244	32,771,533	31,718,711	-
Total assets measured at fair value	\$ 65,120,420	\$ 33,401,709	\$ 31,718,711	\$ -

Fair Value Measurements at Report Date Using:				
	Fair Value at December 31, 2013	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
Deferred compensation assets:				
U.S. mutual funds	\$ 552,641	\$ 552,641	\$ -	\$ -
Investments:				
Certificates of deposit	25,270,363	-	25,270,363	-
Total assets measured at fair value	\$ 25,823,004	\$ 552,641	\$ 25,270,363	\$ -

ENERGY TRUST OF OREGON, INC.

NOTES TO FINANCIAL STATEMENTS

Note 6 - Fair Value Measurements (continued)

Assets are to be classified in the table above by recurring or non-recurring measurement status. Recurring assets are initially measured at fair value and are required to be remeasured at fair value in the financial statements at each reporting date. There were no assets measured on a non-recurring basis at December 31, 2014 or 2013.

As of December 31, 2014 and 2013, Energy Trust does not have any liabilities that are required to be measured in accordance with fair value standards.

Note 7 - Notes Receivable

During 2014, Energy Trust entered into an agreement with Craft3 to loan up to \$300,000 in support of the Savings Within Reach Loan Program. At December 31, 2014, Energy Trust had loaned \$100,000, which accrues interest at 1% and is payable quarterly. The note receivable is due and payable ten years from the date of the final disbursement, but shall not extend beyond June 30, 2025. At December 31, 2014, total accrued interest receivable associated with the note receivable was \$250. At December 31, 2014, Energy Trust is committed to loan an additional \$200,000 in \$100,000 increments which may be requested once the previous advance is 75% depleted, which must occur prior to June 30, 2015.

Allowances for doubtful accounts are established based on prior collection experience and current economic factors which, in management's judgment, could influence the ability of loan recipients to repay the amounts outstanding per the terms of the agreement. Balances are written off only when they are deemed to be uncollectible. At December 31, 2014, the allowance for doubtful accounts was \$13,211.

ENERGY TRUST OF OREGON, INC.
NOTES TO FINANCIAL STATEMENTS

Note 8 – Public Purpose Funding and Incremental Funding

Public purpose funding and incremental funding received are as follows for the years ended December 31:

	2014	2013
Public purpose funding		
Portland General Electric		
Energy efficiency	\$ 28,741,721	\$ 26,484,406
Renewable resources	8,431,294	7,789,199
	37,173,015	34,273,605
PacifiCorp		
Energy efficiency	21,298,942	20,069,558
Renewable resources	5,954,514	5,740,135
	27,253,456	25,809,693
Northwest Natural - Oregon		
Energy efficiency	20,953,179	24,201,756
Northwest Natural - Washington		
Energy efficiency	1,054,355	1,291,102
Cascade		
Energy efficiency	2,455,200	2,413,481
Total public purpose funding	\$ 88,889,205	\$ 87,989,637
Incremental funding		
Portland General Electric	\$ 48,928,367	\$ 48,918,174
PacifiCorp	25,585,812	25,557,205
	\$ 74,514,179	\$ 74,475,379

ENERGY TRUST OF OREGON, INC.

NOTES TO FINANCIAL STATEMENTS

Note 9 – Operating Lease Commitments

Energy Trust leases its administrative offices under an operating lease agreement which expires in June 2019. Energy Trust also leases various office equipment under operating lease agreements. At December 31, 2014, the aggregate annual commitments under the terms of these leases are payable as follows for the years ending December 31:

2015	\$ 650,161
2016	670,068
2017	692,643
2018	715,616
2019	430,229
	<hr/>
	\$ 3,158,717
	<hr/>

Total rent expense under operating leases was \$619,156 and \$633,515 for the years ended December 31, 2014 and 2013, respectively.

Note 10 – Retirement Plans

Retirement plan – Energy Trust provides all employees with a qualified profit sharing retirement plan as prescribed under Section 401(k) of the Internal Revenue Code. Generally, employees who have completed at least three consecutive months of work may elect to make voluntary contributions to the plan on a pre-tax basis, up to the limits allowed by law. Employees select from various investment options. On a discretionary basis, as determined annually by the Board of Directors, Energy Trust may make contributions to the plan. For each of the years ended December 31, 2014 and 2013, Energy Trust contributed to the plan an amount equal to 6% of the compensation earned by each eligible employee during the period. Employees are immediately vested in all contributions to the plan. Retirement plan expense recorded by Energy Trust was \$424,084 and \$395,114 for the years ended December 31, 2014 and 2013, respectively.

Deferred compensation plan – Energy Trust sponsors a non-qualified deferred compensation plan for selected employees. Investments are owned by Energy Trust and managed individually by each participant. At the time an employer contribution is made, the Board will, in its sole discretion, determine whether the employer contribution will be initially fully vested or will become vested in accordance with vesting terms designated by the Board of Directors. Until paid to participants, plan assets are subject to the claims of Energy Trust’s creditors.

Energy Trust made discretionary contributions to the plan totaling \$37,089 during the year ended December 31, 2013. Energy Trust did not make discretionary contributions to the plan during the year ended December 31, 2014. Energy Trust recorded an asset and a liability in the amount of \$630,176 and \$552,641 as of December 31, 2014 and 2013, respectively. The deferred compensation asset and liability are recorded in other assets and accrued payroll and related expenses, respectively, in the statement of financial position.

ENERGY TRUST OF OREGON, INC.
NOTES TO FINANCIAL STATEMENTS

Note 11 - Contractual Commitments

Energy Trust enters into contract commitments for various goods and services. As of December 31, 2014, Energy Trust expects to pay no more than \$82,000,000 in future periods under these commitments. Expenditures for these commitments are recorded in the period in which they are incurred.

Energy Trust entered into incentive funding agreements for energy efficiency and renewable resource projects not completed as of December 31, 2014 totaling approximately \$65,000,000. These amounts will be paid in the period in which they are completed.

Energy Trust also has projects and incentive payment requests in progress that did not meet its recognition criteria at both December 31, 2014 and 2013. These amounts are unquantifiable and, as such, not disclosed in the notes to the financial statements.

Note 12 - Board-Designated Net Assets

Due to the long-term nature of certain renewable energy projects, the Board of Directors of Energy Trust has authorized amounts to be segregated into escrow accounts to be used for larger long-term projects. The funds held in escrow accounts are to be paid out under criteria specific to each project. In the financial statements, these funds are considered designated for those specific projects.

Note 13 - Related Party Transactions

Energy Trust, along with a number of other northwest regional utilities, provides funding to Northwest Energy Efficiency Alliance (NEEA). Energy Trust benefits from the arrangement by achieving low cost, long lasting electric energy savings through NEEA's regional market transformation activities. Since 2010, Energy Trust's executive director has served on NEEA's board of directors. Total payments to NEEA were \$7,366,000 and \$8,070,000 for the years ended December 31, 2014 and 2013, respectively.

Board Decision

Audited Financial Statements

April 1, 2015

RESOLUTION 742 ACCEPTANCE OF AUDITED FINANCIAL REPORT

BE IT RESOLVED: That Energy Trust of Oregon, Inc., Board of Directors accepts the auditor's report on the financial statements, including an unmodified opinion, submitted by Moss Adams LLP for the calendar year ended December 31, 2014.

Moved by:

Seconded by:

Vote:

In favor:

Abstained:

Opposed:

MEMO

Date: 18 March 2015
To: Ken Canon and Board Audit Committee
From: Margie Harris and Courtney Wilton
Subject: 2014 Management Review Status Update

Coraggio Group completed a Management Review and Evaluation Report for Energy Trust of Oregon, in which a number of recommendations were made. The recommendations were subsequently evaluated and prioritized after discussions with the Energy Trust board and OPUC. The current status of actions related to the recommendations is as follows:

1. Continue current investments in IT systems improvements, in particular business intelligence capabilities, and ensure that potential reduction/elimination of workload and/or additional capacity created as a result of investments is documented.

We have planned and budgeted to continue improvements to both business intelligence systems and core tracking systems in 2015. Recent improvements completed include the addition of new web forms and adding sites to the Customer Relationship Management System. Phase 2 of the Integrated Solutions Implementation Project (ISIP) to replace the FastTrack project system is on schedule and on budget for completion June 30, 2015. Future plans include making Utility Customer Information and data more readily accessible and usable.

2. Working with the OPUC and its funding utilities, consider moving to a two-year budget cycle.

We have evaluated the feasibility of changing to a two-year budget cycle, though after conversations with our board, PUC, utilities and other stakeholders have decided to defer any action at this point.

3. Conduct process improvement on forecasting and budgeting process to reduce non-value added steps.

We made a number of significant changes to budget process this year. They are as follows:

- a. *Managers were provided with three years of actual cost data for comparison purposes and given a budget target based on past spending.*
- b. *A coordination meeting was scheduled during the front end of the preparation cycle enabling program and support areas to discuss plans and made sure they were aligned with each other.*
- c. *Managers were asked to budget and forecast as accurately and "tightly" as possible with the understanding that program reserves would be available if needed to acquire all cost effective measures.*
- d. *Utility rate coordination was shifted from July to October thereby allowing staff to eliminate a redundant forecasting step and also allowing us to provide the utilities with more accurate information. This resulted in two additional months of actual cost data being available.*
- e. *In addition, we initiated suggested changes to utility tariffs to reduce collections for 3 of 4 utilities, an action supported by the utilities and upheld by the OPUC.*

These changes along with some good luck resulted in a very accurate year-end forecast of reserve levels for December 31, 2014, in line with projections.

4. Identify opportunities for streamlining all of Energy Trust's marketing expenditures, especially in the Sectors.

In response to this recommendation, Energy Trust immediately identified cost savings associated with moving media advertising procurement for business programs from the program management contractor to Energy Trust, and implemented this change in the 2015 budget. Centralizing media advertising procurement in the Energy Trust Communications & Customer Service Group eliminated costs paid by program management contractors to procure advertising through an agency and enabled Energy Trust to negotiate additional value for dollars invested in some media markets. In addition, Energy Trust marketing managers have planned a project to assess marketing activities and expenditures implemented by PMCs, program-based marketing staff, and CCS Group staff and contractors to identify potential future marketing activities improvements and associated expenditures. This project will begin in Quarter 2 and we hope to complete it by the end of Quarter 3.

5. Pursue discussion with funding utilities to further leverage their marketing efforts for broader outreach and reduced cost.

In response to this recommendation, Energy Trust marketing managers pursued discussion with marketing teams from each of the four utilities during regular coordination meetings in late 2014. In each meeting, we referenced the recommendation in the management review and invited discussion and suggestions on how Energy Trust could make better use of utility communication channels to reach customers and reduce costs. We received specific suggestions from each utility, such as a request for earlier involvement in planning of new offers (NW Natural), an offer to assist with customer targeting (PGE), an idea to "repackage" and circulate Energy Trust materials using utility branding (Pacific Power), and an offer to increase Energy Trust content in customer bills and on the utility's web site (Cascade Natural Gas). For each utility, follow-up steps have been identified and Energy Trust staff are pursuing opportunities that align with program needs. Regular marketing coordination meetings and communications (email and phone calls as needed) will continue as usual with each utility in 2015.

6. Regarding the cost allocation methodology, we do not recommend incurring additional time to further evaluate or distribute costs based on slight shifts in the cost drivers.

We agree with recommendation. No follow-up is necessary.

7. Consider whether to allocate these more general/shared services type costs at the portfolio versus program level when reporting cost effectiveness test results, using either TRC or UCT.

Energy Trust does not currently report cost-effectiveness to the OPUC at the portfolio level and instead report for major programs. The recommendation would require another level of reporting and significant additional work. After discussions with the OPUC this recommendation will not be pursued further.

8. Request the OPUC to work with Energy Trust to reduce reporting content for the first quarter and fourth quarter reports.

We are in the process of fully implementing this recommendation. Energy Trust secured approval from the OPUC to eliminate the quarter four report narrative and also append

quarter four results tables to the 2014 Annual Report, due April 15, 2015. As a result of eliminating quarter four-specific narrative, significant time savings were realized for program and communications staff in February this year. The first quarter 2015 report narrative will also be greatly abbreviated based on agreement with the OPUC.

9. Review reporting elements with the funding utilities with a goal of improving efficiency without a loss to sharing valuable information.

Several years ago at the request of utilities, Energy Trust began delivering utility-specific quarterly summaries of program results and activity in their service territories. The establishment of a data sharing agreement in 2013 and subsequent monthly transfer of Energy Trust program data with utilities greatly reduced the need for this supplemental reporting. In late 2014, Energy Trust solicited feedback from utilities regarding the ongoing value of the quarterly summaries, given the regular data exchange occurring through IT systems. Based on feedback from the utilities, utility quarterly summaries will be streamlined going forward. All narrative in quarterly summaries will be eliminated. We will continue to produce and deliver utility-specific data tables showing aggregate expenditures, savings, incentives, costs, and projects for each utility. Eliminating utility-specific narrative in quarterly summaries also eliminates most of the work associated with delivering these custom summaries to each utility.

10. Identify, set goals, and track progress on 3-4 administrative-focused productivity metrics in the context of a continuous improvement process.

Energy Trust staff were solicited and asked to identify administrative processes where potential improvements could be made that might result in efficiency and productivity gains. A list was compiled of current processes that could likely result in improved efficiencies and in turn, benefit many within the organization. The next step will be to enlist consulting help to assist us in incorporating some principles and approaches related to the practice of LEAN manufacturing, where applicable. The consultant will also help us to identify administratively focused metrics for the process improvements we plan to make and other metrics we can use to measure progress over time. We plan to prioritize the opportunities identified for implementation, choosing a reasonable number to address in any given year. For 2025, we will start by documenting efficiency and productivity gains associated with the ISIP project and add at least one other focus area of administrative process improvements to be completed by the end of the year.

11. Adopt a strategic initiative to pursue continuous improvement in all core processes of the organization—both program and administrative-related.

Response: See item 10, above. This recommendation is consistent with strategies adopted and approved and part of Energy Trust's 2015-2019 Strategic Plan which references and requires continuous improvement activities in each goal area: Energy Efficiency, Renewable Energy, and Operations. The 2015 proposed budget supports initial continuous improvement efforts in specific areas like program design, LEAN process improvement, improved electronic form and procurement automation and benchmarking.

12. Pilot various changes to the management of programs relative to savings goal timing.

In keeping with this recommendation, several PMC contracts were modified to return a portion of retainage based on six month vs. annual results. This provides additional incentive to PMCs to acquire savings sooner in year, rather than later.

13. Explore whether the use of an internal verification team is more cost effective than using outside firms.

We will review the roles of staff and contractors in quality assurance at Energy Trust to see if they are effective for minimizing costs and providing the most constructive advice for improving program effectiveness.

14. Consider a pilot of expanding span of control in some program areas to test whether the layers of management are necessary and are positively impacting the development and management of programs.

While we appreciate the benchmark data provided, Energy Trust outsources the vast majority of its operating expenses, unlike our benchmark organizations, such that most internal managers supervise both staff and contractors. We will remain cognizant of span of control considerations in the normal course of making staffing decisions. Span of control will be added as a factor to evaluate when making staffing decisions (see recommendation #16).

15. Conduct the administrative support staffing level needs assessment that was recommended in the 2010 Management Review.

We have budgeted to conduct an independent assessment of our administrative support needs completed this August such that any recommendations can be considered when developing 2016 budget.

16. Establish clear staffing justification criteria to give guidance to the organization when considering staffing additions or reductions and to ensure a transparent process for staff budgeting.

For any new employee requests, a template will be developed which considers a number of factors including:

- *Ability to achieve strategic plan goals*
- *Ability to achieve energy savings and renewable energy generation targets in a cost effective manner*
- *If the work can be performed through automation, outsourcing, restructuring or other means*
- *Opportunities to reduce operating costs or gain administrative efficiencies*
- *Positive/negative consequences to business operations and delivery of services to customers*
- *Workload and staff retention*
- *Span of control*

This new approach will assist us in being even more transparent in explaining needs and benefits associated with any future requests for new staff.

Tab 3

Briefing Paper

Renewable Energy Certificates Report Executive Summary

February 25, 2015

Introduction

Energy Trust's policy on Renewable Energy Certificates ([4.15.000-P](#)) came up for review in 2014. Because the market for Renewable Energy Certificates (RECs) has continued to evolve since the policy was developed, staff proposed a comprehensive, independent evaluation of REC market conditions to examine how the policy is working and whether it should be changed.

This is a board briefing on the Energy Trust of Oregon REC Report, an evaluation by Patrick Nye of Bonneville Environmental Foundation (BEF) in consultation with Energy Trust staff. The full report is available here: http://assets.energytrust.org/api/assets/reports/REC_Report.pdf. Patrick and BEF were one of the earliest actors in the REC market, influencing many of the standards in use today. At the April 1 board meeting Patrick will provide a presentation giving an overview of RECs, REC markets, RECs in Oregon, and some of the challenges of participating in the market.

After the April 1 board meeting, the policy committee will consider potential changes to the policy in light of the report and make a recommendation to the board.

This briefing paper provides a high level summary of the independent evaluation report and provides an introduction and background of RECs and REC markets, as well as a summary of Energy Trust's current REC policy, in the expectation that the board may be asked to consider changes based on policy committee recommendations.

Background

RECs and REC Markets

Every megawatt hour (MWh) of electricity generated by a solar, wind or other renewable project produces two things: electricity, which is sold in traditional energy markets; and RECs, certificates that may be sold in REC markets or used to make green claims.

RECs represent the "renewableness" of renewable energy. RECs and REC markets developed over the last couple of decades to monetize this renewable value, support markets to trade it, and provide incentives for renewable energy development. As RECs have evolved, they are increasingly seen as the "currency" of renewable electricity and green power markets. They are bought and sold between multiple parties and allow their owners to claim that renewable electricity was produced to meet their owner's electricity demand.

The first RECs were traded in voluntary exchanges, so that a person who wanted to claim to be "green-powered" had a certificate to back up such a claim. This was known as a "voluntary market." Later, as governments passed laws requiring utilities to have certain percentages of renewable energy generation in their portfolios ("renewable portfolio standards," or RPSs), "compliance" markets evolved.

To facilitate trading in voluntary and compliance markets, each certificate shows the underlying generation source, location of generation, and year of generation (a.k.a. “vintage”). Third-party registries keep track of each REC and when it is traded.

RECs in Oregon

Oregon’s renewable portfolio law, passed in 2007, requires larger utilities to have 15% of their resource portfolios renewable by 2015, 20% by 2020, and 25% by 2025. Some of these obligations can be satisfied by the purchase of RECs. Oregon and other western states use the Western Renewable Energy Generation Information System (WREGIS) to keep track of RECs and REC sales.

PGE currently has enough RECs to meet its RPS obligations through 2020. Pacific Power is supplied through 2024. Both utilities will need to acquire additional RECs to meet their obligations beyond then.

PGE and PacifiCorp also operate green power programs required by Oregon’s renewable energy law.

Energy Trust REC Policy

Energy Trust and the Oregon Public Utility Commission (OPUC) recognized RECs early in Energy Trust’s history. In 2004, based on discussions with its Renewable Energy Advisory Council (RAC), the OPUC and its board, Energy Trust established a REC policy. At that time, the only REC transactions in Oregon were voluntary and REC values were modest.

Energy Trust policy has changed incrementally with developments in law, REC markets and organizational needs. When it was first discussed, the primary concern was to recognize RECs and ensure that Energy Trust got the full value of renewable energy supported by Energy Trust incentives. Here is how the policy evolved:

- At first, Energy Trust policy was to take *all* RECs if any Energy Trust incentives were provided.
- Soon after, Energy Trust modified the policy to take RECs only in *proportion* to Energy Trust’s contribution to the project’s above-market costs. The policy allowed flexibility in the timing of REC ownership to accommodate projects concerned with retaining RECs to make “green claims.”
- In February, 2005, the board made an exception to the policy for residential solar installations in order to reduce the administrative burden of tracking and verifying a relatively small number of RECs. The board withdrew the exception a few months later when the OPUC objected that ratepayers might pay twice for the same REC: once with Energy Trust incentives and again via utility green power programs.
- In 2007, after Oregon adopted its renewable portfolio standard, many people thought that future REC values could far exceed the value of Energy Trust incentives. Energy Trust modified the policy so Energy Trust would take as many RECs as Energy Trust incentives could buy in the market.

Summary of the Report’s Key Findings

- REC value is now low, significantly lower than supposed when Energy Trust modified the policy in 2007. The REC market is oversupplied. (See page 27)

- PGE and Pacific Power filings indicate that both utilities have sufficient REC supplies to meet compliance needs through at least 2020. (See page 22)
- While Energy Trust has made progress on streamlining delivery of RECs to the utilities for some projects, WREGIS does not easily or cost-effectively accommodate small projects (see pages 15, 45), and so far we have been unable to develop a cost-effective and workable process for getting standard solar RECs into WREGIS. (See pages 47-51) Standard solar RECs, resulting from more than 7000 projects through 2014, are forecast to grow from 25% to 40% of Energy Trust's Renewable Energy portfolio between 2015 and 2030. (See pages 15, 41, 45).
- Energy Trust contractually controls about 125,000 RECs annually. This is expected to reach about 280,000 RECs in 2025. At present this represents 3-5% of PGE and Pacific Power's annual RPS requirements. As RPS requirements increase, Energy Trust's potential contribution goes down on a percentage basis. (See pages 41, 42)

Potential Energy Trust REC Policy Implications

At this stage in our review of the report, staff has identified three areas of potential policy concern. This is only an initial list pending deeper analysis with the benefit of discussion with the RAC, the OPUC and others, which we will bring back to the board at a future meeting:

- Energy Trust's REC policy overlaps with utility green power grant programs and Qualifying Facility power purchase agreements. This overlap can lead to Energy Trust and the utilities claiming more than 100% of a project's RECs, if working individually. (See pages 22, 43, 46)
- Despite years of effort, Energy Trust has been unable to cost-effectively register RECs from small, net-metered projects with WREGIS and deliver them to the utilities (pages 14-15, 46, 49-51).
- Customers who want to use RECs to make green claims sometimes find Energy Trust's REC policy an impediment to reaching agreement with Energy Trust (see pages 28, 45).

Tab 4

Policy Committee Meeting

March 10, 2015, 3:30–5:00 pm

Attending by teleconference

Roger Hamilton, Ken Canon, Debbie Kitchin, Alan Meyer, John Reynolds

Attending at Energy Trust offices

Fred Gordon, Jed Jorgensen, Betsy Kauffman, Margie Harris, Steve Lacey, Debbie Menashe, Thad Roth

Policies for Review

1. Review Process for Other Renewables Projects Policy

The “Other Renewables” Project Review Process Policy is not yet up for its regular review, but staff identified inconsistency between the current policy and potential awards of project development assistance funding. The current policy sets forth a variety of approval processes according to type of project and amount of Energy Trust funding to be authorized. Staff proposed two options for streamlining “Other Renewables” policy.

The first option proposed was to retire the policy and administer renewable agreements subject to the policy governing the executive director’s contract signing authority. Under this option, board review would be required for funding above \$500,000.

The second option proposed was for two more limited changes:

- Add geothermal to the “mature technologies” track, which would move geothermal into the category of projects requiring board approval only for projects involving more than \$500,000 in incentives.
- Align and streamline the review process and dollar limits for non-mature technologies with those applicable to development assistance, which would require board review of incentives above \$200,000.

The Committee discussed both options, asking staff about the added administrative burden associated with the second in comparison to the first. Based on staff response that it does not foresee extensive additional administrative burden between the two options, the Committee expressed its preference for the second option in order to maintain visibility on the early design and non-commercial technologies that might be considered by staff for Energy Trust funding. The Committee approved the second option for policy revision, recommends its approval by the full board, and asked staff to include the revised policy on the board’s consent agenda for the coming meeting.

2. Oregon Preference Policy

The Oregon Preference Policy is up for its regular three year review, and staff reviewed the policy in order to make recommendations to the Policy Committee. At the committee meeting, staff recommended streamlining the official policy language by eliminating the introductory language that was included in the full policy previously. No substantive change was recommended to the operative language of the policy. The Policy Committee approved the proposed revisions, recommended that the revised policy be approved by the full board, and asked staff to include the revised policy on the board’s consent agenda for the coming meeting.

3. Balanced Competition Policy

Debbie Menashe provided a status report on staff's analysis of the current Balanced Competition Policy, which is up for its regular three year review in May 2015. Since the acquisition of PECL by CLEAResult in 2014, Energy Trust has been operating under a board-granted waiver to the current Balanced Competition Policy. The policy provides a maximum of two Program Management Contractor (PMC) contracts per vendor. CLEAResult currently has three PMC contracts with Energy Trust. Debbie reported that Peter West has been investigating current market outlook for consolidation among energy efficiency program implementation vendors. Peter's initial research reveals that while some consolidation is occurring, there are still multiple vendors who could provide the program implementation services needed by Energy Trust. Debbie and Peter will review the policy to focus on changes that would continue to support Energy Trust's support of a vibrant market of service providers and provide parameters to manage program delivery risk.

Preview of Board Meeting Presentations

REC Market Report

The committee discussed the draft Renewable Energy Certificate (REC) market report prepared by Bonneville Environmental Foundation. Committee members expressed appreciation for the comprehensiveness of the report, but asked staff to prepare a more focused executive summary. Committee members provided staff with helpful guidance on topics and organization of an executive summary and suggested that a focused executive summary could be provided to the full board with a link to the full report. That information, in addition to the planned "REC 101" presentation at the next full board meeting, will provide the board members with a shared understanding of RECs. Committee members hope that with such shared understanding Policy Committee recommendations and board discussions on possible revisions to the Energy Trust REC policy will be meaningful.

Brief Updates

Margie Harris provided brief updates to the committee on the following matters:

- Margie reported that HB 324, the Clean Fuels Standards extension, passed both houses of the legislature without addition of an amendment which would have revised the public purpose charge allocation as currently set forth in statute.
- Margie updated the committee about the OPUC large customer docket, UM 1713. Energy Trust staff have responded to data requests in the docket. A public workshop will be held on May 6, 2015.
- Margie announced that senior planning manager, Elaine Prause has announced that she will be leaving Energy Trust to take on a new job at the OPUC as the liaison to Energy Trust.

The meeting adjourned at 5:00 pm. The next meeting of the Policy Committee is scheduled for April 28, 2015.

Tab 5

Evaluation Committee Meeting

February 26, 2015 12:00-3:00 pm

Attendees

Evaluation Committee Members

Alan Meyer, Board Member, Committee Chair
Anne Root, Board Member
Susan Brodahl, Board Member

Energy Trust Staff

Steve Lacey, Director of Operations
Fred Gordon, Director of Planning and Evaluation
Phil Degens, Evaluation Manager
Sarah Castor, Evaluation Sr. Project Manager
Dan Rubado, Evaluation Project Manager
Erika Kociolek, Evaluation Project Manager
Andy Eiden, Data Analyst
Anna Kelly, Evaluation Intern
Jackie Goss, Planning Engineer
Paul Sklar, Planning Engineer
Ted Light, Planning Project Manager
Thad Roth, Interim Residential Sector Lead
Sue Fletcher, Sr. Manager, Communications and Customer Service
Lizzie Rubado, Sr. Project Manager, Solar
Susan Jamison, Residential Marketing Manager
Spencer Moersfelder, Sr. Program Manager, Commercial

Alan asked about two topics that came up during the February 25 board meeting, when the board reviewed notes from last month's evaluation committee meeting (January 20). The two topics were: methodology for New Buildings data center projects and home energy reviews (HERs). Phil responded that we are working with planning and program staff on how to treat the data center and will update the committee once we have an approach. Alan expressed concern that moving home energy reviews to the web or phone could alienate customers that aren't tech-savvy. Phil responded that an in-home option won't be promoted, but will be available if a customer requests one. Peter responded that costs have increased dramatically for in-person HERs. Over the long term, 30% of HER participants go on to do a project, and the savings we can claim for projects have decreased, so it is no longer cost-effective to do in-home HERs. Additional information on this change will be provided to the board at a future date.

1. Short Take: Heat Pump Study

Presented by Erika Kociolek

Background: The impetus for this study was the Oregon Public Utility Commission (OPUC) docket, investigation into fuel switching and cross fuel efficiency issues, UM 1565. The outcome of this docket was a directive to conduct research on the reasons underlying customers' decision to install a heat pump (customers who previously had a gas furnace). The OPUC tasked Energy Trust with hiring an independent party to do this research. David Lineweber was hired and a kick-off meeting was held in March 2014 with OPUC staff, utility representatives,

and Energy Trust staff. A survey was developed and fielded in the fall of 2014. After completion, the draft report was sent out to all of the stakeholders, including the utilities, for review.

Goals: There were four main goals for the research project:

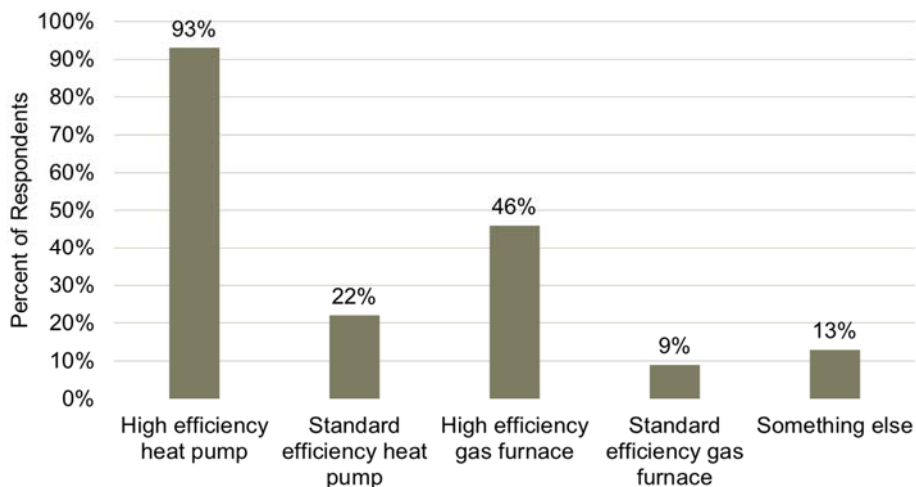
1. To verify the primary heating and cooling fuels before a heat pump was installed
2. To verify the primary heating and cooling fuels after a heat pump was installed
3. Learn about the heating system options that customers considered, included gas systems
4. Discern the primary factors influencing customer decisions to install heat pumps (why did customers switch fuels)

Sample: The sampling frame included just over 400 Energy Trust customers who replaced a gas furnace with a new heat pump between January 2011 and mid-2014. Ted clarified that the sampling frame for this study was only a small fraction of the total universe of people that received heat pump incentives from Energy Trust during this time period. Email invitations were sent to 248 households with a known email address and 176 were sent by mail. The contractor provided a \$50 incentive for completing the survey. 90 households responded, yielding an overall response rate of 21%.

Results: After installing the new heat pump, 79% reported that they replaced an old gas furnace. However, some respondents said that their new heat pump replaced an oil furnace, electric heat pump or furnace, or propane furnace. 29% did not have air conditioning in their home prior to installing the heat pump. 81% stated that the current primary heating system they are using is an electric heat pump; 7% said gas furnace, and 12% said something else or were not sure. 82% said their current primary cooling system was a heat pump, 12% said it was a central air conditioner, and 6% said something else or were not sure.

When asked about the heating system options they considered, 93% of respondents said they considered installing a high efficiency heat pump (which is what they did, according to Energy Trust’s records), 22% considered a standard efficiency heat pump, and about half considered a gas furnace (either high or standard efficiency).

Heating systems options considered



Reasons for not considering a gas furnace were varied, and included:

- They already had a gas furnace
- The cost of heating with gas vs. electric
- They thought other options were more efficient
- They wanted to add cooling to their home
- They wanted a single system for heating and cooling
- They actually added a new gas furnace [despite not reporting that a gas furnace was considered]

Alan asked why anyone would add a new gas furnace in addition to a heat pump. Phil said that it could be that they have a gas back-up to the heat pump. Sarah said that some contractors promote having two different fuel options. Thad asked if we recorded heat pump back-up fuel in FastTrack but nobody in the room knew for sure.

The survey asked respondents about several aspects of their decision making, including what prompted them to install a heat pump, what sources of information they used, what benefits they sought, and the factors that played into their ultimate decision. Regarding motivations, 46% believed they would save money on energy over the long term with a heat pump; 30% preferred heat pump performance, particularly the comfort of consistent heat; 20% installed a heat pump because of the availability of rebates or tax credits; and 15% were motivated by contractor recommendations.

Customers reported being prompted to change the heating system in their home due to: a desire for a more efficient system (25%), knowledge that the existing system was old and unreliable (24%), having experienced a problem or failure, encountering high bills and a few other reasons.

Sources of information about heating systems included: advice from HVAC installers (66%), info from Energy Trust (37%), online reviews and recommendations (31%), info from family and friends (27%), and advice from the utilities (electric: 25%; gas: 20%). However, when asked about the most important source of information, 52% said this was their HVAC contractor and all other sources dropped off, including information from Energy Trust (8%).

The benefits that customers primarily noted were: lower energy costs (31%), a more efficient system (29%), combined heat and air conditioning (22%), and a more reliable system (10%).

Factors that played into customers' decisions about the heating system included: comfort, efficiency of the system, Energy Trust rebates, relative fuel costs, tax credits, ability to add air conditioning and system reliability. This question was asked in a few different ways: first, respondents were asked to note all of the factors they took into account. Second, they were asked to weight the factors they selected using points (to get at relative importance). Third, they were asked to identify the importance level of each of the factors they took into account, from "not relevant" to "critically important". This information is summarized in the table below. When looking at critical factors, comfort, efficiency of system, and ability to add air conditioning came out on top (these are marked in grey in the table below). 17% thought that the rebate provided by Energy Trust was a critical factor.

Factors influencing customer decision-making

	Was A Factor Taken Into Account	Mean "Importance" Points (of 100)	Factor Rated As "Absolutely Critical"
Comfort level provided	81%	23	89%
Efficiency of the system	76%	17	71%
Presence of Energy Trust rebate	66%	7	17%
Relative fuel costs	63%	16	52%
Available state tax credits	51%	4	12%
Ability to add AC to home	47%	13	61%
System reliability	47%	10	72%
Available utility / manufacturer rebates	40%	4	12%
Installation cost	27%	4	38%

Anne and Alan noted that other factors do seem to be more important than Energy Trust incentives in customer decision-making. There appear to be a lot of different factors in decision-making about installing a heat pump.

Conclusions: The survey contractor concluded that incentives and rebates were in the mix, but "core system performance characteristics" (lower fuel costs, single integrated heating/cooling system, and reliability) had the largest impact on the decision.

Alan asked if utility staff gave any feedback on the report. Steve said we sent the report to them and they have not provided any feedback to date. Phil noted that the utilities were involved in scoping the study. Erika added that they also reviewed survey questions.

2. Rooftop Unit Tune-Up Initiative: 2012 Impact Evaluation

Presented by Dan Rubado

Background: Packaged RTUs heat and cool over half of the commercial floor space in the Northwest. They are often not well controlled and need maintenance. The Existing Buildings (EB) program began testing rooftop unit (RTU) measures in 2009 and launched a pilot to do minor maintenance and upgrades, in the form of a tune-up, in 2010. Evaluation staff performed a billing analysis in 2013, which showed that the assumed savings were not there, and the measure was ultimately cancelled for 2014. We hired Cadmus to investigate the results and what could be improved next time, since RTUs are an important energy end use. Susan B. asked if this means that we think the measure will come back. Dan responded that the study was intended to collect lessons learned that could inform a new measure design to address RTUs. Alan asked if the potential savings are there, but this initiative did not realize the savings. Phil responded that there is a long history of trying to address RTUs in the Pacific Northwest. Anne asked about the function of an economizer. Phil responded that if it is cooler outside than inside, the economizer brings in outside air ("free cooling"). Dan added that economizers are often adjusted so they are not closed all the way, and are always bringing in outside air. Anne

asked if operator error is to blame for some of the RTU issues. Phil responded that studies from California have shown that most of these units have three things wrong with them, regardless of system age. Since they are on the roof, few people go past them or are aware of them; it's mostly technicians who are working with RTUs.

Tune-Up Incentive Design: Qualified contractors were paid a per unit incentive to perform work at no cost to the customer. The work they did included filter replacement, evaporator coil cleaning, refrigerant charge, and other basic maintenance activities. They fixed or replaced inoperable economizers, reset or replaced thermostats, reset outside air changeover temperature for economizing, and added a CO₂ sensor for demand control ventilation (DCV). DCV is the main source of savings on the gas side; when outside air is not needed for ventilation, the economizer shuts and uses conditioned air.

The program targeted units with existing maintenance agreements (so there were some assurances the units were maintained), with gas heat and electric AC, units that were less than 10 years old, and between 5 and 20 tons of cooling capacity.

The table below shows the trajectory of the tune-up initiative between 2010 and 2013. In 2012, 30% of EB program gas savings were coming from RTU tune-ups, and by 2013, this had dropped off due to changes in incentive levels and, we believe, that contractors had run out of customers to work with. In 2013, we did billing analysis and then the initiative was cancelled. Alan asked if these numbers are reported, not actual. Dan confirmed that they are reported, not evaluated.

Summary of RTU savings and incentives, 2010-2013

Year	Sites	Units	Incentives	kWh Savings	Therm Savings
2010	140	441	\$406,650	1,010,027	120,116
2011	572	1,481	\$1,886,700	4,315,872	572,083
2012	638	1,553	\$2,429,650	4,889,403	659,856
2013	103	186	\$277,155	708,282	95,417

Study Goals: The goals of the study were to independently estimate savings and realization rates for tune-ups, understand the variation in savings and reasons for low savings, find the best-case scenario savings potential for RTU tune-ups, and make recommendations to help develop a more effective tune-up initiative in the future.

Methods: Cadmus sampled RTU tune-ups completed in 2012, which was the biggest year of the initiative. They completed a document and database review to see the types of measures done at each site, including the baseline conditions recorded. Cadmus also performed interviews with participating contractors who worked on sites in the sample to find out about their tune-up practices and to get information on the typical baseline scenarios for units. Finally, they conducted site visits to inspect and meter units, and used data from the site visits to do engineering analysis of meter data and savings calculations.

Sampling: 56 sites were randomly sampled from all 2012 tune-up projects. 30 sites were recruited to participate in the study, and 41 RTUs were selected from the rooftops of study sites. The sample had a good mix of locations, building types, and contractors.

Metering: Cadmus collected data on power and fan current; gas valve position; supply, return, and mixed air temperature and humidity; outside air temperature and humidity; and data from the CO₂ sensors installed at the sites.

Findings – Document Review: Cadmus found that there was not a lot of pre/post diagnostic data collected by contractors (this was by design, as it can take a fair amount of time to collect this information). The reported baseline economizer condition and position were probably not reliable, as they were virtually the same for all units. Documents frequently reported that units did not require cleaning, and that units were correctly charged (refrigerant charge). Thermostats were only rarely installed or adjusted, and CO₂ sensors for DCV were installed on nearly all units.

Findings – Contractor Interviews: Nine HVAC firms worked on sites in the sample. They reported that there was aggressive promotion of tune-ups, and some disliked competition over customers. Contractor staff confirmed that the tune-ups were done at no cost to customers and there were no complaints about the incentive amount or cost to do work (Cadmus noted this was a red flag indicating the incentive may have been high, as we often hear from contractors that the incentive was too low). Contractors reported that tune-ups were good for business during the slow season, and they said they did not clean coils unless there was an obvious restriction.

Cadmus also asked contractors about RTUs in Oregon generally, to help inform the development of baseline conditions. They reported that customers would rather repair than replace RTUs, so there are many older and poorly maintained units. They said strip malls typically have the worst maintenance (the owner does not pay the utility bills and occupants are not knowledgeable about the units). They said restricted airflow is a typical issue, and there were differing opinions about refrigerant charge.

Field Observations – Maintenance: Cadmus reported that 50% of units appear to be well-maintained, 25% appear to receive limited maintenance (likely from site staff), and 25% do not appear to receive any maintenance other than changes to air filters.

Field Observations – DCV: 13 of 41 CO₂ sensors were not working properly. For 3 units, the sensor was placed in the mixed air chamber. 8 units had sensors that were not wired or connected, and 2 units had non-functional sensors. Alan asked if there was a flat incentive regardless of work. Spencer responded that the incentive was incremental and depended on the amount of work performed. The incentive structure was purposefully, and was intended to make the tune-ups an easy sale for technicians. The work quality was extremely variable. Jackie commented that all iterations of the tune-up measure had DCV. If a unit didn't already have it, we paid for the installation of a sensor. If a unit had it, we paid for the contractor to check on it. The goal was for all units to have DCV.

Metering Observations – DCV: 18 of 41 units did not appear to have functional DCV. 6 units were probably functional but the CO₂ levels never reached the maximum (meaning Cadmus did not observe them operating) and 17 units were functioning properly.

Metering Observations – Cooling: 9 units did not appear to have functional economizers. 16 units had fan runtimes less than 50%, which was less than assumed and translates to low potential savings. Fred said he takes this to mean that the units probably control the fan when heating. Dan said that it indicates the fan only comes on when the unit receives a call for heat or cooling. Fred said that this is not code but lots of people do it anyway. Dan noted that many

small commercial sites use residential thermostats rather than commercial ones, which could explain the fan behavior. In the study, only 16 of the units had properly functioning economizers and fans that ran near continuously. These are the only units that had potential for significant savings.

Savings Analysis – Baseline: Cadmus made baseline assumptions based on a 2004 study by the New Buildings Institute (prepared for the Regional Technical Forum) and contractor interviews to determine likely baseline scenarios:

- 36% of units have a correctly functioning economizer, with a minimum of 10-20% outside air and no DCV
- 24% have the economizer stuck close and no DCV
- 40% have the economizer stuck open, with an average of 20% outside air and no DCV

Cadmus assumed that when an economizer operates as expected, savings were calculated for each baseline. If the economizer did not operate, savings were assumed to be zero. Some scenarios could result in increased usage, but we assumed zero savings. No savings were attributed to standard maintenance.

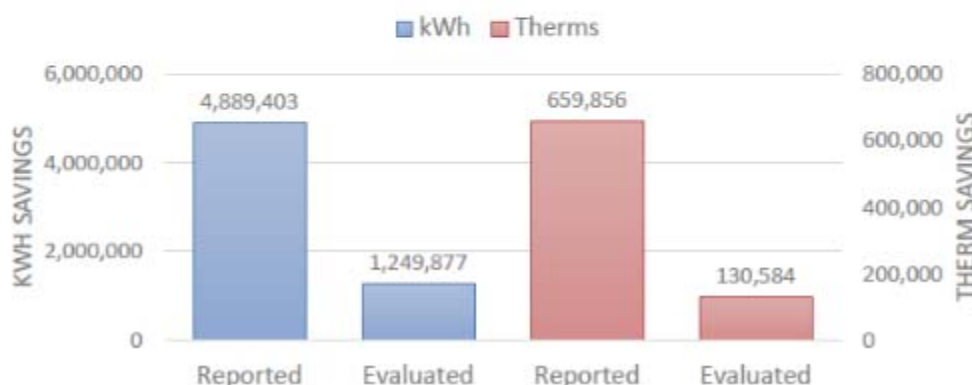
Savings Analysis – Heating: The study got started late in the season, so units were metered for only 5% of the annual heating hours. So, Cadmus performed engineering calculations to determine the maximum heating savings potential for each unit, and adjusted those with additional information. On average, savings potential was 33.5 therms per ton, which was adjusted by fan cycle time, and a verification factor was applied for each unit.

Savings Analysis – Cooling: Cadmus used engineering equations to calculate free cooling per hourly temperature bin, and normalized to typical weather data (TMY3 bins) to arrive at maximum cooling savings potential for each unit. Savings were assumed to occur when the economizer was functioning properly. Savings, were adjusted and weighted for three baseline scenarios.

Savings and Realization Rates: The table and graph below show savings and realization rates. Looking at heating across all units in the sample, a realization rate of 20% was achieved. If we just look at the units with functional DCV, the realization rate is 38%, which is the best case scenario for savings (translates to 100 therms of savings). On the cooling side, the overall realization rate was 26%. Looking only at units with functional economizers, the realization rate is 40%; this is the upper end of what we can expect in terms of savings, which translates to 1,200 kWh per year from tune-up measures. The graph compares reported savings to evaluated savings, and as you can see, the reported savings are much higher than the evaluated savings.

Summary of realization rates

Scenario	N	Weighted Average Savings	Realization Rate	Relative Precision
Heating (all units)	41	56	20%	27%
Heating (functional DCV)	23	100	38%	14%
Cooling (all units)	41	767	26%	41%
Cooling (functional economizers)	30	1,232	40%	39%



Conclusions and Recommendations: Tune-up savings were lower than expected because tune-up measures were not correctly installed, many economizers were not functional, heating and cooling demand were lower than expected, and fan runtimes were low. Cadmus recommends using the evaluated savings for true-up.

The quality and skill of contractors implementing measures is critical for success. Cadmus recommends providing or requiring economizer and/or RTU controls training.

Changes to program requirements around quality control (QC) could improve contractor performance and help obtain baseline information. Cadmus recommends randomly verifying the work of individual technicians, possibly including pre-visits.

Alan asked if these contractors are a group we normally work with. Spencer responded that we did not engage with this group of contractors before the tune-up initiative. Fred commented that in the 2009 pilot phase of this program, the program trained people and instituted heavy QC, and when it transitioned from a pilot to an offering, other firms came in and did not have that training or experience, and the QC level went down quite a bit. Susan B. asked if there is a disconnect between the people paying for this and the people who are using it. Fred responded that the incentive was designed to try and overcome the split incentive.

Peter said that the report seems to be recommending that we have an exclusive contractor network, more QC, and spend more money on measures, all while the evaluated savings went way down. Plus, we shouldn't include half the market in a tune-up measure like this because it won't save any energy. Fred said we could analyze savings based on the ventilation specification for code even though the indoor air circulation in commercial buildings is random with respect to code, but that would not provide a realistic estimate of savings. Making some of

these units functional and bringing ventilation up to code may increase load, balancing the savings at other sites.

Other conclusions and recommendations: Many RTUs had problems with the tune-up measures installed, including some that had field QC. A recommendation is to modify the QC protocol to physically test economizer operation and consider alternate economizer controller technologies.

Older and poorly maintained RTUs have significant savings potential. A recommendation is to perform targeted marketing to facilities that consider RTU maintenance a low priority and ensure contractors follow quality tune-up practices.

Energy Trust Take: The realized savings for RTU tune-ups were very low. Previous initiative designs did not address problems with RTUs or save much energy. However, existing RTUs are an important energy use and must be addressed. The EB program is working to develop a new initiative to address some of these past problems. Fred commented that a way forward may be control systems that can be monitored remotely. Alan commented that it sounds like the approach used in the past did not work, but there is still potential for savings. Spencer commented that we have custom measures coming through the program, but are looking for a big enough dataset for new, advanced RTUs to develop savings estimates for prescriptive measures. Since the program experienced issues with contractor quality, the program may look to a tech-based, retrofit option in lieu of maintenance.

Fred added that we could look for a way to screen out units where the thermostat controlled the fans, since the savings would be low for those units and air quality is not an efficiency issue. Savings are related to fan runtime. Anne asked about doing outreach to commercial building owners about this. Fred responded that their relationship to rooftop equipment is distant. Fred added that we don't know how to make this work yet. We need to get a culture of competence in the HVAC firms, which takes focus and money.

3. EPS and Solar Valuation Study

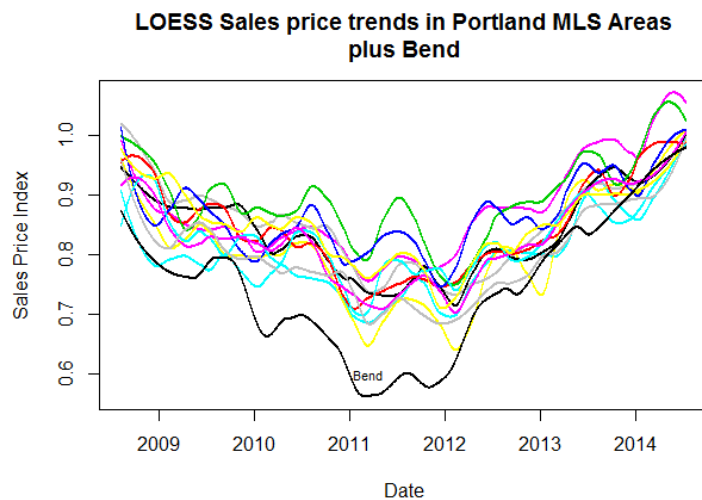
Presented by Sarah Castor

Background: Energy Trust commissioned a similar study in 2011 that was done by Watkins & Associates on the valuation of homes with solar photovoltaics (PV). The present valuation study was also conducted by Watkins & Associates and kicked off in February 2014. This study analyzed homes that received incentives through Energy Trust's solar program and sold between 2009 and 2013. In addition to solar homes, the study also included new homes with energy efficient features that received an Energy Performance Score (EPS). These features included efficient equipment, insulation, air sealing, etc. Rather than looking at specific efficiency features, the study looked broadly at all homes with an EPS, which is much more easily defined and potentially identifiable by consumers and appraisers. The thinking was that if we found something indicative in the results, we could take a closer look at specific measures in the future. We also looked at the valuation of green certifications that EPS homes received. The methods for this study were reviewed and approved by a panel of appraisal professionals from around the country. There are many similar studies that have been done and that are currently happening around the country and this one was conducted using typical methods.

Methods: In 2014, we provided data to Watkins & Associates for homes in FastTrack that received incentives for solar PV or for an EPS, matched with property sales data from CoreLogic's MetroScan database (a data service that aggregates county tax assessor data). A

matched sales comparison method was used to estimate value of solar PV and EPS. This entails identifying comparable properties for each home in the analysis from multiple listing service (MLS) data and making adjustments for size, date of sale, and number of bedrooms and bathrooms. The difference in the adjusted sale prices is the value premium for solar or EPS. The date of sale correction was more complex than the simple, linear corrections for other elements. There have been a lot of changes in the residential real estate market since 2009. To account for these fluctuations, LOESS (locally weighted scatterplot smoothing) sales price trend indexes for each real estate market area were used to adjust sales prices over time. Back in 2008, prices were up where they are now, then there was a big dip, then they came back up. There are also big seasonal variations in sales prices. This method allowed us to remove the seasonal and annual differences in assessing the value of EPS or solar.

Sales price trend curves used to adjust home sale prices (each line is a different MLS area)



Alan said this is a really complicated way of adjusting and asked if it is really meaningful after this adjustment. Sarah said the statistician that did this work wrote up a memo explaining the methods and it is really clear and makes sense. Anne commented that this was a really bad time to measure the value of a home because there was a lot of change and things happening in the market. Sarah said that ideally you're comparing two homes that are very similar and that sold at the same time and in the same market. Then, the remaining difference is the value of the assets you're interested in. Phil added that we would like appraisers to start adding the value of efficiency and solar into their appraisals. Anne asked if that is one of the objectives of this study. Phil answered that we would like appraisers to recognize the value, which will get banks and others to recognize it. Phil and Fred both said that it was what we are trying to accomplish here.

Results for Solar PV: Out of 70 homes with solar that transferred, only 14 properties could be analyzed, because the rest were not open market sales (these could be things like refinancing, divorces, foreclosures, etc.) or had other problems with their data. Some listings didn't note that they had PV, so we could not be certain that the site still had PV. Some homes didn't have comparables that could be identified. Some homes had other green features and certifications, so they couldn't be included for comparison. Even with the limited sample, we were able to get an estimate. The estimated price premium for solar was \$13,700, or 3.6% of home value. The 2011 report showed a \$9,800-\$12,800 value premium, or 2.8-3.5%, with a slightly larger sample. A recent Lawrence Berkeley National Lab study showed a \$15,000 premium (based on homes across several states), at 3.9% of home value. So, the results of this study are similar to others, although they were not statistically significant, likely due to the small sample. When we

looked at the data, two were third party-owned systems, which probably should not be included since they are an asset that may not get transferred with sale of the home. It is not known for sure if the next homeowner will or can take over the lease agreement.

Results for EPS: For the analysis of EPS homes, there were similar issues to solar. Out of 716 transferred properties (including both new and existing EPS homes), only 83 were included in the analysis, all new homes. Again, non-open market sales were excluded as well as homes with incorrect information. There was no mention of EPS in the MLS listings, so all of the homes that were included in the analysis had a green certification of some kind, including Energy Star or Earth Advantage. At some point, EPS started being included in MLS listings as well, but it was not included for these homes. We ended up comparing certified homes with and without EPS to get at the value of EPS.

As shown in the table below, for 57 homes in the Portland market, the estimated price premium for Energy Star with EPS over non-Energy Star homes was \$8,800, or 2.2% of sale price, and statistically significant. For Earth Advantage with EPS, the premium was \$9,700, or 3.3%, and highly significant. Combining the two certifications, we get an average premium of \$9,200, or 3.1%, which is also highly significant. Comparing Energy Star or Earth Advantage homes without EPS, the premium is slightly higher, but insignificant. We don't think there is actually a negative effect of EPS on the value premium of certified homes. Also, there was no significant difference between the different certifications. In summary, there was a small premium for a green certification and no additional premium found for EPS.

Summary of findings for EPS and other certifications

	Estimated premium	Percent of avg. sale price
Energy Star certification w EPS (N=17)	\$8,788	2.2%*
Earth Advantage certification w EPS (N=40)	\$9,677	3.3%**
Energy Star or Earth Advantage w EPS (N=58)	\$9,223	3.1%**
Energy Star or Earth Advantage w/o EPS (N=19)	\$11,471	4.1%*

We looked at an additional 28 properties in the Bend market. The market differences over time in Bend were significant, so the analysis was not as meaningful there. The market was just too volatile and the sample was too small to properly analyze. So, we can't say anything about the value of EPS in the Bend area through this research.

Conclusions: It will be important to work with builders and realtors to get EPS included in all MLS listings of new and existing homes. It has been getting added to MLS listings regularly for new homes since the New Homes program started providing a SPIF to realtors to do this. This has not been done on the existing homes side yet, but the program is exploring this option.

Peter commented that we have a confidentiality agreement on the existing homes side, so we may not be able to release EPS scores to real estate agents as it is private customer information. It is easier with new homes because the builder can just provide it to the agent. Alan said that people buy homes very infrequently, and so they don't necessarily know that much about certifications or scores like EPS. The certifications are easy to understand but

seeing the EPS won't mean much to most people. Sarah said that agents can educate buyers about its meaning. Anne said realtors won't want to advertise homes with bad EPS scores. Sarah said there aren't really any bad scores, since EPS is on a continuous, non-truncated scale. Fred said we have been engaged in EPS as it is a strategy emerging in the market. It is uncertain the extent of its future market share and getting it into the real estate market takes a lot of work. Alan said this study shows it is not a big thing yet. Phil said that Energy Star started in a similar place and now it has slowly moved up and become important. It is important to have the infrastructure of a performance score in the market that we feel is valuable and to promote it as the market starts to value home scoring to a greater degree. Alan asked how you get the score. Susan J. said for new homes the home is verified as part of the program and the builder gets the score. For existing homes, the homeowner would have to contact a trade ally and say they wanted it. Verifiers would probably not be involved in the existing homes side.

Alan asked if we even know what the score costs on the existing homes side yet. Peter said for new homes, we tested out scores for a typical baseline home first, with certain types of assets, based on blower door results, etc. That established the code baseline. Builders take steps to go above code level and the EPS score is based on that difference. The incentive is paid on the difference in EPS score between the actual home and a baseline code home. It is a sliding scale from zero, which is net zero, and up. Now we have moved this approach to existing homes. Nationally, the US Department of Energy and other states are also doing home energy scores. We narrowed the score to include 30 or so data inputs. We discovered that quality and attention to detail matter when recording data. The simpler we made the model, the more accurate the scores were. We went out to the existing homes market with contractors trained in home performance and controlled the quality of work. We have had about 3,000 existing homes rated. Most of them were Clean Energy Works completed projects; that organization generates EPS as a standard part of its process. We didn't have code to compare to in these cases, so we had to go out and find the "average" existing home. We're are still in the early days with this effort. Now there are laws to promote this and other tools. We are interested in developing incentives in existing homes that we would pay based on improvement in an energy score, but cost-effectiveness requirements may pose a challenge.

Susan B. asked who pays for what - in new homes, the builder doesn't pay, but in existing homes, someone pays? Peter said that the builder has to pay for the EPS verification in new homes, but this is offset by the incentives they are paid for the home's energy efficiency. For existing homes, it depends on the contractor, but we pay incentives to rate the home up to \$75. Contractors charge variable amounts. Susan B. said a program that adds cost but doesn't have inherent value has some problems. Peter responded that 34% of homes built in Oregon in 2014 participated in the program through the New Homes program. Fred said that we used to just pay for Energy Star home certification but the EPS allows us to pay more for homes with higher savings than Energy Star. After a few process evaluations we know that builders are looking to minimize their EPS scores and EPS is something that creates a target efficiency goal for them, but a few will go further. Phil said there are other rating systems that are not as accurate as EPS and that this tool works well. Peter said that dropping the incentive for verifiers and pushing it into the open market, dropped the price of verifying overall, making it more cost-effective, even though it pushed more of the cost to builders. Phil said this fits well with initiatives that cities and governments in Oregon are trying to promote.

Sarah continued, saying Taylor Watkins recommended that we redo this analysis in a few years when there are more properties that have sold. The premium for solar appears to be more than the out of pocket cost of the systems, which is interesting, but consistent with valuation studies from other regions. We have asked Taylor Watkins to look at the data a little more to make sure

the certifications in this analysis aren't just from a few builders, and that we can attribute the premium to the certifications and not a builder's brand. Energy Trust should continue and increase efforts to have EPS included in sale listings. Alan asked if we had a big marketing campaign for EPS. Susan J. said we do marketing at home tours and other events around the state but not a major campaign.

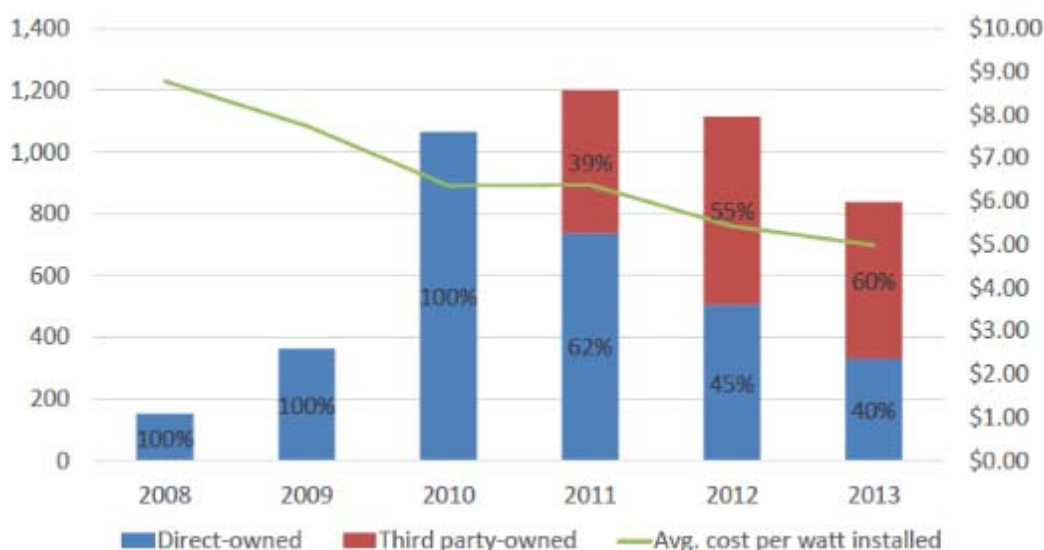
4. Residential Solar Market Research

Presented by Sarah Castor

Study Purpose: Cadmus was the contractor for this study, and the study was conducted between March and November 2014. Program staff wanted to understand what motivates customers to install solar, why customers choose to purchase versus lease a solar system, if Energy Trust is offering the right support to customers who are interested in solar, and what features of the program might be improved.

Background: As shown in the graph below, between 2008 and 2011, the program saw large increases in the number of projects coming through the program. In 2011, the program started to see third party systems, which now comprise 60% of the residential PV projects. At the same time, market interest in PV has increased due to the decreasing cost per watt for PV, the feed-in-tariff, and Solarize programs. Since 2011, the program has seen a decline in the number of projects.

Residential solar projects and average cost per watt, 2008-2013



Research Tasks: Cadmus conducted interviews with Energy Trust and Solar Oregon staff. Solar Oregon is a non-profit that Energy Trust contracts with to do outreach at events and hold workshops on going solar for residential customers. Cadmus also reviewed program materials and marketing materials. The biggest part of the study was online surveys and phone interviews with three groups of customers: those who had leased a solar PV system (Cadmus completed 72 surveys and 10 interviews with customers in this group), customers who purchased a solar PV system (82 surveys and 10 interviews), and event attendees who have not yet installed solar

(50 surveys, 10 interviews). All respondents had done a project or attended an event within 18 months of the survey.

Research Areas: The research areas for the study included customer demographics, customer awareness of incentives and what they wish they had known before going solar, marketing preferences (sources of information and tools used or desired), motivations (including the options considered) and challenges and barriers.

Demographics: A large majority of customers in all three groups had at least a bachelor's degree. About a third had annual household incomes over \$100,000, and just under a quarter had annual household incomes between \$70,000 and \$100,000. Event attendees had lower than average incomes, and customers who leased a system had higher than average incomes. Purchase and event respondents tended to have older homes, while lessees tended to have newer homes.

Awareness: There were a variety of sources of program awareness. Contractors, Energy Trust's website, and internet searches were mentioned by respondents in all three groups. For lease system customers, word of mouth was a popular source of information, and for event attendees, Solar Oregon was a key source of information. There was good awareness of incentives among customers; 78% of lease customers were aware that Energy Trust incentives reduced their cost (even though they did not directly receive them), and 91% of purchase customers were aware that their project received an Energy Trust incentive.

Marketing Preferences: The program is interested in using more proactive marketing techniques in the future, to both boost participation but also reduce customer acquisition costs for trade allies. Cadmus reviewed marketing materials, and noted that they have good clarity of information, but some ads and infographics could have a stronger call-to-action. These materials have lots of good information on reasons to install solar, but not as much information on what to do next.

Event attendees said the information and tools they wanted the most were factual cost estimates, a calculator tool that tells them about the financial aspects of the project, the ability to talk with solar participants, and the pros and cons of buying versus leasing. They said the best source for information was Solar Oregon or Energy Trust, and 86% said the workshops were somewhat or very valuable.

Purchase and lease customers said the most valuable information was Energy Trust's solar calculator, information from their contractor, information on Energy Trust's website, and the list of trade allies. They couldn't think of any other information that would have made their decision easier. Their preferred channels for communication were e-mail, radio, and maybe TV ads. These customers suggested the program advertise more, help explain tax credits, and provide a step-by-step guide for having solar installed.

Motivations and Barriers: Cadmus did interviews with program staff and asked what they thought were the top motivators and barriers for customers. What program staff said aligned with what customers said. The top motivators/benefits mentioned were: lower bills, ability to produce renewable energy and reduce carbon footprint. Many customers cited tree removal or other site conditions as challenges. Purchase customers said they chose to own their system rather than lease because it was a better value, and that they could directly take advantage of tax credits and incentives. Some also stated that in general, they preferred to own rather than lease.

Lessees said leasing was more affordable than purchasing, and they didn't want to maintain the system (it is worth noting that owners said there was little to no maintenance required). Many lessees said they would have considered purchasing if they had access to a good loan offering. Several folks who said they were interested in a loan through the survey changed their mind when they were interviewed later. It's unclear whether that is confirmation bias or they thought more about it and decided a loan wouldn't have been right for them. Purchasers tended to consider solar for longer than lessees before committing to installation (lessees reported considering solar for 1-2 months and purchasers considered solar for as much as a few years). Both purchase and lease participants felt the participation process was easy.

Many participants reported no challenges to installing solar. The most common challenges were site conditions, upfront costs (for purchase participants) or process issues and delays (for lease participants). Event attendees had some concerns about upfront costs and payback, but also lots of issues with site conditions.

Reason for Not Participating: Two thirds of event attendees had taken no steps toward installing solar, mostly because of cost or their home was not suited to solar (25% each). Fred asked how long after the event were people interviewed? Sarah responded that all respondents had participated in the program or attended an event sometime within the past 18 months, so the surveys and interviews happened between a few months after they participated or attended an event and as much as 18 months later. So they had time to think things over.

Among those who had taken steps to install solar, half had received a bid, and 7 of 50 expected to install a system by the end of 2015. Fred asked if any of the event attendees had installed a system to date. Sarah responded that in the survey screening, we made sure that we only talked to event attendees who had not yet installed a system.

Respondents in all three groups had similar advice for others considering solar. They emphasized installing now while incentives and tax credits are available and doing research in terms of investigating the options. Lease participants emphasized the environmental benefit, while purchase participants emphasized reduced electricity bills. Event attendees emphasized that solar is cost-effective and affordable.

Conclusions and Recommendations: Information on return on investment, customer testimonials, and pros and cons of leasing versus buying are seen as very helpful and important for decision making. This information should be showcased on the website, and emphasized in workshop presentations (it already is, so the program should continue to make it a focus). E-mail is a preferred communication channel, but some customers said TV ads would be helpful. Cadmus recommended considering running ads specific to solar. The most recent TV commercial included solar, but was not solar-specific, it was part of an overall residential campaign. Cadmus noted that there may be a missed opportunity to obtain feedback from workshop attendees, and the program should consider surveying workshop participants about the experience and following up with tailored resources.

Lower electricity bills were a top motivator/benefit of participation, and upfront costs were a top barrier. The program should emphasize bill savings or provide financial estimates or examples, and also provide information on loans and lease options to offset upfront cost. Sarah commented that current behavioral research suggests that financial messaging is less effective than commonly assumed and emotional messaging can be extremely effective, so although it wasn't noted in the report, this may be something to explore in the future. Purchasers noted the

complexity of applying for the state tax credit; the program should work with the Oregon Department of Energy to make the information clearer and the process easier.

Purchasers noted the ease of maintaining the system; this is something the program can emphasize as a benefit of purchasing versus leasing. Lease participants indicated interest in a loan for purchasing a system directly; it may be helpful to explore interest in a solar loan product and how it would differ from leasing. Some marketing materials could benefit from a clearer call-to-action and sense of urgency.

Alan commented that our charter with renewables is different than our charter with energy efficiency; with renewables we are covering the above market cost, so he has trouble seeing the linkage between TV advertising for solar and covering above market costs. Lizzie responded that the solar program is using a strategy of helping to bring down the cost of installing solar, as it is the only way the program can serve more customers with a fixed budget. The program has a strong understanding of what financials are needed to drive a certain level of demand and activity given other incentives and prices. In the long term, the program will reduce and phase out incentives, and continue to work on reducing costs. The program needs to understand customer decision-making and how to increase the value proposition for investing in solar. There are no plans to do solar-specific TV ads at this time.

Susan J. commented that solar does appear in some residential advertising as part of the landscape; from that perspective, we could do a better job of integrating solar into some of the medium it hasn't been in before. Anne asked about the number of solar projects that do not tap into Energy Trust's incentives. Lizzie responded that we capture about 70-75% of the market, although this was not the case during the time period in which the feed-in-tariff was available (it increased the market overall, and our share was less) but since that funding source is no longer available, the previous market share is accurate. We capture nearly every system installation in our service territory; the remaining projects are outside of our service territory or not grid-tied. Susan B. asked if solar erodes efficiency results. Lizzie commented that the program has found most customers start with solar, and that it is an entry point into saving energy. They may be installing systems that produce less than 50% of the electricity they consume, and that becomes motivation to further reduce one's energy consumption so solar is meeting a larger portion of energy use. Peter commented that a former intern looked at how solar customers came into the program, and PV customers had already done more efficiency measures than other customers.

Energy Trust Take: Program staff have a good read on the current state of customer motivations and barriers. Reviews of workshops were positive, and participants noted the ease of the installation and participation process. There is the potential for some simple changes to the website and marketing materials, to provide more motivation and encourage follow-through. Among event attendees who had not installed a system, their opinions about solar were still very positive; they may be future customers at their current home or another home.

Wrap-Up & Next Steps

The committee briefly reviewed a list of projects for 2015. The committee tentatively decided the next meeting will be in April, and will attempt to schedule the meeting so it coincides with the next board meeting, which makes it easier for out-of-town members to attend in person.



SOLAR MARKET RESEARCH FINAL REPORT

February 4, 2015

Sarah Castor, Evaluation Sr. Project Manager
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Executive Summary

Energy Trust of Oregon contracted with Cadmus in March 2014 to research the current market for its residential solar electric program to better understand the decline in participation in recent years and to make meaningful, actionable recommendations for improvement. This report describes Cadmus' findings, conclusions, and recommendations and is intended to inform Energy Trust's future program marketing planning, strategies, and activities.

Despite early growth in Energy Trust's residential solar electric program and in solar installations in comparable markets and nationwide, Energy Trust saw participation in its program decline in 2012 and 2013. This research seeks to suggest ways to increase program participation, particularly through assessing and improving customer outreach and marketing efforts.

Cadmus worked with Energy Trust to identify four major research areas for the evaluation—customer awareness, customer motivations and barriers, marketing preferences, and demographics. In collaboration with Energy Trust, we developed detailed research questions for these topic areas. We reviewed program materials and marketing collateral, conducted interviews with Energy Trust and Solar Oregon staff, surveyed program participants and event attendees using a web-based survey, and conducted interviews with some of the survey participants. Based on findings from our market research, we present conclusions and recommendations here.

The most common way in which solar-installing customers first learned about Energy Trust's solar incentive was through a contractor. This indicates that Energy Trust's solar trade allies are often the first point of contact for interested customers. Cadmus recommends that Energy Trust continue conducting regular follow-ups with trade ally contractors to ensure that they are aware of Energy Trust resources and share them with customers. We also recommend holding a contractor focus group to better understand any challenges or barriers in promoting the residential solar electric program to customers and to identify potential opportunities and interest for collaborative marketing.

Some customers learned about the Energy Trust solar incentives through a family member, friend, co-worker, or neighbor. Cadmus recommends considering a "refer a friend" promotion to encourage more program participants to share information about the Energy Trust solar incentive with others. This could be executed digitally or through collateral. Customers could receive an e-mail after participating in the program with a "forward to a friend" link, or customers could receive several postcards in the mail after participation, which they could mail or give to a friend.

The pros and cons of purchasing versus leasing a system were cited as information helpful in making decisions about solar. Although this information is presented in the Solar Oregon "Basics of Going Solar" workshop, it is not prominently featured in the Energy Trust and Solar Oregon websites. We recommend Energy Trust consider incorporating on its webpages an easily accessible discussion of the pros and cons of purchasing and leasing a system to assist customers in making their decision.

Event attendees (who did not proceed with installation) were often unwilling to move forward with an installation because of the high upfront cost, concerns about reasonable payback periods, or because of site limitations such as shading. This underscores the need to continue to clearly address these concerns during the workshop. It is possible that event attendees who said they received disadvantageous payback periods did not have a well-suited site for solar. Energy Trust could ensure that information on anticipated cost savings and payback times continue to be clearly communicated during workshops and provide customers with appropriate case studies. Energy Trust could also emphasize the lease option or loans to offset the upfront costs.

We also recommend considering alternatives to point-of-use installations, such as community shared solar, sometimes called community solar gardens, where a larger scale solar array is constructed on well-suited available land, and multiple participants buy-in to the array and proportionately benefit from the energy produced. Alternatives would allow customers who are interested in solar but do not have well-suited homes to participate and benefit.

Energy Trust can improve its marketing collateral to provide clear actionable next steps for interested customers. Some marketing materials inform customers about the benefits of solar and provide them with information on how to participate, but they do not actively encourage the customer to take the next step toward visiting the Energy Trust website or reaching out to a contractor for a cost estimate. We recommend that all collateral have clear calls-to-action that provide a customer with the next step toward program participation.

Several other conclusions from the market research were:

- The Energy Trust website and an Internet search were the second and third most frequently cited sources through which purchase customers learned about the Energy Trust programs and were the second and sixth most frequently cited for lease customers.
- Some purchase interviewees stated receiving a realistic cost estimate was critical to give them the confidence to take the next steps in the installation process. They also felt it was necessary to do background research before contacting a solar trade ally for a site visit and cost estimate, which delayed getting the critical information they were ultimately looking for.
- The most prevalent advice among program participants and event attendees to others considering solar was to take action now and to install the system before incentives are no longer available or are not as lucrative. Cadmus recommends testing this message through a focus group.
- Challenges cited among customers who have participated in the program were limited; however, the few stated were related to upfront costs or technical aspects of installation (e.g., issues with roof, tree shade, inspections).
- Many program participants said the ease of maintaining the systems was a benefit of the system. Energy Trust could use this as a selling point in marketing and outreach content. This may also be useful information for customers who are weighing the pros and cons of leasing versus purchasing a system.

MEMO



Date: March 19, 2015
To: Board of Directors
From: Sarah Castor, Evaluation Sr. Project Manager
Lizzie Rubado, Sr. Project Manager - Solar
Subject: Staff response to the Residential Solar Market Research project

The purpose of this market research project was to get an updated view of the market for residential solar electric systems; the last market research Energy Trust commissioned on this market took place in 2008. Since that time, many changes have occurred in the market, including a substantial decline in prices for solar panels, a number of community bulk solar purchases, the introduction of the state's volumetric incentive rate program (also known as the feed-in tariff) and the growth of third-party-owned solar systems. In conducting this research, Energy Trust was looking to understand what resources and tools best assist customers in making the decision to install a solar electric system, what factors lead customers to buy or lease a system, and what barriers prevent some customers from installing a solar system.

Based on the findings and recommendations from this research, Energy Trust sees the following opportunities:

- Greater promotion of tools like the solar calculator and Mapdwell; customers reported that the solar calculator provided important financial information needed to make a decision about installing solar
- Update marketing materials to have a clearer call to action and provide more sense of urgency, and make changes to the website to make resources, like customer testimonials and example projects, easier to find
- Continue research into, and efforts to reduce, soft costs for solar contractors
- Work with the Oregon Department of Energy to make the tax credit process easier for solar customers
- Provide more information about solar leases, loans and Power Purchase Agreements (PPAs) to enable customers to make the best decision for their circumstances
- Ensure Energy Trust is a top result in web searches about solar within Oregon

The research pointed to the success of existing channels to educate prospective customers about going solar and the resources provided to support decision-making. Energy Trust solar trade allies were identified as the most common way that customers learned about Energy Trust solar incentives. Energy Trust's website was also frequently cited as a resource used by customers to learn about Energy Trust solar offerings.

Solar program and marketing staff will utilize this research to inform future program plans.



PROCESS EVALUATION OF BUILDING PERFORMANCE TRACKING AND CONTROL SYSTEMS PILOT

May 2014

Energy Trust of Oregon, Inc.
421 SW Oak Street #300
Portland, OR 97204

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Acknowledgements

Cadmus thanks the staff members of Energy Trust for their support over the past years during the BPTaC pilot evaluation. Phil Degens (the evaluation manager) and Spencer Moersfelder (the program manager) provided valuable insights about the pilot. We also appreciate the support and the pilot updates provided by Lockheed Martin and ICF, and we thank the BPTaC system vendors and participants for sharing their time and experiences with us.

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Executive Summary

Energy Trust of Oregon's Building Performance Tracking and Control Systems (BPTaC) Pilot offers incentives for installing any of the following building monitoring systems, each of which comes with a three-year subscription for consulting services provided by the system vendor:

- Energy Management System (EMS)
- Energy Information System (EIS)
- Automated Optimization Software (AOS) for chiller systems

This report describes the results of a process evaluation conducted by Cadmus from June 2011, when the program was initiated, through the end of November 2013. Our evaluation examined the following questions:

- What motivated participation in the Pilot?
- What features proved critical to participants using the systems?
- Do the systems lead to additional investments/actions towards energy efficiency? What types of improvements do participants pursue?
- What benefits do the systems provide?
- What participant characteristics influence savings and persistence of savings?
- How do the systems track and lead to savings? If so, are these tracking procedures sufficient for Energy Trust's analysis and evaluation purposes?

To conduct a process evaluation that answered these research questions, the Cadmus evaluation team performed these key activities:

- Collected and reviewed Pilot and project documentation such as the reports that system vendors generated for customers;
- Interviewed program staff, vendors, and Pilot participants twice; and,
- Reviewed information displayed on online facility tracking dashboards.

Conclusions and Recommendations

In this section we first discuss conclusions and recommendations at the overall Pilot level. We then highlight similarities and differences between the EIS and EMS systems.

Program-Level Findings

Conclusion 1. The Pilot did not meet its installation goals for any of the eligible systems. The main reasons for these shortfalls are: (a) the long decision-making time frame that can be needed for these projects; (b) the slow economy; and (c) businesses' unfamiliarity with the Pilot measures.

Recommendation 1. Pilots often take a long time, especially those testing products or practices that are not commonly found in the target market sector. Allow vendors ample time to recruit participants, especially for more costly projects. In particular, decision-making in large organizations typically

requires time to obtain management approval and to earmark funds. Depending upon when a proposal comes forward in a budget cycle, decisions about such systems could take a year or more.

Conclusion 2. Vendors noted, and some participants concurred, that they lost momentum at various points in the program – for instance, after their systems were installed, their facilities inspected, or after they had taken some actions. Vendors suggested an incentive structure where the first portion of the incentive would be paid to the participant immediately after installation and inspection, and the second portion would be paid after certain level of recommended energy-saving changes were in place. This structure would provide an incentive for participants to remain responsive to the vendor’s early energy saving advice.

Recommendation 2. If Energy Trust makes EMS and EIS measures a normal part of its portfolio, it should continue to offer incentives for both the system and consulting services. Energy Trust can then determine if a two-part incentive (incentives provided after system installation and inspection, and incentives provided for implementing recommended energy-saving changes) is preferable to the existing incentive structure. Although a two-part incentive would require more administrative time, the structure could influence the vendor to follow through with energy-saving recommendations and the participant to follow through with implementing those recommendations. In addition, the vendors and Energy Trust should work together to develop a variety of methods to keep participants engaged, including offers targeted to or tailored for their facilities.

Similarities Between the Systems

Conclusion 3. The commissioning process (optimizing a building’s performance to maximize energy savings) can take a year or more. Both vendors of these systems explained that the implementation process entails multiple phases during which the vendor and customer work together to address seasonal issues and to fine-tune the operation.

Recommendation 3. Measure the performance of these systems and the consulting services over an extended period (at least one year, ideally two) to obtain meaningful results about the effectiveness of these systems.

Conclusion 4. Participants are busy and, hence, resistant to completing the documentation required to receive the incentives and to track system performance. Cadmus found that participants avoid filling out application forms on their own and that EIS participants often do not update the status of energy-saving measures in the online dashboard.

Recommendation 4. To prevent delays in the participation process, require vendors or implementers to help participants complete application forms from the start of a pilot program. Also, have vendors track or continue to track implementation of energy-saving measures for participants as part of their consulting services.

Conclusion 5. The participants said that the non-energy benefits of these systems were of great importance, and they specified the following advantages: providing data to better manage tenants, providing more control over building system scheduling, raising awareness of the importance of

conservation, and providing information to justify investments for maintaining or improving building systems.

Recommendation 5. Have vendors highlight the non-energy benefits of these systems when promoting their capabilities to prospective customers. In addition, if these systems become part of a regular program offering, Energy Trust marketing can also emphasize these messages.

Conclusion 6. Some customers are more receptive and responsive than others regarding energy-saving measure recommendations. During the initial sales process, vendors can gauge the level and type of involvement that a potential participant is likely to have by asking questions about current maintenance practices and policies.

Recommendation 6. Rather than provide the same level of energy-saving recommendations to all customers, vendors should identify customers who are receptive to ideas and then provide them with more aggressive and frequent recommendations, including suggesting measures that require capital investments. Vendors should work with Energy Trust to determine what incentives are available to support these improvements. The program should create an incentive structure that rewards both vendors and customers for maximizing and maintaining savings.

Differences Between the Systems

Conclusion 7. With the EIS, the savings appear to be more sensitive to participants' willingness to implement energy-saving measures. With the EMS, the most significant savings likely result from effective scheduling, which does not require a high level of attention from participants.

Recommendation 7. Screen participants for characteristics that are likely to lead to significant savings based on the type of system for which they qualify. Thus, for an EIS, target customers who are engaged and willing to implement multiple recommendations, and for an EMS, target customers whose facilities are not already optimally scheduled (and carefully consider the savings potential for those with 24/7 operations).

Conclusion 8. The reporting capabilities of the EIS and EMS have different strengths and weaknesses for supporting evaluation. The (legacy) EIS dashboard tracks, in a systematic and transparent way, the recommended energy-saving measures and the implementation outcomes. In contrast, the EMS does not have a formal way of tracking energy-saving measures, although the EMS vendor is researching ways to add this feature. The EMS vendor's energy savings spreadsheet presents calculations in a transparent, easy-to-follow manner, unlike the EIS reports and portal, which do not explicitly show how the savings are calculated. Both vendors could improve their savings reporting practices by offering additional interpretation of what is driving changes in consumption.

Recommendation 8. Energy-saving measures need to be tracked for all facilities and systems, and the associated energy savings calculations should be made transparent. Results reporting should be organized logically (e.g. in chronological order) and accompanied with explanations of what is causing changes.

To inform participants' decision making, vendors should regularly provide customers with (written) project payback or cost saving estimates for each of their energy saving measure recommendations (at the project or measure level).



Building Performance Tracking and Controls Pilot: Energy Savings Review

September 12, 2014

**Energy Trust of Oregon, Inc.
421 SW Oak Street #300
Portland, OR 97204**

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Executive Summary

Energy Trust of Oregon launched its Building Performance Tracking and Control Systems (BPTaC) Pilot program in June 2011. This pilot tests the feasibility and persistence of obtaining energy savings from businesses that operate buildings and facilities when they used two different monitoring technologies.¹ The BPTaC Pilot offers participants significant incentives for the following commercial building monitoring systems and their associated consulting services:

- Energy Management System (EMS), intended for smaller buildings.
- Energy Information System (EIS), targeting large buildings with direct digital controls (DDCs).

In this report, Cadmus presents the methods used and the results from its independent review of the energy savings that can be expected from future installations of BPTaC systems. Cadmus performed the following analyses:

- Ascertained if the vendors' reported savings are consistent with Cadmus' analysis of billing data
- Analyzed, given the variability across sites, how well pilot savings are likely to be representative of future BPTaC projects.

Cadmus analyzed the energy savings of five (of seven) EMS and four (of nine) EIS installations. We included only those sites that had at least one year of performance data and where customers participated in process evaluation interviews. More details on the program and its performance are available in the *BPTaC Process Evaluation Report*, May 2014.

Overall Results

Based on Cadmus' utility billing analysis, Table 1 summarizes the performance of both technologies.

Table 1. Summary of Savings and Distribution From Utility Billing Analysis

Technology Approach	Number of Sites	Number of Buildings	Savings from Baseline			
			Mean Year 1	Range Year 1	Mean Year 2 (Partial Year)	Range Year 2
Electric						
EIS	4	4	9%	0% to 17%	17%	6% to 30%
EMS	5	8	9%	1% to 26%	11%	1% to 38%
Gas						
EIS	4	4	8%	-10% to 34%	14%	-30% to 42%
EMS	5	8	16%	-8% to 59%	24%	-18% to 66%

The Year 1 data includes a full year of operation while Year 2 data does not include a full year of operation. The percentage of savings for Year 2 is based on the year-to-date comparison of utility billing data to the normalized baseline for the same months.

¹ BPTaC also offered incentives to install Automated Optimization Software (AOS), applicable to buildings with chiller plants. However, no customers installed AOS and thus these systems are not included in this analysis.

The program’s planning target for annual gross savings was 5% for the EIS. The results of the utility billing analysis show that the average savings for the EIS exceeded the target for both electric and gas savings, with greater savings in the second year.

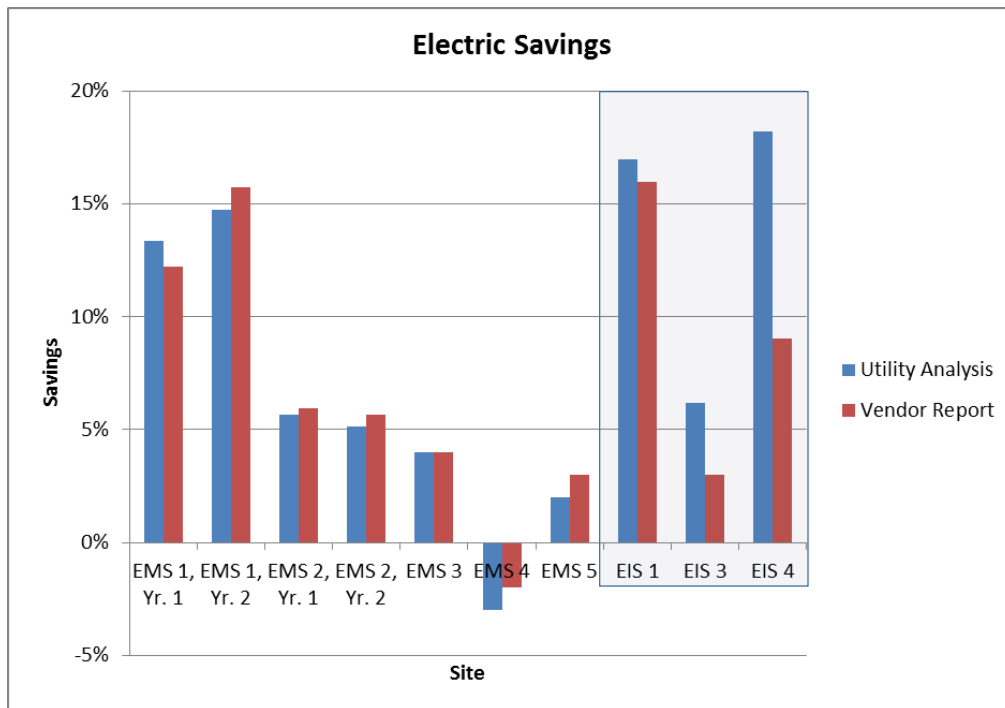
The target for annual savings for EMS was 15%. While the billing analysis shows the average savings for the EMS did not quite meet the target for electric savings, EMS did meet the target for gas savings. As with EIS, savings increased in the second year.

For both technologies, the results show significant variability in the savings on a site-by-site basis, which will affect the reliable use of deemed savings in savings estimates.

Comparison of Utility Billing Analysis to Vendor Reported Savings

Cadmus performed a utility billing analysis using monthly billing data and compared the results to the vendors’ reported savings. Savings are summarized in Figure 1 (electric) and Figure 2 (gas, EMS only). The electric savings reported by the EMS system vendor were similar to the savings documented through the utility billing analysis. However, the gas savings reported by the EMS vendor had a larger deviation from the utility billing analysis savings. The electric savings reported by the EIS vendor did not match the savings documented through the utility billing analysis. To provide an indication of the order for magnitude for the savings difference for the EIS sites, the electric savings are summarized in Table 2. Cadmus could not compare gas savings because the EIS vendor did not report them in their monthly reports or dashboard.

Figure 1. Comparison of Electric Savings - Vendor Reported and Utility Billing Analysis²

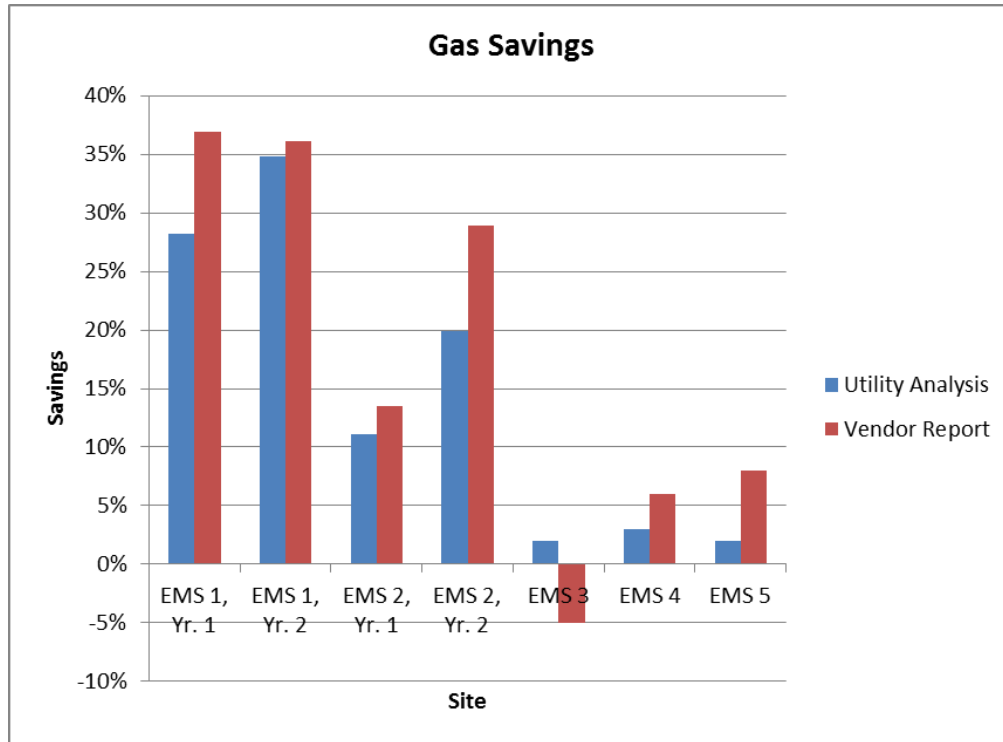


² Site 2 was omitted in this analysis due to concerns about validity of vendor results.

Table 2. EIS Electric Savings

Type	Vendor Reported Electric Savings (kWh)	Utility Analysis Electric Savings (kWh)
EIS Site 1	536,000	344,800
EIS Site 3	43,900	92,090
EIS Site 4	224,780	110,500

Figure 2. Comparison of Gas Savings - Vendor Reported and Utility Billing Analysis (EMS only)



Conclusion and Recommendations

Comparison of Utility Billing Analysis to Vendor Reported Savings

Conclusion 1

The lack of a standardized savings report format interfered with the pilot’s ability to track system performance and to compare results across system types and facilities.

Recommendation 1

Energy Trust should develop a standard report format for these and similar technologies that will allow a more reliable assessment of both electric and gas savings. The report should include: baseline period

used for the energy-savings calculations, the amount of energy savings generated in the report period, the amount of savings that are being attributed to the system, and an indication of whether the reported savings were weather normalized. If the savings are weather normalized, savings compared to the baseline period for the same month should also be provided. Energy Trust could also stipulate the specific periods for the reports, possibly to coincide with the monthly billing periods.

Conclusion 2

The EMS vendor reported electric savings were close to the savings calculated by Cadmus using the utility bill analysis, but there was a larger difference between the two in the gas savings. This is attributable to the different methods of weather normalization used. Gas savings are more weather dependent than electric savings; therefore, Cadmus' gas results show a bigger difference from vendor reports than our electric results.

Recommendation 2

Energy Trust should require that vendors use an analysis method with weather normalization that is customized for each building, not one based on an assumed linear correlation between outside air temperature changes and weather dependent energy consumption and assumed weather dependent loads. Using such assumptions will not match the specific building performance characteristics of each building and will result in inaccurate weather normalized savings.

Conclusion 3

The electric savings reported by the EIS vendor did not match the savings documented through the utility billing analysis. The weather normalization routine that the EIS vendor used is included in the EIS software and is customized for each building. While the method is described, the monthly calculations are not transparent, preventing a direct comparison of the normalization methods to determine if the normalization method had an impact on difference in calculated savings. The utility billing analysis showed that gas savings occurred at three of the EIS sites, but Cadmus could not compare gas savings because the EIS vendor did not report them.

Recommendation 3

Energy Trust should require that vendors document the methodology for weather normalization and report all savings from the installations.

Conclusion 4

For validating energy savings technologies that focus on whole building improvement, weather normalization and regression analysis can be improved with an increase in the available data points. Monthly billing data provides 12 data points from which to develop baseline load shapes. Where possible, using interval data from the utility meters and hourly weather data from a local weather station is recommended. These details may help improve the determination of weather-dependent characteristics and can also provide insight into time-of-day operating characteristics that are not observable from monthly data.

Recommendation 4

We recommend that Energy Trust work with the local utilities to get interval data when available.

Savings Variability and Prediction of Performance

Conclusion 5

The level of variability in savings that Cadmus observed in the pilot study applies to both electric and gas savings. Such variability is normal due to site-specific factors. We would expect variability to continue as new sites are added, making a deemed savings approach unreliable for these technologies.

Recommendation 5

Although the systems do not lend themselves to a deemed savings approach, expected savings targets are useful for setting participant expectations and for use in cost-effectiveness screening. Individual sites did have substantial variability in savings produced, but the average savings do provide revised levels of expectations. We recommend that Energy Trust revise the target savings from 5% savings for EIS systems and 15% savings for EMS systems to those shown in Table 3.

Table 3. Recommended Revised Target Savings

Type	Target Electric Savings (kWh)	Target Gas Savings (therms)
EIS (5% original target)	9%	8%
EMS (15% original target)	9%	16%

MEMO



Date: February 14, 2015
To: Board of Directors
From: Philipp Degens, Evaluation Manager
Spencer Moersfelder, Sr. Program Manager
Subject: Staff Response to the Building Performance Tracking and Control Systems Pilot Evaluation

The Building Performance Tracking and Control Systems (BPTaC) Pilot came to a successful conclusion at the end of 2013. Evaluation results to date, which included data and document review, interviews, and billing analysis, provided Energy Trust with the information needed to move forward with offering support for these types of projects under the Existing Buildings custom track.

The control systems and performance tracking service are now offered through the Existing Buildings program as custom projects. The Automated Optimization Software (AOS) system is focused on chillers that are typically found in larger facilities, and is being addressed as a custom controls project with a 10 year measure life.

In 2014 the program served Energy Information Systems (EIS) and Energy Management Systems (EMS) projects under the custom track using the original assumed deemed savings multipliers to quantify savings. This evaluation suggests revising the estimated savings. However, the current set of participating buildings are not expected to be representative of the future building types. As a result, in 2015, the program will continue to serve these projects under the custom track and will calculate savings for each project on a case-by-case basis.

There is a growing market interest in the offering and vendors have learned how to successfully sell projects with Energy Trust incentives. Energy Trust aims to grow the pool of projects in an effort to amass more data in order to establish a foundation to develop deemed savings multipliers that will simplify program implementation. The program requires projects to work with vendors that will provide a service that supports the customer in the ongoing control and management of their energy consumption. The measure life that the program is using for the offering is based on this requirement and the program assumes a measure life of 5.4 years for EIS and 9 years for EMS based on an initial 3-year subscription and a 5 year subscription respectively with an assumed 80% renewal rate.

The estimates of savings will be updated over time. One of the program requirements will allow Energy Trust to access the energy consumption and savings reports from the vendors. These reports will be analyzed periodically to determine if savings change over time, as well as to update the estimated savings for use in future projects.

Tab 6

Notes on January 2015 Financial Statements

March 6, 2015

Revenue

Year-to-Date Revenues ended up being very close to budgeted amounts. We were expecting a payment of \$705,000 from NWN for Washington this month. The payment schedule is still in negotiation.

Revenue through Jan 2015

Jan-15	<u>YTD Actual</u>	<u>YTD Budget</u>	<u>YTD Var</u>	<u>YTD %</u>
PGE	7,917,909	7,767,770	150,139	2%
PAC	4,969,214	4,802,738	166,477	3%
NWN	2,584,831	2,111,313	473,519	22%
CNG	268,957	344,468	(75,510)	-22%
Investment Income	100,160	24,000	76,160	317%
Total	15,841,072	15,050,288	790,784	5%

Reserves

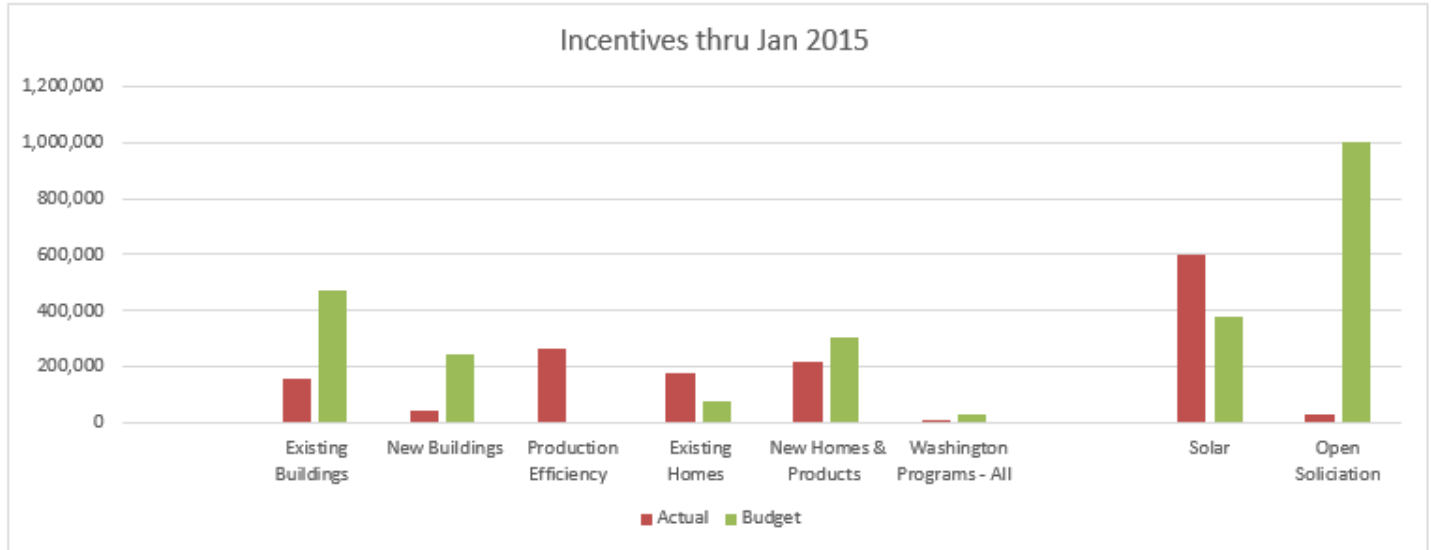
Total Reserves at year end are shown below. As often happens once the large volume of incentives is paid out at year end, our reserves begin to grow a bit.

Reserves

	<u>Actual 12/31/13</u>	<u>Actual 01/01/15</u>	<u>YTD</u>	<u>Actual 12/31/14</u>
	<u>Amount</u>	<u>Amount</u>	<u>% Change</u>	<u>Amount</u>
PGE	27,816,059	31,957,771	14.9%	27,816,059
PacifiCorp	15,090,306	17,615,238	16.7%	15,090,306
NW Natural	9,503,289	11,040,156	16.2%	9,503,289
Cascade	1,156,900	1,135,956	-1.8%	1,156,900
NWN Industrial	580,920	472,450	-18.7%	580,920
NWN Washington	217,848	158,187	-27.4%	217,848
PGE Renewables	13,736,996	14,016,069	2.0%	13,736,996
PAC Renewables	10,937,995	11,159,115	2.0%	10,937,995
Contingency Reserve	5,000,000	5,000,000	0.0%	5,000,000
Contingency Available	3,186,804	3,293,166	3.3%	3,186,804
Total	87,227,117	95,848,113	9.9%	87,227,119

Incentive Expenses

January incentives are always low since we've pushed to get everything we can into December. Last year we had no incentives recorded in January. This year we budgeted \$2.5 million and paid out \$1.5 million. Open Solicitation had expected to pay \$1 million to Clean Water Services – Durham in January. That project is now projected to complete in Q2 or possibly Q3.



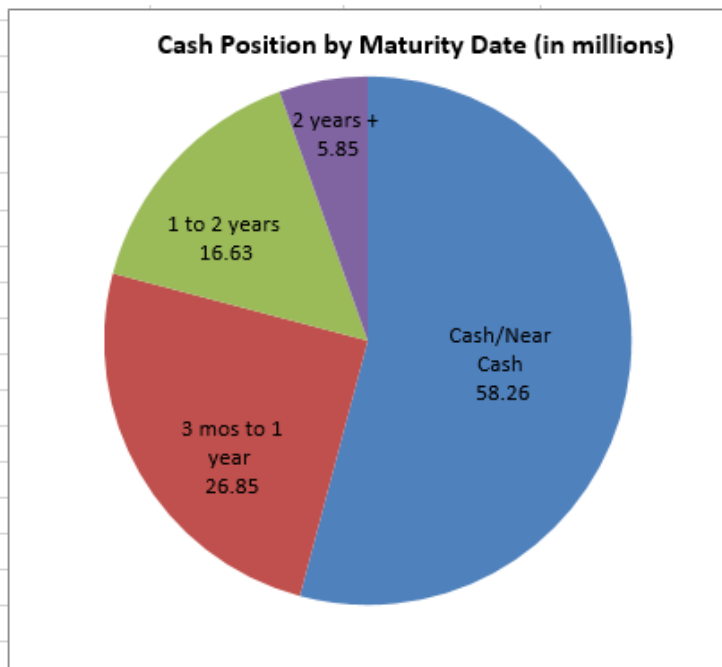
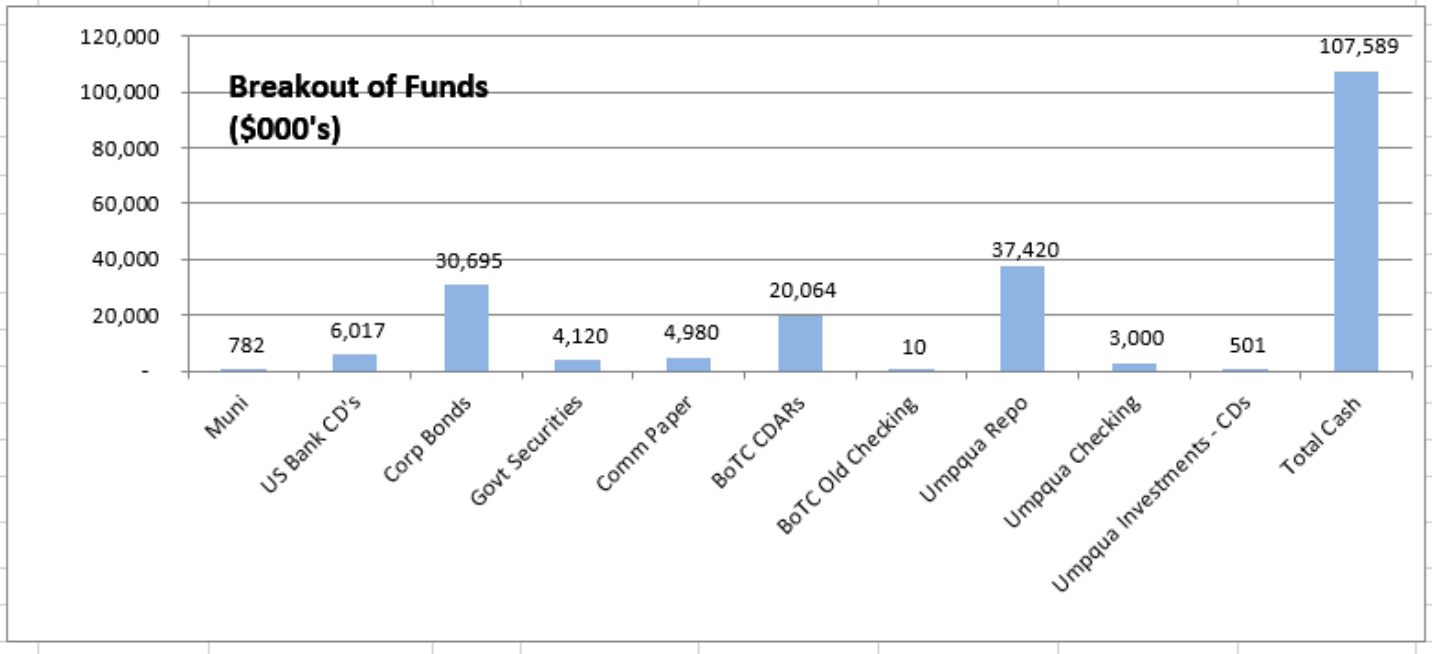
Incentives thru January 2015	Total Incentives Year-to-Date 2014			
	Actual	Budget	Variance	Var %
Existing Buildings	156,763	473,840	317,077	67%
New Buildings	41,650	244,909	203,259	83%
Production Efficiency	263,236		(263,236)	
Existing Homes	175,517	76,493	(99,024)	-129%
New Homes & Products	220,281	305,282	85,001	28%
Washington Programs - All	8,230	29,351	21,121	72%
Solar	600,539	381,883	(218,655)	-57%
Open Solicitation	30,025	1,000,000	969,975	97%
Total Incentives	1,496,240	2,511,759	1,015,519	40%
Energy Efficiency Only	865,677	1,129,876	264,198	23%

January 2015 vs. January 2014	Total Incentives Year-to-Year Comparison			
	Current Year	Prior Year	Variance	Var %
Existing Buildings	156,763	0	(156,763)	
New Buildings	41,650	0	(41,650)	
Production Efficiency	263,236	0	(263,236)	
Existing Homes	175,517	0	(175,517)	
New Homes & Products	220,281	0	(220,281)	
Washington Programs - All	8,230	0	(8,230)	
Solar	600,539	0	(600,539)	
Other	30,025	0	(30,025)	
Total Incentives	1,496,240	0	(1,496,244)	
Energy Efficiency Only	865,677	0	(865,677)	

Investment Status

In 2014 we began to purchase a variety of secure assets with our reserves. We are continuing this policy in 2015.

The graphs below show the type of investments we hold and the locations where our funds are held at the end of January (including cash). The second graph shows our overall liquidity.



Energy Trust of Oregon
BALANCE SHEET
January 31, 2015
(Unaudited)

	Jan 2015	Dec 2014	Jan 2014	Change from one month ago	Change from Beg. of Year	Change from one year ago
Current Assets						
Cash & Cash Equivalents	37,774,180	51,411,367	71,554,818	(13,637,187)	(13,637,187)	(33,780,638)
Investments	66,965,336	64,490,244	24,277,860	2,475,092	2,475,092	42,687,476
Restricted Investments (Escrow Funds)		0	77,988	0	0	(77,988)
Receivables	313,463	323,531	3,082	(10,068)	(10,068)	310,381
Prepaid Expenses	390,448	405,430	677,122	(14,981)	(14,981)	(286,674)
Advances to Vendors	938,812	1,482,149	1,335,049	(543,337)	(543,337)	(396,237)
Total Current Assets	106,382,239	118,112,720	97,925,918	(11,730,481)	(11,730,481)	8,456,320
Fixed Assets						
Computer Hardware and Software	1,931,988	1,653,762	1,401,967	278,226	278,226	530,021
Software Development	879,950	1,025,909		(145,958)	(145,958)	879,950
Leasehold Improvements	318,964	318,964	313,333	0	0	5,631
Office Equipment and Furniture	679,343	679,343	600,662	0	0	78,681
Total Fixed Assets	3,810,246	3,677,978	2,315,962	132,268	132,268	1,494,284
Less Depreciation	(1,871,793)	(1,831,551)	(1,527,617)	(40,242)	(40,242)	(344,176)
Net Fixed Assets	1,938,453	1,846,428	788,345	92,025	92,025	1,150,108
Other Assets						
Rental Deposit	135,340	135,340	61,461	0	0	73,879
Deferred Compensation Asset	638,911	630,176	555,557	8,734	8,734	83,353
Long Term Portion Note Receivable	100,000	100,000		0	0	100,000
Total Other Assets	874,251	865,516	617,019	8,734	8,734	257,232
						0
Total Assets	109,194,943	120,824,664	99,331,282	(11,629,722)	(11,629,722)	9,863,660
Current Liabilities						
Accounts Payable and Accruals	11,658,902	31,924,631	6,870,075	(20,265,729)	(20,265,729)	4,788,827
Salaries, Taxes, & Benefits Payable	680,908	671,849	698,912	9,060	9,060	(18,004)
Total Current Liabilities	12,339,810	32,596,480	7,568,987	(20,256,669)	(20,256,669)	4,770,823
Long Term Liabilities						
Deferred Rent	346,913	349,692	363,173	(2,778)	(2,778)	(16,260)
Deferred Compensation Payable	641,711	632,976	555,557	8,734	8,734	86,153
Other Long-Term Liabilities	18,395	18,395	6,830	0	0	11,566
Total Long-Term Liabilities	1,007,019	1,001,063	925,560	5,956	5,956	81,459
Total Liabilities	13,346,830	33,597,543	8,494,548	(20,250,713)	(20,250,713)	4,852,282
Net Assets						
Temporarily Restricted Net Assets		0	77,988	0	0	(77,988)
Unrestricted Net Assets	95,848,113	87,227,121	90,758,747	8,620,992	8,620,992	5,089,366
Total Net Assets	95,848,113	87,227,121	90,836,735	8,620,992	8,620,992	5,011,378
Total Liabilities and Net Assets	109,194,943	120,824,664	99,331,282	(11,629,722)	(11,629,722)	9,863,660

Energy Trust of Oregon
Cash Flow Statement-Indirect Method
Monthly 2015

	<u>January</u>	<u>Year to Date</u>
Operating Activities:		
<i>Revenue less Expenses</i>	8,620,993	\$ 8,620,995
<i>Non-cash items:</i>		
Depreciation	40,242	40,242
Change in Reserve on Long Term Note	-	-
Loss on disposal of assets		
Receivables	5,800	5,800
Interest Receivable	4,268	4,268
Advances to Vendors	543,337	543,337
Prepaid expenses and other costs	14,982	14,982
Accounts payable	(20,265,729)	(20,265,729)
Payroll and related accruals	17,794	17,794
Deferred rent and other	(11,515)	(11,515)
Cash rec'd from / (used in)		
Operating Activities	(11,029,828)	\$ (11,029,828)
Investing Activities:		
Investment Activity (1)	(2,475,092)	(2,475,092)
(Acquisition)/Disposal of Capital Assets	(132,268)	(132,268)
Cash rec'd from / (used in) Investing		
Activities	(2,607,360)	\$ (2,607,360)
Cash at beginning of Period	51,411,367	51,411,367
Increase/(Decrease) in Cash	(13,637,187)	(13,637,187)
Cash at end of period	\$ 37,774,180	\$ 37,774,180

(1) As investments mature, they are rolled into the Repo account.
Investments that are made during the month reduce available cash.

Energy Trust of Oregon
Cash Flow Projection
January 2015 - December 2016

	2015 Budget												
	Actual	January	February	March	April	May	June	July	August	September	October	November	December
Cash In:													
Public purpose and Incr funding	15,740,912	15,293,146	13,856,942	13,194,352	11,010,950	10,249,160	11,163,178	10,533,603	11,149,076	11,414,590	11,007,220	13,309,502	
From other sources	5,800	-	-	-	-	-	-	-	-	-	-	-	
Investment Income	110,630	13,510	13,510	13,510	13,510	13,510	13,510	13,510	13,510	13,510	13,510	13,510	
Total cash in	15,857,342	15,306,656	13,870,453	15,183,461	12,445,698	11,491,011	11,837,327	11,811,789	12,156,589	13,264,732	10,378,442	13,323,012	
Cash Out:													
	29,494,530	10,067,860	12,915,981	12,142,299	11,026,796	14,507,610	11,746,000	11,585,431	13,778,182	14,538,448	10,856,480	19,520,570	
Net cash flow for the month	(13,637,188)	5,238,796	954,472	(12,390,879)	(2,334,351)	(2,911,424)	(4,183,618)	1,901,116	(682,458)	(4,879,978)	(2,542,505)	(6,197,558)	
Beginning Balance: Cash & MM	51,411,367	37,774,180	43,012,976	43,967,447	31,576,563	74,070,305	71,158,882	66,975,263	68,876,379	68,193,922	63,313,944	60,771,439	
Ending cash & MM	37,774,180	43,012,976	43,967,447	31,576,563	29,242,209	71,158,882	66,975,263	68,876,379	68,193,922	63,313,944	60,771,439	54,573,881	

Future Commitments

Renewable Incentives	17,600,000	17,500,000	17,300,000	19,000,000	21,900,000	22,000,000	22,200,000	22,500,000	20,800,000	20,200,000	20,600,000	20,900,000
Efficiency Incentives	48,400,000	47,100,000	45,700,000	44,600,000	44,700,000	44,800,000	46,200,000	48,900,000	62,200,000	62,700,000	62,000,000	57,300,000
Emergency Contingency Pool	5,000,000	5,000,000	5,000,000	5,000,000	5,000,000	5,000,000	5,000,000	5,000,000	5,000,000	5,000,000	5,000,000	5,000,000
Total Commitments	71,000,000	69,600,000	68,000,000	68,600,000	71,600,000	71,800,000	73,400,000	76,400,000	88,000,000	87,900,000	87,600,000	83,200,000

(1) Included in "Ending cash & MM" above

Dedicated funds adjustment: reduction in available cash for commitments to Renewable program projects with board approval, or when board approval not required, with signed agreements
 Committed funds adjustment: reduction in available cash for commitments to Efficiency program projects with signed agreements
 Cash reserve: reduction in available cash to cover cashflow variability and winter revenue risk
 Escrow: dedicated funds set aside in separate bank accounts

Energy Trust of Oregon
Cash Flow Projection
January 2015 - December 2016

2016 Budgeted Amounts												
	January	February	March	April	May	June	July	August	September	October	November	December
Cash In:												
Public purpose and Incr funding	14,500,000	14,800,000	14,500,000	13,500,000	11,100,000	10,400,000	11,700,000	10,700,000	10,300,000	12,600,000	11,300,000	13,600,000
From other sources												
Investment Income	24,000	24,000	24,000	24,000	24,000	24,000	24,000	24,000	24,000	24,000	24,000	24,000
Total cash in	14,524,000	14,824,000	14,524,000	13,524,000	11,124,000	10,424,000	11,724,000	10,724,000	10,324,000	12,624,000	11,324,000	13,624,000
Cash Out:	34,400,000	10,600,000	12,000,000	12,700,000	11,900,000	13,900,000	14,800,000	12,600,000	14,700,000	13,700,000	14,600,000	30,700,000
Net cash flow for the month	(19,876,000)	4,224,000	2,524,000	824,000	(776,000)	(3,476,000)	(3,076,000)	(1,876,000)	(4,376,000)	(1,076,000)	(3,276,000)	(17,076,000)
Beginning Balance: Cash & MM	54,573,881	34,697,881	38,921,881	41,445,881	42,269,881	41,493,881	38,017,881	34,941,881	33,065,881	28,689,881	27,613,881	24,337,881
Ending cash & MM	34,697,881	38,921,881	41,445,881	42,269,881	41,493,881	38,017,881	34,941,881	33,065,881	28,689,881	27,613,881	24,337,881	7,261,881
Future Commitments												
Renewable Incentives	20,900,000	20,900,000	20,900,000	20,900,000	20,900,000	20,900,000	20,900,000	20,900,000	20,900,000	20,900,000	20,900,000	20,900,000
Efficiency Incentives	57,300,000	57,300,000	57,300,000	56,800,000	56,700,000	56,700,000	55,800,000	55,800,000	55,800,000	55,800,000	55,800,000	55,800,000
Emergency Contingency Pool	5,000,000	5,000,000	5,000,000	5,000,000	5,000,000	5,000,000	5,000,000	5,000,000	5,000,000	5,000,000	5,000,000	5,000,000
Total Commitments	83,200,000	83,200,000	83,200,000	82,700,000	82,600,000	82,600,000	81,700,000	81,700,000	81,700,000	81,700,000	81,700,000	81,700,000

(1) Included in "Ending cash & MM" above

Dedicated funds adjustment: reduction in available cash for commitments to Renewable program projects with board approval, or when board approval not required, with signed agreements
Committed funds adjustment: reduction in available cash for commitments to Efficiency program projects with signed agreements
Cash reserve: reduction in available cash to cover cashflow variability and winter revenue risk
Escrow: dedicated funds set aside in separate bank accounts

Energy Trust of Oregon
Income Statement - Actual and Prior Yr Comparison
For the Month Ending January 31, 2015
(Unaudited)

	January				YTD			
	Actual	Actual Prior Year	Prior Year Variance	Variance %	Actual	Actual Prior Year	Prior Year Variance	Variance %
<u>REVENUES</u>								
Public Purpose Funds-PGE	3,481,280	3,552,247	(70,967)	-2%	3,481,280	3,552,247	(70,967)	-2%
Public Purpose Funds-PacifiCorp	2,578,146	2,733,813	(155,667)	-6%	2,578,146	2,733,813	(155,667)	-6%
Public Purpose Funds-NW Natural	2,584,831	2,795,122	(210,291)	-8%	2,584,831	2,795,122	(210,291)	-8%
Public Purpose Funds-Cascade	268,957	635,345	(366,388)	-58%	268,957	635,345	(366,388)	-58%
Total Public Purpose Funds	8,913,214	9,716,527	(803,313)	-8%	8,913,214	9,716,527	(803,313)	-8%
Incremental Funds - PGE	4,436,629	5,204,820	(768,191)	-15%	4,436,629	5,204,820	(768,191)	-15%
Incremental Funds - PacifiCorp	2,391,069	2,805,430	(414,362)	-15%	2,391,069	2,805,430	(414,362)	-15%
Revenue from Investments	106,362	10,744	95,618	890%	106,362	10,744	95,618	890%
TOTAL REVENUE	15,847,273	17,737,521	(1,890,247)	-11%	15,847,273	17,737,521	(1,890,247)	-11%
<u>EXPENSES</u>								
Program Subcontracts	4,242,115	3,263,692	(978,423)	-30%	4,242,115	3,263,692	(978,423)	-30%
Incentives	1,496,240	0	(1,496,240)	0%	1,496,240	0	(1,496,240)	0%
Salaries and Related Expenses	912,728	931,556	18,828	2%	912,728	931,556	18,828	2%
Professional Services	364,870	437,843	72,974	17%	364,870	437,843	72,974	17%
Supplies	2,245	3,182	937	29%	2,245	3,182	937	29%
Telephone	4,207	4,046	(161)	-4%	4,207	4,046	(161)	-4%
Postage and Shipping Expenses	1,922	389	(1,533)	-394%	1,922	389	(1,533)	-394%
Occupancy Expenses	55,278	60,068	4,790	8%	55,278	60,068	4,790	8%
Noncapitalized Equip. & Depr.	62,941	51,528	(11,413)	-22%	62,941	51,528	(11,413)	-22%
Call Center	13,785	14,369	584	4%	13,785	14,369	584	4%
Printing and Publications	25,160	27,826	2,666	10%	25,160	27,826	2,666	10%
Travel	5,504	3,618	(1,886)	-52%	5,504	3,618	(1,886)	-52%
Conference, Training & Mtng Exp	12,638	11,014	(1,624)	-15%	12,638	11,014	(1,624)	-15%
Interest Expense and Bank Fees	64.09		(64)	0%	64		(64)	0%
Insurance	8,630	8,622	(8)	0%	8,630	8,622	(8)	0%
Dues, Licenses and Fees	17,955	13,606	(4,350)	-32%	17,955	13,606	(4,350)	-32%
TOTAL EXPENSES	7,226,282	4,831,358	(2,394,924)	-50%	7,226,282	4,831,358	(2,394,924)	-50%
TOTAL REVENUE LESS EXPENSES	8,620,992	12,906,163	(4,285,171)	-33%	8,620,992	12,906,163	(4,285,171)	-33%

Energy Trust of Oregon
Income Statement - Actual and YTD Budget Comparison
For the Month Ending January 31, 2015
(Unaudited)

	January				YTD			
	Actual	Budget	Budget Variance	Variance %	Actual	Budget	Budget Variance	Variance %
REVENUES								
Public Purpose Funds-PGE	3,481,280	3,535,189	(53,908)	-2%	3,481,280	3,535,189	(53,908)	-2%
Public Purpose Funds-PacifiCorp	2,578,146	2,720,565	(142,419)	-5%	2,578,146	2,720,565	(142,419)	-5%
Public Purpose Funds-NW Natural	2,584,831	2,111,313	473,519	22%	2,584,831	2,111,313	473,519	22%
Public Purpose Funds-Cascade	268,957	344,468	(75,510)	-22%	268,957	344,468	(75,510)	-22%
Total Public Purpose Funds	8,913,214	8,711,534	201,681	2%	8,913,214	8,711,534	201,681	2%
Incremental Funds - PGE	4,436,629	4,232,581	204,047	5%	4,436,629	4,232,581	204,047	5%
Incremental Funds - PacifiCorp	2,391,069	2,082,173	308,896	15%	2,391,069	2,082,173	308,896	15%
Revenue from Investments	106,362	24,000	82,362	343%	106,362	24,000	82,362	343%
TOTAL REVENUE	15,847,273	15,050,288	796,986	5%	15,847,273	15,050,288	796,986	5%
EXPENSES								
Program Subcontracts	4,242,115	4,077,610	(164,505)	-4%	4,242,115	4,077,610	(164,505)	-4%
Incentives	1,496,240	2,511,759	1,015,519	40%	1,496,240	2,511,759	1,015,519	40%
Salaries and Related Expenses	912,728	984,779	72,051	7%	912,728	984,779	72,051	7%
Professional Services	364,870	651,441	286,571	44%	364,870	651,441	286,571	44%
Supplies	2,245	3,650	1,405	38%	2,245	3,650	1,405	38%
Telephone	4,207	5,458	1,251	23%	4,207	5,458	1,251	23%
Postage and Shipping Expenses	1,922	1,100	(822)	-75%	1,922	1,100	(822)	-75%
Occupancy Expenses	55,278	61,519	6,241	10%	55,278	61,519	6,241	10%
Noncapitalized Equip. & Depr.	62,941	116,554	53,612	46%	62,941	116,554	53,612	46%
Call Center	13,785	13,000	(785)	-6%	13,785	13,000	(785)	-6%
Printing and Publications	25,160	10,946	(14,214)	-130%	25,160	10,946	(14,214)	-130%
Travel	5,504	14,508	9,005	62%	5,504	14,508	9,005	62%
Conference, Training & Mtng Exp	12,638	31,878	19,240	60%	12,638	31,878	19,240	60%
Interest Expense and Bank Fees	64.09	208	144	69%	64	208	144	69%
Insurance	8,630	9,167	537	6%	8,630	9,167	537	6%
Dues, Licenses and Fees	17,955	5,700	(12,256)	-215%	17,955	5,700	(12,256)	-215%
TOTAL EXPENSES	7,226,282	8,499,277	1,272,995	15%	7,226,282	8,499,277	1,272,995	15%
TOTAL REVENUE LESS EXPENSES	8,620,992	6,551,011	2,069,981	32%	8,620,992	6,551,011	2,069,981	32%

Energy Trust of Oregon
Statement of Functional Expenses
For the Month Ending January 31, 2015
(Unaudited)

	Energy Efficiency	Renewable Energy	Total Program Expenses	Management & General	Communications & Customer Service	Total Admin Expenses	Total	Budget	Variance	% Var
Program Expenses										
Incentives/ Program Management & Delivery	\$ 5,074,712	\$ 663,643	\$ 5,738,355				\$ 5,738,355	\$ 6,589,369	\$ 851,014	13%
Payroll and Related Expenses	312,247	79,337	391,584	172,037	87,259	259,296	650,880	649,113	(1,767)	0%
Outsourced Services	248,100	16,559	264,660	16,316	65,635	81,950	346,610	600,149	253,539	42%
Planning and Evaluation	144,904	4,817	149,721	107		107	149,828	199,036	49,208	25%
Customer Service Management	56,880	3,352	60,231				60,231	45,765	(14,466)	-32%
Trade Allies Network	21,749	1,480	23,229				23,229	33,980	10,751	32%
Total Program Expenses	5,858,592	769,188	6,627,780	188,459	152,894	341,353	6,969,133	8,117,413	1,148,280	14%
Program Support Costs										
Supplies	658	221	880	407	247	655	1,534	2,596	1,062	41%
Postage and Shipping Expenses	192	65	257	1,384	72	1,457	1,714	676	(1,038)	-154%
Telephone	110	37	147	68	41	109	256	789	533	68%
Printing and Publications	24,140		24,140		536	536	24,676	10,597	(14,079)	-133%
Occupancy Expenses	16,211	5,451	21,662	10,030	6,090	16,120	37,783	40,877	3,094	8%
Insurance	2,531	851	3,382	1,566	951	2,517	5,898	6,091	193	3%
Equipment	227	8,321	8,548	140	85	226	8,773	11,232	2,459	22%
Travel	2,376	902	3,278	260	1,135	1,395	4,673	12,400	7,727	62%
Meetings, Trainings & Conferences	1,607	495	2,102	2,429	352	2,781	4,883	27,897	23,014	82%
Interest Expense and Bank Fees				64		64	64	208	144	69%
Depreciation & Amortization	4,217	1,418	5,635	2,609	1,584	4,194	9,829	8,639	(1,190)	-14%
Dues, Licenses and Fees	3,882	3,800	7,682	1,196	504	1,700	9,382	3,241	(6,141)	-189%
IT Services	97,690	12,887	110,577	21,977	15,128	37,105	147,682	256,618	108,936	42%
Total Program Support Costs	153,842	34,448	188,291	42,132	26,726	68,858	257,148	381,864	124,716	33%
TOTAL EXPENSES	6,012,435	803,636	6,816,072	230,591	179,620	410,211	7,226,282	8,499,277	1,272,995	15%

OPUC Measure vs. 9%

3.8%

ENERGY TRUST OF OREGON
Year to Date by Program/Service Territory
For the Month Ending January 31, 2015
Unaudited

	ENERGY EFFICIENCY								
	PGE	PacifiCorp	Total	NWN Industrial	NW Natural	Cascade	Oregon Total	NWN WA	ETO Total
REVENUES									
Public Purpose Funding	\$2,693,534	\$2,013,699	\$4,707,233	\$0	\$2,584,831	\$268,957	\$7,561,021	\$0	\$7,561,021
Incremental Funding	4,436,629	2,391,069	6,827,697				6,827,697		6,827,697
Revenue from Investments									
TOTAL PROGRAM REVENUE	7,130,163	4,404,768	11,534,930	-	2,584,831	268,957	14,388,719	-	14,388,719
EXPENSES									
Program Management (Note 3)	259,610	162,511	422,119	29,108	105,127	24,073	580,427	11,470	591,897
Program Delivery	1,776,110	1,111,500	2,887,608	63,680	536,169	192,588	3,680,045	27,596	3,707,641
Incentives	421,749	252,850	674,598	0	160,206	22,643	857,447	8,230	865,677
Program Eval & Planning Svcs.	98,003	61,981	159,983	3,837	39,272	7,525	210,619	3,102	213,721
Program Marketing/Outreach	134,070	87,836	221,906	1,467	76,929	15,366	315,668	472	316,140
Program Quality Assurance	2,563	3,672	6,235	0	3,569	130	9,934	0	9,934
Outsourced Services	32,718	24,078	56,797	2,006	12,382	3,767	74,952	0	74,952
Trade Allies & Cust. Svc. Mgmt.	27,072	24,481	51,553	280	22,092	2,257	76,183	2,445	78,628
IT Services	42,993	27,088	70,083	1,024	21,062	3,277	95,447	2,245	97,692
Other Program Expenses - all	23,920	17,127	41,047	911	11,664	1,818	55,440	714	56,154
TOTAL PROGRAM EXPENSES	2,818,808	1,773,124	4,591,929	102,313	988,472	273,444	5,956,162	56,274	6,012,436
ADMINISTRATIVE COSTS									
Management & General (Notes 1 & 2)	95,361	59,986	155,347	3,461	33,442	9,250	201,500	1,904	203,404
Communications & Customer Svc (Notes 1 & 2)	74,282	46,726	121,009	2,696	26,050	7,207	156,959	1,483	158,442
Total Administrative Costs	169,643	106,712	276,356	6,157	59,492	16,457	358,459	3,387	361,846
TOTAL PROG & ADMIN EXPENSES	2,988,451	1,879,836	4,868,285	108,470	1,047,964	289,901	6,314,621	59,661	6,374,282
TOTAL REVENUE LESS EXPENSES	4,141,712	2,524,932	6,666,645	(108,470)	1,536,867	(20,944)	8,074,098	(59,661)	8,014,437
NET ASSETS - RESERVES									
Cumulative Carryover at 12/31/14	27,816,059	15,090,306	42,906,365	580,920	9,503,289	1,156,900	54,147,476	217,848	54,365,324
Change in net assets this year	4,141,712	2,524,932	6,666,645	(108,470)	1,536,867	(20,944)	8,074,098	(59,661)	8,014,437
Ending Net Assets - Reserves	31,957,771	17,615,238	49,573,010	472,450	11,040,156	1,135,956	62,221,574	158,187	62,379,761
Ending Reserve by Category									
Program Reserves (Efficiency and Renewables)	31,957,771	17,615,238	49,573,010	472,450	11,040,156	1,135,956	62,221,574	158,187	62,379,761
Assets Released for General Purpose									
Emergency Contingency Pool									
TOTAL NET ASSETS CUMULATIVE	31,957,771	17,615,238	49,573,010	472,450	11,040,156	1,135,956	62,221,574	158,187	62,379,761

Note 1) Management & General and Communications & Customer Service Expenses (Admin) have been allocated to program expenses.
Note 2) Admin costs are allocated for mgmt reporting only. GAAP for Not for Profits does not allow allocation of admin costs to program expenses.
Note 3) Program Management costs include both outsourced and internal staff.

ENERGY TRUST OF OREGON
Year to Date by Program/Service Territory
For the Month Ending January 31, 2015
Unaudited

	RENEWABLE ENERGY			Other	TOTAL	Approved budget	Change	% Change
	PGE	PacifiCorp	Total		All Programs			
REVENUES								
Public Purpose Funding	\$787,746	\$564,447	\$1,352,193	\$0	\$8,913,214	\$8,711,534	\$201,680	2%
Incremental Funding					6,827,697	6,314,754	512,943	8%
Revenue from Investments				106,361	106,361	24,000	82,361	343%
TOTAL PROGRAM REVENUE	787,746	564,447	1,352,193	106,362	15,847,273	15,050,288	796,985	5%
EXPENSES								
Program Management (Note 3)	32,379	48,625	81,004		672,901	579,513	(93,388)	-16%
Program Delivery	19,361	12,052	31,413		3,739,054	3,599,654	(139,400)	-4%
Incentives	395,967	234,596	630,564		1,496,241	2,511,759	1,015,518	40%
Program Eval & Planning Svcs.	1,814	3,002	4,816		218,537	385,228	166,691	43%
Program Marketing/Outreach	1,707	315	2,022		318,162	421,959	103,797	25%
Program Quality Assurance	0	0	0		9,934	0	(9,934)	
Outsourced Services	8,232	6,305	14,537		89,489	116,725	27,236	23%
Trade Allies & Cust. Svc. Mgmt.	3,128	1,704	4,832		83,460	79,746	(3,714)	-5%
IT Services	5,413	7,473	12,887		110,579	192,143	81,564	42%
Other Program Expenses - all	11,796	9,765	21,561		77,715	80,133	2,418	3%
TOTAL PROGRAM EXPENSES	479,797	323,837	803,636	-	6,816,072	7,966,860	1,150,788	14%
ADMINISTRATIVE COSTS								
Management & General (Notes 1 & 2)	16,232	10,956	27,187		230,591	280,440	49,849	18%
Communications & Customer Svc (Notes 1 & 2)	12,644	8,534	21,178		179,620	251,977	72,357	29%
Total Administrative Costs	28,876	19,490	48,365		410,211	532,417	122,206	23%
TOTAL PROG & ADMIN EXPENSES	508,673	343,327	852,001		7,226,282	8,499,277	1,272,995	15%
TOTAL REVENUE LESS EXPENSES	279,073	221,120	500,192	106,362	8,620,992	6,551,011	2,069,981	32%
NET ASSETS - RESERVES								
Cumulative Carryover at 12/31/14	13,736,996	10,937,995	24,674,991	8,186,804	87,227,121	88,912,387	(1,685,266)	-2%
Change in net assets this year	279,073	221,120	500,192	106,362	8,620,992	6,551,011	2,069,981	32%
Ending Net Assets - Reserves	14,016,069	11,159,115	25,175,183	8,293,166	95,848,113	95,463,398	(384,715)	0%
Ending Reserve by Category								
Program Reserves (Efficiency and Renewables)	14,016,069	11,159,115	25,175,183	3,293,166	90,848,113			
Assets Released for General Purpose								
Emergency Contingency Pool				5,000,000	5,000,000			
TOTAL NET ASSETS CUMULATIVE	14,016,069	11,159,115	25,175,183	8,293,166	95,848,113	95,463,398	(384,715)	0%

Energy Trust of Oregon
Program Expense by Service Territory
For the Month Ending January 31, 2015
(Unaudited)

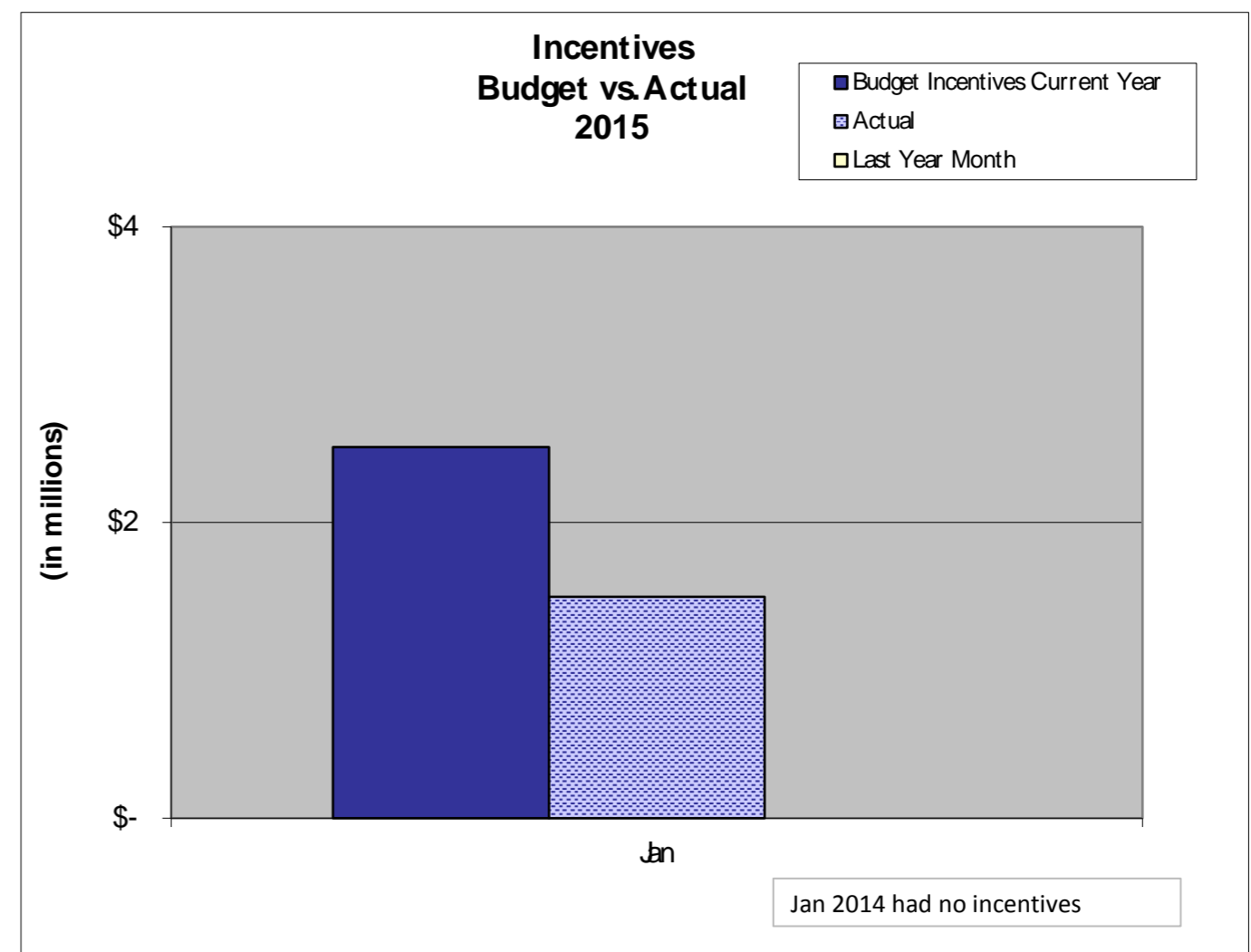
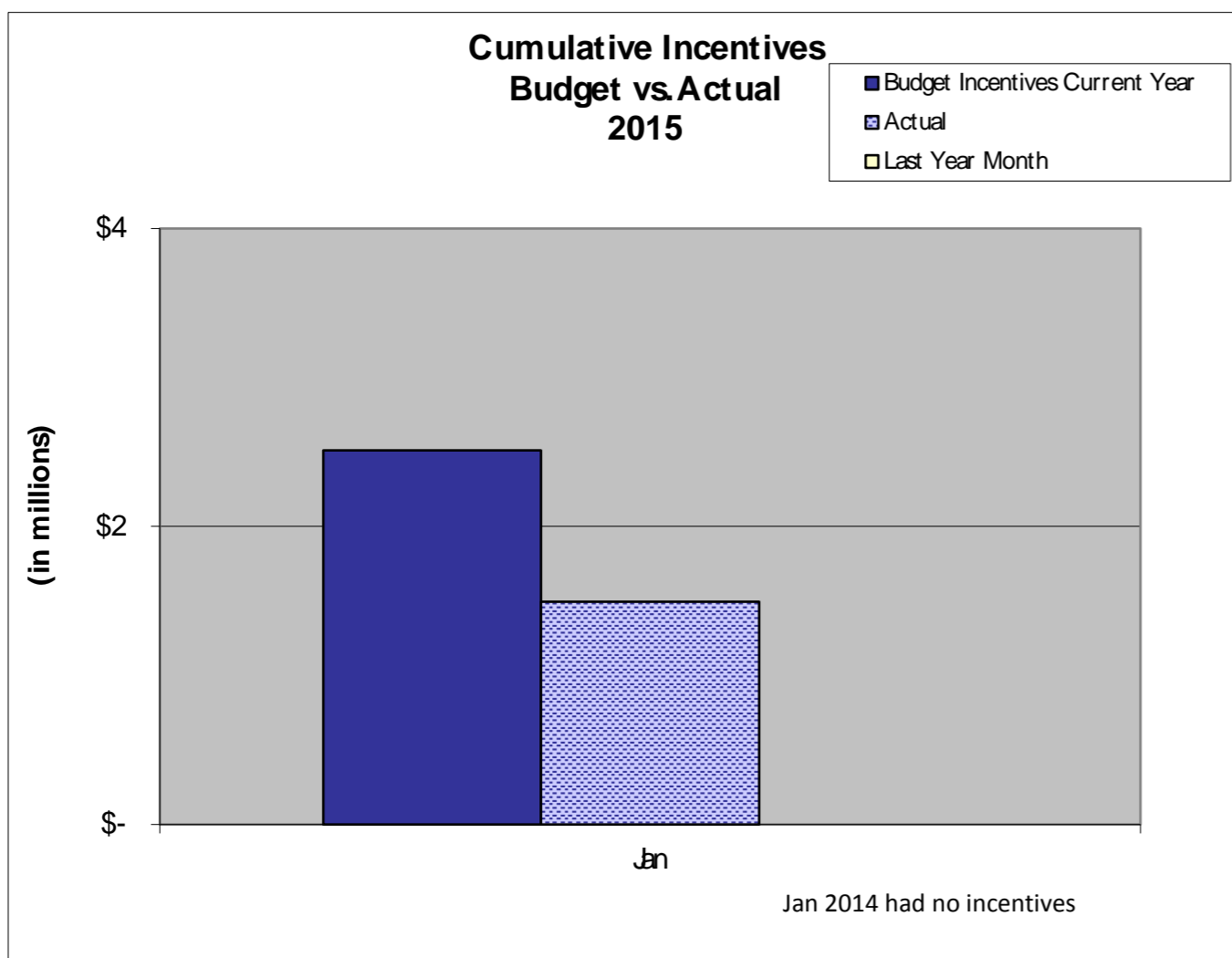
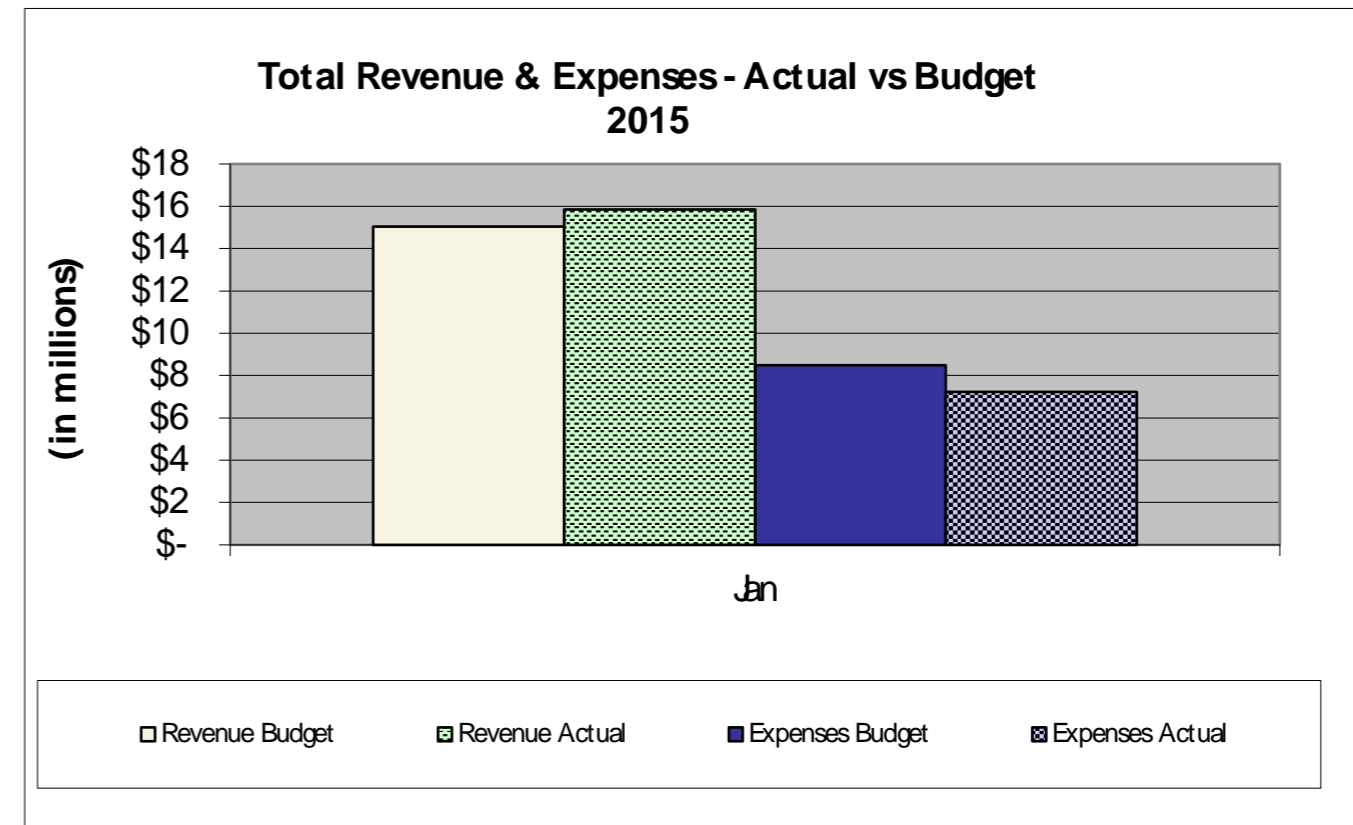
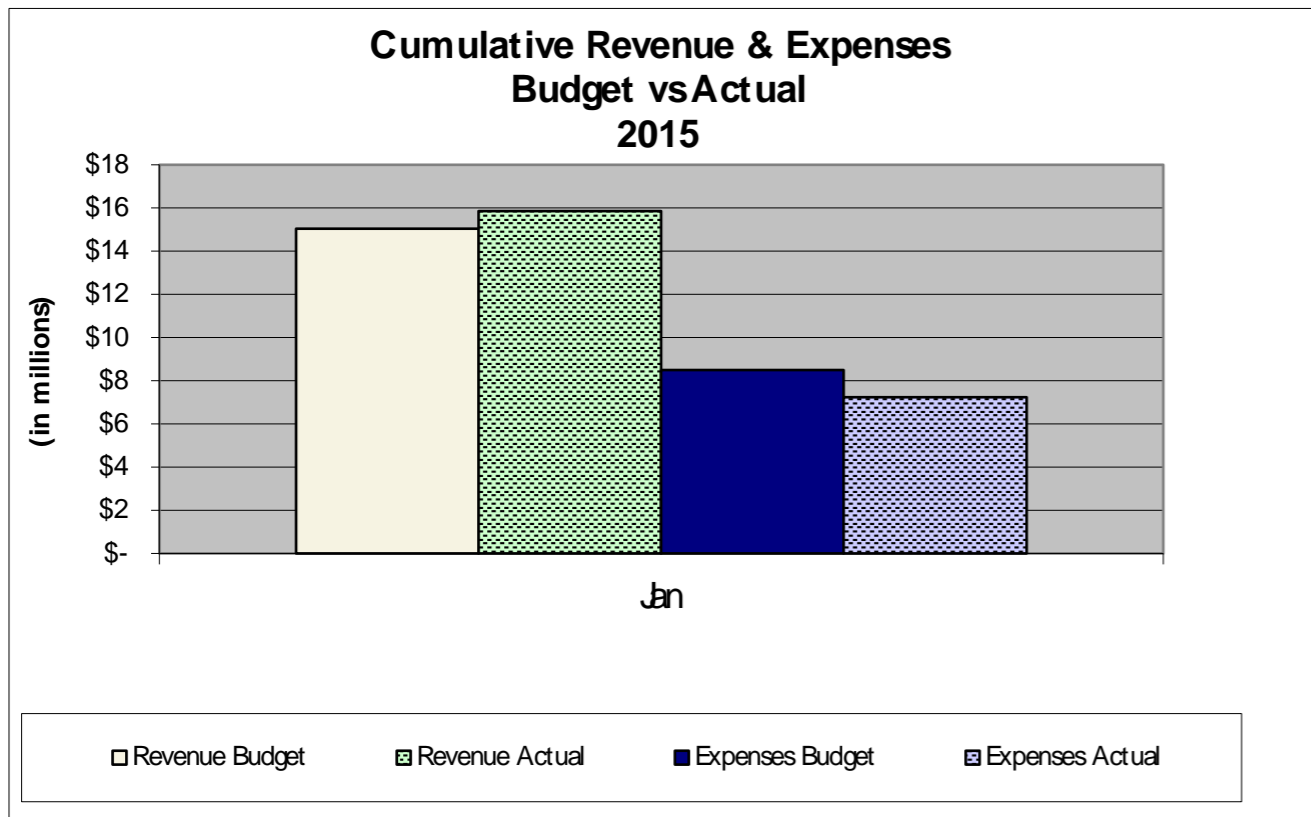
	PGE	Pacific Power	Subtotal Elec.	NWN Industrial	NW Natural Gas	Cascade	Subtotal Gas	Oregon Total	NWN WA	ETO Total	YTD Budget	Variance	% Var
Energy Efficiency													
Commercial													
Existing Buildings	\$592,171	\$ 387,997	\$ 980,168	\$ 30,614	\$ 326,064	\$ 242,497	\$ 599,175	\$ 1,579,343	\$ 18,335	\$1,597,678	\$ 2,024,362	\$ 426,684	21%
New Buildings	461,558	6,768	468,327		43,328		43,328	511,655		511,655	824,522	312,867	38%
NEEA	128,068	96,613	224,680		3,571	355	3,926	228,606		228,606	232,160	3,554	2%
Total Commercial	1,181,797	491,378	1,673,175	30,614	372,963	242,853	646,429	2,319,604	18,335	2,337,939	3,081,044	743,105	24%
Industrial													
Production Efficiency	746,264	520,972	1,267,236	77,856	39,408	13,923	131,188	1,398,424		1,398,424	1,139,597	(258,827)	-23%
NEEA	30,082	22,694	52,776					52,776		52,776	13,272	(39,504)	-298%
Total Industrial	776,346	543,666	1,320,012	77,856	39,408	13,923	131,188	1,451,200	-	1,451,200	1,152,869	(298,331)	-26%
Residential													
Existing Homes	280,834	402,413	683,247	0	393,647	14,359	408,007	1,091,254	20,272	1,111,526	1,011,897	(99,629)	-10%
New Homes/Products	573,643	309,734	883,377	0	237,654	18,329	255,983	1,139,360	21,054	1,160,414	1,255,302	94,888	8%
NEEA	175,829	132,643	308,473		4,293	436	4,728	313,201		313,201	306,285	(6,916)	-2%
Total Residential	1,030,306	844,791	1,875,097	-	635,594	33,124	668,718	2,543,815	41,326	2,585,141	2,573,484	(11,657)	0%
Energy Efficiency Costs	2,988,451	1,879,836	4,868,285	108,470	1,047,964	289,901	1,446,334	6,314,621	59,661	6,374,280	6,807,397	433,117	6%
Renewables													
Solar Electric (Photovoltaic)	496,852	256,959	753,811					753,811		753,811	555,216	(198,595)	-36%
Other Renewable	11,822	86,369	98,191					98,191		98,191	1,136,664	1,038,473	91%
Renewables Costs	508,675	343,327	852,002	-	-	-	-	852,002	-	852,002	1,691,880	839,878	50%
Cost Grand Total	3,497,124	2,223,162	5,720,287	108,470	1,047,964	289,901	1,446,334	7,166,621	59,661	7,226,282	8,499,277	1,272,995	15%

Energy Trust of Oregon
Administrative Expenses
For the 1st Quarter and Month Ending January 31, 2015
(Unaudited)

EXPENSES	MANAGEMENT & GENERAL						COMMUNICATIONS & CUSTOMER SERVICE					
	MONTHLY	QUARTERLY	QUARTER	YTD			MONTHLY	QUARTERLY	QUARTER	YTD		
	ACTUAL	BUDGET	REMAINING	ACTUAL	BUDGET	VARIANCE	ACTUAL	BUDGET	REMAINING	ACTUAL	BUDGET	VARIANCE
Outsourced Services	\$16,316	\$115,922	\$99,606	\$16,316	\$38,641	\$22,325	\$65,635	\$299,125	\$233,490	\$65,635	\$99,708	\$34,074
Legal Services		6,750	6,750		2,250	2,250						
Salaries and Related Expenses	172,037	513,379	341,342	172,037	171,126	(910)	87,259	332,886	245,627	87,259	110,962	23,703
Supplies		1,075	1,075		358	358		250	250		83	83
Postage and Shipping Expenses	1,265		(1,265)	1,265		(1,265)						
Printing and Publications		88	88		29	29	536	1,250	714	536	417	(119)
Travel	260	12,387	12,127	260	4,129	3,869	1,135	6,250	5,115	1,135	2,083	948
Conference, Training & Mtngs	2,429	28,422	25,994	2,429	9,474	7,045	352	3,500	3,148	352	1,167	814
Interest Expense and Bank Fees	64	625	561	64	208	144						
Dues, Licenses and Fees	1,196	1,649	453	1,196	550	(646)	504	2,125	1,621	504	708	204
Shared Allocation (Note 1)	14,940	46,031	31,091	14,940	15,344	404	9,071	31,685	22,613	9,071	10,562	1,490
IT Service Allocation (Note 2)	21,977	100,198	78,221	21,977	38,189	16,211	15,128	68,970	53,842	15,128	26,287	11,159
Planning & Eval	107	431	324	107	142	35						
TOTAL EXPENSES	230,591	826,957	596,366	230,591	280,440	49,849	179,620	746,040	566,421	179,620	251,977	72,357

Note 1) Represents allocation of Shared (General Office Management) Costs

Note 2) Represents allocation of Shared IT Costs



For contracts with costs
through: 2/1/2015

CONTRACTOR	Description	City	EST COST	Actual TTD	Remaining	Start	End
Administration							
Administration Total:			7,812,858	3,618,940	4,193,918		
Communications							
Communications Total:			4,470,886	2,137,039	2,333,847		
Energy Efficiency							
Northwest Energy Efficiency Alliance	Regional Energy Eff Initiative	Portland	39,138,680	37,079,289	2,059,391	1/1/2010	7/1/2015
Northwest Energy Efficiency Alliance	Regional EE Initiative Agmt	Portland	33,662,505	1,528,087	32,134,418	1/1/2015	7/1/2020
ICF Resources, LLC	2015 BE PMC	Fairfax	9,361,147	777,860	8,583,287	1/1/2015	12/31/2015
ICF Resources, LLC	PMC BE 2014	Fairfax	9,008,736	8,463,323	545,413	1/1/2014	12/31/2014
CLEAResult Consulting Inc	2014 HES PMC	Austin	7,595,520	7,446,425	149,095	1/1/2014	12/31/2014
Portland Energy Conservation, Inc.	PMC NHP 2014	Portland	6,965,473	6,842,761	122,712	1/1/2014	12/31/2014
CLEAResult Consulting Inc	2015 HES PMC	Austin	6,831,251	530,246	6,301,005	1/1/2015	12/31/2015
Northwest Energy Efficiency Alliance	Regional Gas EE Initiative	Portland	6,200,354	0	6,200,354	1/1/2015	7/1/2020
CLEAResult Operating LLC	2015 NBE PMC	Portland	4,986,181	372,138	4,614,043	1/1/2015	12/31/2015
Portland Energy Conservation, Inc.	2014 NBE PMC	Portland	4,735,000	4,697,895	37,105	1/1/2014	12/31/2014
Lockheed Martin Services, Inc.	2015 MF PMC	Cherry Hill	4,158,899	213,217	3,945,682	1/1/2015	12/31/2015
Ecova Inc	2015 Products PMC	Spokane	3,601,890	320,939	3,280,951	1/1/2015	1/31/2016
Lockheed Martin Services, Inc.	2014 MF PMC	Cherry Hill	3,569,068	3,496,542	72,526	1/1/2014	12/31/2014
CLEAResult Consulting Inc	2015 NH PMC	Austin	2,772,252	208,635	2,563,617	1/1/2015	12/31/2015
Energy 350 Inc	PDC - PE 2015	Portland	2,388,150	174,412	2,213,738	1/1/2015	12/31/2015
Portland General Electric	PDC - PE 2014	Portland	2,314,600	2,186,729	127,871	1/1/2014	12/31/2014
Portland General Electric	PDC - PE 2015	Portland	2,211,000	198,839	2,012,161	1/1/2015	12/31/2015
Oregon State University	CHP Project - OSU	Corvallis	2,024,263	1,982,682	41,581	12/20/2010	1/31/2016
Energy 350 Inc	PDC - PE 2014	Portland	1,996,000	1,910,360	85,640	1/1/2014	12/31/2014
Cascade Energy, Inc.	PDC - PE 2015 Small Industrial	Walla Walla	1,497,000	200,125	1,296,875	1/1/2015	12/31/2015
NEXANT, INC.	PDC - PE 2014	San Francisco	1,429,461	1,349,180	80,281	1/1/2014	12/31/2014
NEXANT, INC.	PDC - PE 2015	San Francisco	1,344,550	126,568	1,217,982	1/1/2015	12/31/2015
Evergreen Consulting Group, LLC	PE Lighting PDC 2015	Tigard	1,296,000	108,970	1,187,030	1/1/2015	12/31/2015
Cascade Energy, Inc.	PDC - PE 2014 Small Industrial	Walla Walla	1,234,100	1,081,751	152,349	1/1/2014	12/31/2014
RHT Energy Solutions	PDC - PE 2014	Medford	1,145,000	1,071,203	73,797	1/1/2014	12/31/2014
RHT Energy Solutions	PDC - PE 2015	Medford	1,126,440	84,641	1,041,799	1/1/2015	12/31/2015
Evergreen Consulting Group, LLC	PE Lighting PDC 2014	Tigard	1,092,000	1,068,977	23,023	1/1/2014	12/31/2014
Triple Point Energy Inc.	PDC - SEM 2015	Portland	1,048,000	44,181	1,003,819	1/1/2015	12/31/2015
Ecova Inc	Products PMC Transition	Spokane	976,090	955,799	20,291	7/31/2014	12/31/2014

For contracts with costs
through: 2/1/2015

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Northwest Power & Conservation Council	Annual Work Plan		874,652	845,716	28,936	3/20/2012	12/31/2014
HST&V, LLC	PDC - SEM 2015	Portland	848,375	90,587	757,788	1/1/2015	12/31/2015
EnergySavvy Inc.	EnergySavvy Online Audit Tool	Seattle	587,500	458,519	128,981	1/1/2012	12/31/2015
OPOWER, Inc.	OPower Personal Energy Reports	Arlington	399,447	379,330	20,117	8/1/2013	7/31/2015
The Cadmus Group Inc.	PE Impact Eval 2012	Watertown	345,000	138,025	206,975	4/15/2014	8/31/2015
Cascade Energy, Inc.	SEM Curriculum	Walla Walla	329,080	216,692	112,388	5/1/2014	4/30/2016
Craft3	SWR Loan Origination/Loss Fund	Portland	305,000	8,550	296,450	6/1/2014	6/30/2015
Energy Market Innovations, Inc.	Lighting Controls Savings Est	Seattle	305,000	35,867	269,133	10/1/2014	9/30/2015
Craft3	Loan Agreement	Portland	300,000	100,000	200,000	6/1/2014	6/20/2025
CLEAResult Consulting Inc	2014 HES WA PMC	Austin	277,600	267,599	10,001	1/1/2014	12/31/2014
CLEAResult Consulting Inc	2015 HES WA PMC	Austin	277,600	17,592	260,008	1/1/2015	12/31/2015
J. Hruska Global	Quality Assurance Services	Columbia City	260,000	226,042	33,958	1/1/2013	5/31/2015
Clean Energy Works, Inc.	EE Incentive & Services Agmt	Portland	254,600	184,740	69,860	7/1/2014	12/31/2014
The Cadmus Group Inc.	BE Impact Evaluation 2012	Watertown	250,000	242,315	7,685	1/1/2014	3/31/2015
EnerNoc, Inc.	Commercial SEM curriculum	Boston	216,915	145,008	71,907	6/27/2014	5/30/2015
Home Performance Contractors Guild of Oregon	Existing Homes Program Support	Portland	215,000	188,495	26,505	1/1/2012	3/31/2015
HST&V, LLC	CSEM PDC Transition Agreement	Portland	200,000	184,560	15,440	9/1/2014	12/31/2014
ICF Resources, LLC	2015 BE NWN WA PMC	Fairfax	196,984	24,496	172,488	1/1/2015	12/31/2015
The Cadmus Group Inc.	NBE Program Impact Evaluation	Watertown	196,000	192,513	3,487	1/15/2014	4/30/2015
CLEAResult Consulting Inc	2015 Products PMC Transition	Austin	193,000	148,529	44,471	1/1/2015	2/28/2015
ICF Resources, LLC	NWN WA BE 2014	Fairfax	191,538	175,909	15,629	1/1/2014	12/31/2014
Northwest Energy Efficiency Alliance	Product Funding Agreement	Portland	171,851	171,851	0	6/5/2014	12/31/2015
Navigant Consulting Inc	CORE Improvement Pilot Eval	Boulder	140,000	123,174	16,827	9/1/2012	12/31/2015
ICF Resources, LLC	2015 BE DSM PMC	Fairfax	119,627	932	118,695	1/1/2015	12/31/2015
Abt SRBI Inc.	Fast Feedback Surveys	New York	118,000	57,993	60,007	1/31/2014	2/29/2016
ICF Resources, LLC	NWN DSM Initiative 2014	Fairfax	113,850	113,818	32	1/1/2014	12/31/2014
CLEAResult Consulting Inc	QA Reinspection Services	Austin	106,316	58,206	48,110	4/28/2014	3/30/2015
Ecotope, Inc.	Gas Hearth Study	Seattle	105,104	105,096	8	10/10/2013	9/1/2015
The Cadmus Group Inc.	RTU Tune-up Evaluation	Watertown	105,000	104,500	500	1/1/2014	3/31/2015
ICF Resources, LLC	OSU CHP Performance Monitoring	Fairfax	100,000	40,943	59,058	7/1/2013	6/30/2016
PWP, Inc.	NBE Process Evaluation	Gaithersburg	95,000	92,630	2,370	1/15/2014	2/28/2015
1000 Broadway Building L.P.	Pay-for-Performance Pilot	Portland	88,125	0	88,125	10/17/2014	11/1/2018
The Cadmus Group Inc.	Commercial Op Pilot Eval	Watertown	85,000	85,000	0	7/1/2011	9/1/2015
The Cadmus Group Inc.	PE SEM Evaluation	Watertown	80,000	25,486	54,514	10/1/2014	8/31/2015
Pivotal Energy Solutions LLC	License Agreement	Gilbert	64,500	31,974	32,526	3/1/2014	12/31/2015

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Research Into Action, Inc.	SWR OnBill Repmt Pilot Eval	Portland	60,000	3,099	56,902	11/1/2014	3/30/2016
PWP, Inc.	SEM Intro Pilot Evaluation	Gaithersburg	40,000	21,490	18,510	10/28/2013	10/2/2015
Research Into Action, Inc.	C&I Qualitative Research	Portland	40,000	39,859	141	10/1/2014	4/30/2015
David Lineweber	Heat Pump Study	Tigard	35,250	33,745	1,505	3/20/2014	3/31/2015
Evergreen Economics	Gas Hearth Mrkt Transformation	Portland	35,140	4,630	30,510	1/1/2015	7/1/2015
Apex Analytics LLC	Delphi Panel Study	Boulder	30,000	9,250	20,750	9/1/2014	3/31/2015
Apex Analytics LLC	Gas Thermostat	Boulder	30,000	5,650	24,350	10/20/2014	12/31/2015
Btan Consulting	ESP Cert Boot Camp Evaluation	Madison	30,000	16,338	13,663	2/1/2014	4/30/2015
Energy Center of Wisconsin	Billing Analysis Review	Madison	30,000	1,110	28,890	11/1/2013	12/31/2014
Research Into Action, Inc.	Mpower Pilot Evaluation	Portland	30,000	0	30,000	2/1/2015	4/1/2016
Issues & Answers Network Inc	Energy Payback Estimator tool	Virginia Beach	28,420	0	28,420	12/5/2014	3/15/2015
LightTracker, Inc.	CREED Data	Boulder	26,000	26,000	0	10/3/2014	8/1/2015
Forrest Marketing	Small Manuf Market Research	Portland	25,750	14,700	11,050	9/30/2014	3/30/2015
Evergreen Economics	Air Sealing Pilot Evaluation	Portland	25,000	1,155	23,845	10/15/2014	12/31/2015
Northwest Food Processors Association	NW Industrial EE Summit 2015	Portland	25,000	10,000	15,000	11/30/2014	12/31/2015
Portland General Electric	2015 Workshop Sponsorship	Portland	25,000	0	25,000	1/1/2015	12/31/2015
Sustainable Northwest	Klamath PAC Ag Program Aware	Portland	24,992	12,496	12,496	10/1/2014	6/10/2015
Triple Point Energy Inc.	SEM workshops	Portland	24,240	12,328	11,912	6/10/2014	1/31/2015
CLEAResult Consulting Inc	PMC Products Transition	Austin	22,588	11,129	11,459	10/15/2014	10/15/2016
Earth Advantage, Inc.	New Homes Code Change Analysis	Portland	22,275	0	22,275	1/1/2015	5/15/2015
Pivotal Energy Solutions LLC	EPS New Home dbase construct	Gilbert	22,000	21,000	1,000	7/1/2014	6/30/2016
MetaResource Group	Pay-for-Performance Pilot Eval	Portland	20,000	2,250	17,750	8/5/2014	12/31/2015
Northwest Energy Efficiency Alliance	NEEA Product Funding Agreement	Portland	20,000	20,000	0	2/1/2014	3/1/2015
WegoWise Inc	benchmarking license 2015	Boston	20,000	6,456	13,544	6/15/2014	12/31/2015
Abt SRBI Inc.	NH Gas Fireplace Survey	New York	16,500	0	16,500	2/11/2015	4/30/2015
Energy 350 Inc	Professional Services	Portland	14,920	0	14,920	12/10/2014	12/10/2016
PWP, Inc.	NBE Satisfaction Survey 2014	Gaithersburg	14,000	3,960	10,040	1/1/2015	4/30/2015
Evergreen Economics	Builder Interviews	Portland	13,000	7,370	5,630	12/1/2014	4/30/2015
Triple Point Energy Inc.	SEM Materials Review	Portland	10,500	0	10,500	2/11/2015	8/31/2015
American Council for and Energy Efficient Economy	Extended Motor Products Label		10,000	10,000	0	12/23/2013	3/31/2015
EnerNoc, Inc.	SEM Materials Review	Boston	10,000	0	10,000	2/13/2015	8/31/2015
Research Into Action, Inc.	Professional Services	Portland	9,590	9,570	20	9/1/2014	8/31/2016
Bridgetown Printing Company	January 2015 Bill Insert	Portland	9,517	9,517	0	1/1/2015	12/31/2015
City of Portland Bureau of Planning & Sustainability	Sponsorships - 2015	Portland	8,000	8,000	0	1/1/2015	12/31/2015
Northwest Energy Efficiency Council	BOC 2015 Sponsorship	Seattle	6,000	0	6,000	1/1/2015	12/31/2015

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Apose Pty Ltd	Aspose.NET Words Software Lice	Lane Cove	5,045	5,040	5	12/3/2014	12/3/2015
Northwest Earth Institute	NWEI Course License Agreement	Portland	4,000	0	4,000	2/23/2015	6/30/2015
Conservations Services Group, Inc.	DSE&SWR Estimator Tool Updates	Portland	3,240	2,430	810	11/11/2014	11/11/2016
Energy Efficiency Total:			175,051,240	90,133,029	84,918,212		

Joint Programs

D&R International LTD	Better Data Better Design	Silver Spring	133,500	25,000	108,500	4/30/2013	7/31/2014
Portland State University	Technology Forecasting		120,132	89,914	30,218	11/7/2011	12/31/2015
E Source Companies LLC	E Source Service Agreement	Boulder	74,900	36,500	38,400	2/1/2014	1/31/2016
The Cadmus Group Inc.	Evaluation Consultant	Watertown	39,045	38,960	85	6/20/2013	2/28/2015
Watkins and Associates, Inc.	EPS & Solar Valuation Study	Portland	38,000	38,000	0	2/1/2014	1/31/2015
Research Into Action, Inc.	EH Attic Air Sealing Pilot Eva	Portland	30,000	1,393	28,608	10/8/2014	9/30/2016
CoStar Realty Information Inc	Property Data	Baltimore	26,420	22,714	3,706	6/1/2011	6/28/2015
Research Into Action, Inc.	Fast Feedback Analysis	Portland	25,000	25,000	0	9/1/2014	3/1/2015
Navigant Consulting Inc	P&E Consultant Services	Boulder	22,530	22,530	0	1/15/2014	12/30/2015
American Council for and Energy Efficient Economy	ACEEE Sponsorship - 2015		12,500	12,500	0	1/1/2015	12/31/2015
Bruins Analysis and Consulting	Fast Feedback Reporting	Bremerton	6,000	3,000	3,000	6/1/2014	4/30/2015
Joint Programs Total:			528,027	315,511	212,516		

Renewable Energy

Clean Water Services	Project Funding Agreement		3,000,000	0	3,000,000	11/25/2014	11/25/2039
JC-Biomethane LLC	Biogas Plant Project Funding	Eugene	2,000,000	1,000,000	1,000,000	10/18/2012	10/18/2032
Oregon Institute of Technology	Geothermal Resource Funding	Klamath Falls	1,550,000	1,550,000	0	9/11/2012	9/11/2032
Central Oregon Irrigation District	COID Juniper Phase 2	Redmond	1,281,820	0	1,281,820	7/19/2013	7/19/2033
Farm Power Misty Meadows LLC	Misty Meadows Biogas Facility	Mount Vernon	1,000,000	500,000	500,000	10/25/2012	10/25/2027
Three Sisters Irrigation District	TSID Hydro	Sisters	1,000,000	700,000	300,000	4/25/2012	9/30/2032
Farmers Irrigation District	FID - Plant 2 Hydro	Hood River	825,000	0	825,000	4/1/2014	4/1/2034
Tioga Solar VI, LLC	Photovoltaic Project Agreement	San Mateo	570,760	570,760	0	2/1/2009	2/1/2030
City of Medford	750kW Combined Heat & Power	Medford	450,000	450,000	0	10/20/2011	10/20/2031
City of Pendleton	Pendleton Microturbines	Pendleton	450,000	150,000	300,000	4/20/2012	4/20/2032
RES - Ag FGO LLC	Biogas Manure Digester Project	Washington	441,660	441,660	0	10/27/2010	10/27/2025
RES - Ag FGO LLC	Biogas Manure Digester - FGO	Washington	441,660	183,289	258,371	10/27/2010	10/27/2025
Oak Leaf Solar VI LLC	BVT Sexton Mtn PV	Beltsville	355,412	0	355,412	5/15/2014	12/31/2034
City of Gresham	City of Gresham Cogen 2		330,000	0	330,000	4/9/2014	7/9/2034
K2A Properties, LLC	Doerfler Wind Farm Project	Aumsville	230,000	224,253	5,747	5/20/2010	5/20/2030
Confederated Tribes of the Umatilla Indian Reservation	Small Wind Project Funding	Pendleton	170,992	170,992	0	7/25/2013	12/31/2028
Henley KBG, LLC	Henley Proj Dev Assistance	Reno	150,000	43,098	106,903	4/10/2014	12/31/2015

**Energy Trust of Oregon
Contract Status Summary Report**

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City of Astoria	Bear Creek Funding Agreement	Astoria	143,000	0	143,000	3/24/2014	3/24/2034
Bloomberg LP	Insight Services	San Francisco	114,800	112,683	2,117	4/1/2011	1/1/2015
Klamath Basin Geopower Inc	Poe Valley Proj Dev Assistance	Reno	112,874	63,000	49,874	4/10/2014	12/31/2015
Clean Power Research, LLC	PowerClerk License	Napa	104,278	102,408	1,870	7/1/2014	6/30/2015
Gary Higbee DBA WindStream Solar	Solar Verifier Services	Eugene	100,000	25,960	74,040	8/1/2014	7/31/2016
Wallowa Resources Community Solutions, Inc.	Upfront Hydroelectric Project		100,000	17,290	82,710	10/1/2011	10/1/2015
Deschutes Valley Water District	Early Development Assistance	Madras	68,373	0	68,373	7/23/2013	6/30/2015
Mapdwell LLC	Mapdwell Account	Boston	66,381	48,195	18,186	3/17/2014	3/31/2016
Mariah Wind LLC	Development Assistance Funding	Victor	65,300	0	65,300	10/25/2013	9/30/2015
The Cadmus Group Inc.	Residential Solar Mkt Research	Watertown	60,000	58,874	1,126	3/18/2014	2/28/2015
State of Oregon Dept of Geology & Mineral Industries	Lidar Data	Portland	40,000	0	40,000	11/7/2014	12/1/2015
Clean Energy States Alliance	CESA Year 12 (2015)		39,500	39,500	0	7/1/2014	6/30/2015
Wallowa Resources Community Solutions, Inc.	Hydroelectric Pipeline		25,000	8,000	17,000	6/26/2014	6/30/2015
University of Oregon	UO SRML Contribution - 2015	Eugene	24,999	0	24,999	2/11/2015	3/8/2016
Robert Migliori	42kW wind energy system	Newberg	24,125	17,037	7,088	4/11/2007	1/31/2024
Solar Oregon	Education & Outreach Services	Portland	24,000	24,000	0	1/1/2014	12/31/2015
Bonneville Environmental Foundation	REC policy analysis	Portland	20,000	10,834	9,166	6/15/2014	5/30/2015
Solar Oregon	Website Upgrade Grant	Portland	20,000	0	20,000	12/8/2014	12/31/2015
Warren Griffin	Griffin Wind Project	Salem	13,150	9,255	3,895	10/1/2005	10/1/2020
Lewis & Clark	Solar Soft Cost Analysis	Portland	10,000	0	10,000	12/5/2014	4/30/2015
OSEIA-Oregon Solar Energy Industries Assoc	OSEIA 2015 Conf Sponsorship		7,500	0	7,500	1/1/2015	12/31/2015
Garrad Hassan America Inc	RE Consulting Services	San Diego	6,841	6,841	0	6/11/2013	2/28/2015
Clean Energy States Alliance	CESA ITAC Sponsorship		5,000	0	5,000	1/1/2015	12/31/2015
RHT Energy Solutions	Solar Marketing Consulting	Medford	4,500	4,500	0	10/15/2014	10/15/2016
eFormative Options LLC	RE Evaluation Consultant	Vashon	3,000	3,000	0	3/1/2013	2/28/2015
Bonneville Environmental Foundation	REC/WRC Purchase 2015	Portland	2,430	2,430	0	1/1/2015	1/1/2015
Bonneville Environmental Foundation	REC & WRC Purchase	Portland	2,262	588	1,674	1/20/2015	2/28/2015
Renewable Energy Total:			15,454,617	6,538,445	8,916,172		
Grand Total:			203,317,629	102,742,964	100,574,665		

Financial Glossary

(for internal use) - updated April 16, 2014

Administrative Costs

Costs that, by nonprofit accounting standards, have general objectives which enable an organization's programs to function. The organization's programs in turn provide direct services to the organization's constituents and fulfill the mission of the organization.

i.e. management and general and general communication and outreach expenses

- I. **Management and General**
 - Includes governance/board activities, interest/financing costs, accounting, payroll, human resources, general legal support, and other general organizational management costs.
 - Receives an allocated share of indirect costs.
- II. **General Communications and Outreach**
 - Expenditures of a general nature, conveying the nonprofit mission of the organization and general public awareness.
 - Receives an allocated share of indirect costs.

Allocation

- A way of grouping costs together and applying them to a program as one pool based upon an allocation base that most closely represents the activity driver of the costs in the pool.
- Used as an alternative to charging programs on an invoice-by-invoice basis for accounting efficiency purposes.
- An example would be accumulating all of the costs associated with customer management (call center operations, Energy Trust customer service personnel, complaint tracking, etc). The accumulated costs are then spread to the programs that benefited by using the ratio of calls into the call center by program (i.e. the allocation base).

Allocation Cost Pools

- Employee benefits and taxes.
- Office operations. Includes rent, telephone, utilities, supplies, etc.
- Information Technology (IT) services.
- Planning and evaluation general costs.
- Customer service and trade ally support costs.
- General communications and outreach costs.
- Management and general costs.
- Shared costs for electric utilities.
- Shared costs for gas utilities.
- Shared costs for all utilities.

Auditor's Opinion

- An accountant's or auditor's opinion is a report by an independent CPA presented to the board of directors describing the scope of the examination of the organization's books, and certifying that the financial statements meet the AICPA (American Institute of Certified Public Accountants) requirements of GAAP (generally accepted accounting principles).

- Depending on the audit findings, the opinion can be unqualified or qualified regarding specific items. Energy Trust strives for and has achieved in all its years an unqualified opinion.
- An unqualified opinion indicates agreement by the auditors that the financial statements present an accurate assessment of the organization's financial results.
- The OPUC Grant Agreement requires an unqualified opinion regarding Energy Trust's financial records.
- Failure to follow generally accepted accounting principles (GAAP) can result in a qualified opinion.

Board-approved Annual Budget

- Funds approved by the board for *expenditures* during the budget year (subject to board approved program funding caps and associated policy) for the stated functions.
- Funds approved for *capital* asset expenditures.
- Approval of the general allocation of funds including commitments and cash outlays.
- Approval of expenditures is based on assumed revenues from utilities as forecasted in their annual projections of public purpose collections and/or contracted revenues.

Reserves

- In any one year, the amount by which revenues exceed expenses for that year in a designated category that will be added to the cumulative balance and brought forward for expenditure to the next budget year.
- In any one year, if expenditures exceed revenues, the negative difference is applied against the cumulative carryover balance.
- Does not equal the cash on hand due to noncash expense items such as depreciation.
- Tracked by major utility funder and at high level program area--by EE vs RE, not tracked by program.

Committed Funds

- Represents funds obligated to identified efficiency program participants in the form of signed applications or agreements and tracked in the project forecasting system.
- If the project is not demonstrably proceeding within agreed upon time frame, committed funds return to incentive pool. Reapplication would then be required.
- Funds are expensed when the project is completed.
- Funds may be held in the operating cash account, or in escrow accounts.

Contract obligations

- A signed contract for goods or services that creates a legal obligation.
- Reported in the monthly Contract Status Summary Report.

Cost-Effectiveness Calculation

- Programs and measures are evaluated for cost-effectiveness.
- The cost of program savings must be lower than the cost to produce the energy from both a utility and societal perspective.
- Expressed as a ratio of energy savings cost divided by the presumed avoided utility and societal cost of energy.
- Program cost-effectiveness evaluation is "fully allocated," i.e. includes all of the program costs plus a portion of Energy Trust administrative costs.

Dedicated Funds

- Represents funds obligated to identified renewable program participants in the form of signed applications or agreements and tracked in the project forecasting system.

- May include commitments, escrows, contracts, board designations, master agreements.
- Methodology utilized to develop renewable energy activity-based budgets amounts.

Direct Program Costs

- Can be directly linked to and reflect a causal relationship to one individual program/project; or can easily be allocated to two or more programs based upon usage, cause, or benefit.

Direct Program Evaluation & Planning Services

- Evaluation services for a specific program rather than for a group of programs.
- Costs incurred in evaluating programs and projects and included in determining total program funding caps.
- Planning services for a specific program rather than for a group of programs.
- Costs incurred in planning programs and projects and are included in determining program funding expenditures and caps.
- Evaluation and planning services attributable to a number of programs are recorded in a cost pool and are subsequently allocated to individual programs.

Escrowed Program (Incentive) Funds

- Cash deposited into a separate bank account that will be paid out pursuant to a contractual obligation requiring a certain event or result to occur. Funds can be returned to Energy Trust if such event or result does not occur. Therefore, the funds are still “owned” by Energy Trust and will remain on the balance sheet.
- The funds are within the control of the bank in accordance with the terms of the escrow agreement.
- When the event or result occurs, the funds are considered “earned” and are transferred out of the escrow account (“paid out”) and then are reflected as an expense on the income statement for the current period.

Expenditures/Expenses

- Amounts for which there is an obligation for payment of goods and/or services that have been received or earned within the month or year.

FastTrack Projects Forecasting

Module developed in FastTrack to provide information about the timing of future incentive payments, with the following definitions:

- Estimated-Project data may be inaccurate or incomplete. Rough estimate of energy savings, incentives and completion date by project and by service territory.
- Proposed-Project that has received a written incentive offer but no agreement or application has been signed. Energy savings, incentives and completion date to be documented by programs using this phase. For Renewable projects-project that has received Board approval.
- Accepted-Used for renewable energy projects in 2nd round of application; projects that have reached a stage where approval process can begin.
- Committed-Project that has a signed agreement or application reserving incentive dollars until project completion. Energy savings/generations, incentives and completion date by project and by service territory must be documented in project records and in FastTrack. If project not demonstrably proceeding within agreed upon time frame, committed funds return to incentive pool. Reapplication would then be required.
- Dedicated-Renewable project that has been committed, has a signed agreement, and if required, has been approved by the board of directors.

Incentives**I. Residential Incentives**

- Incentives paid to a residential program participant (party responsible for payment for utility service in particular dwelling unit) exclusively for energy efficiency and renewable energy measures in the homes or apartments of such residential customers.

II. Business Incentives

- Incentives paid to a participant other than a residential program participant as defined above following the installation of an energy efficiency or renewable energy measure.
- Above market cost for a particular renewable energy project.

III. Service Incentives

- Incentives paid to an installation contractor which serves as a reduction in the final cost to the participant for the installation of an energy efficiency or renewable energy measure.
- Payment for services delivered to participants by contractors such as home reviews and technical analysis studies.
- End-user training, enhancing participant technical knowledge or energy efficiency practices proficiency such as “how to” sessions on insulation, weatherization, or high efficiency lighting.
- CFL online home review fulfillment and PMC direct installations.
- Technical trade ally training to enhance program knowledge.
- Incentives for equipment purchases by trade allies to garner improvements of services and diagnostics delivered to end-users, such as duct sealing, HVAC diagnosis, air filtration, etc.

Indirect Costs

- Shared costs that are “allocated” for accounting purposes rather than assigning individual charges to programs.
- Allocated to all programs and administration functions based on a standard basis such as hours worked, square footage, customer phone calls, etc.
- Examples include rent/facilities, supplies, computer equipment and support, and depreciation.

IT Support Services

- Information technology costs incurred as a result of supporting all programs.
- Includes FastTrack energy savings and incentive tracking software, data tracking support of PMCs and for the program evaluation functions.
- Includes technical architecture design and physical infrastructure.
- Receives an allocation of indirect shared costs.
- Total costs subsequently allocated to programs and administrative units.

Outsourced Services

- Miscellaneous professional services contracted to third parties rather than performed by internal staff.
- Can be incurred for program or administrative reasons and will be identified as such.

Program Costs

- Expenditures made to fulfill the purposes or mission for which the organization exists and are authorized through the program approval process.
- Includes program management, incentives, program staff salaries, planning, evaluation, quality assurance, program-specific marketing and other costs incurred solely for program purposes.
- Can be direct or indirect (i.e. allocated based on program usage.)

Program Delivery Expense

- This will include all PMC labor and direct costs associated with: incentive processing, program coordination, program support, trade ally communications, and program delivery contractors.
- Includes contract payments to NEEA for market transformation efforts.
- Includes performance compensation incentives paid to program management contractors under contract agreement if certain incentive goals are met.
- Includes professional services for items such as solar inspections, anemometer maintenance and general renewable energy consulting.

Program Legal Services

- External legal expenditures and internal legal services utilized in the development of a program-specific contract.

Program Management Expense

- PMC billings associated with program contract oversight, program support, staff management, etc.
- ETO program management staff salaries, taxes and benefits.

Program Marketing/Outreach

- PMC labor and direct costs associated with marketing/outreach/awareness efforts to communicate program opportunities and benefits to rate payers/program participants.
- Awareness campaigns and outreach efforts designed to reach participants of individual programs.
- Co-op advertising with trade allies and vendors to promote a particular program benefit to the public.

Program Quality Assurance

- Independent in-house or outsourced services for the quality assurance efforts of a particular program (distinguished from program quality control).

Program Reserves

- Negotiated with utilities annually, with a goal of providing a cushion of approximately 5% above funds needed to fulfill annual budgeted costs. Management may access up to 50% of annual program reserve without prior board approval (resolution 633, 2012).

Program Support Costs

- Source of information is contained in statement of functional expense report.
- Portion of costs in OPUC performance measure for program administration and support costs.
 - Includes expenses incurred directly by the program.
 - Includes allocation of shared and indirect costs incurred in the following categories: supplies; postage and shipping; telephone; printing and publications; occupancy expenses; insurance; equipment; travel; business meetings; conferences and training; depreciation and amortization; dues, licenses,

subscriptions and fees; miscellaneous expense; and an allocation of information technology department cost.

Project Specific Costs (for Renewable Energy)

- Expenses directly related to identified projects or identified customers to assist them in constructing or operating renewable projects. Includes services to prospective as well as current customers.
- Must involve direct contact with the project or customer, individually or in groups, and provide a service the customer would otherwise incur at their own expense.
- Does not include general program costs to reach a broad (unidentified) audience such as websites, advertising, program development, or program management.
- Project-Specific costs may be in the categories of; Incentives, Staff salaries, Program delivery, Legal services, Public relations, Creative services, Professional services, Travel, Business meetings, Telephone, or Escrow account bank fees.

Savings Types

- **Working Savings/Generation:** the estimate of savings/generation that is used for data entry by program personnel as they approve individual projects. They are based on deemed savings/generation for prescriptive measures, and engineering calculations for custom measures. They do not incorporate any evaluation or transmission and distribution factors.
- **Reportable Savings/Generation:** the estimate of savings/generation that will be used for public reporting of Energy Trust results. This includes transmission and distribution factors, evaluation factors, and any other corrections required to the original working values. These values are updated annually, and are subject to revision each year during the “true-up” as a result of new information or identified errors.
- **Contract Savings:** the estimate of savings that will be used to compare against annual contract goals. These savings figures are generally the same as the reportable savings at the time that the contract year started. For purposes of adjusting working savings to arrive at this number, a single adjustment percentage (a SRAF, as defined below) is agreed to at the beginning of the contract year and is applied to all program measures. This is based on the sum of the adjustments between working and reportable numbers in the forecast developed for the program year.
- **Savings Realization Adjustment Factors (SRAF):** are savings realization adjustment factors applied to electric and gas working savings measures in order to reflect more accurate savings information through the benefit of evaluation and other studies. These factors are determined by the Energy Trust and used for annual contract amendments. The factors are determined based on the best available information from:
 - Program evaluations and/or other research that account for free riders, spill-over effects and measure impacts to date; and
 - Published transmission and distribution line loss information resulting from electric measure savings.

Total Program and Admin Expenses (line item on income statement)

- Used only for cost effectiveness calculations, levelized cost calculations and in management reports used to track funds spent/remaining by service territory.
- Includes all costs of the organization--direct, indirect, and an allocation of administration costs to programs.
- Should not be used for external financial reporting (not GAAP).

Total Program Expenses (line item on income statement)

- All indirect costs have been allocated to program costs with the exception of administration (management and general costs and communications & outreach).
- Per the requirements of Generally Accepted Accounting Principles (GAAP) for nonprofits, administrative costs should not be allocated to programs.
- There is no causal relationship—costs would not go away if the program did not exist.

Trade Ally Programs & Customer Service Management

- Costs associated with Energy Trust sponsorship of training and development of a trade ally network for a variety of programs.
- Trade Ally costs are tracked and allocated to programs based on the number of allies associated with that program.
- Costs in support of assisting customers which benefit all Energy Trust programs such as call center operations, customer service manager, complaint handling, etc.
- Customer service costs are tracked and allocated based on # of calls into the call center per month.

True Up

- True-up is a once-a-year process where we take everything we've learned about how much energy programs actually save or generate, and update our reports of historic performance and our software tools for forecasting and analyzing future savings.
- Information incorporated includes improved engineering models of savings (new data factor), anticipated results of future evaluations based on what prior evaluations of similar programs have shown (anticipated evaluation factor), and results from actual evaluations of the program and the year of activity in question (evaluation factor).
- Results are incorporated in the Annual Report (for the year just past) and the True-up Report (for prior years).
- Sometimes the best data on program savings or generation is not available for 2-3 years, especially for market transformation programs. So for some programs, the savings are updated through the annual true-up 2 or 3 times

Tab 7

MEMO



Date: April 1, 2015
To: Board of Directors
From: Margie Harris
Subject: Upcoming Transition

As of the end of calendar year 2016, I plan to conclude my role as Energy Trust Executive Director. I will have served in this capacity for just over 15 years and this time will remain one of honor and privilege in my life.

Beginning at the strategic plan retreat on June 5-6, 2015, the board will initiate a thorough and thoughtful process to recruit and ultimately transition to a new executive director. The agenda for this meeting includes the first opportunity for the board to articulate priorities for the position and to define a corresponding approach.

Ken Canon has graciously agreed to chair a board committee to lead this process, which in turn will engage board members, staff and stakeholders. Recruitment is anticipated over a 6-8 month period in 2016, with a targeted date for the new executive director to begin work in October of that year.

As of 2017, I plan to work differently and less. I am open to discussions with the board that may allow me to contribute to Energy Trust in new ways, provided what is considered enables and supports the full success of the new executive director.

My commitment to Energy Trust is unwavering. I will remain available and flexible to assist the board throughout this process and important transition in whatever ways are deemed appropriate.

Thank you.

Strategic Planning Committee Meeting

March 9, 2015, 3:00–5:00 pm

Attending at Energy Trust offices

Mark Kendall, Warren Cook, Fred Gordon, Margie Harris, Debbie Menashe

Attending by teleconference

Susan Brodahl, John Reynolds, Eddie Sherman

1. Follow-up on Staff Report and Recommendations on Key Metrics and Reports

At its last meeting, the committee requested that staff propose certain reporting topics and metrics, as well as a reporting schedule, to permit the Strategic Planning Committee and board of directors to track progress on strategic plan implementation. At the meeting, staff proposed reporting and metrics tracking in the following categories:

- Meet or exceed individual utility energy efficiency and renewable energy goals
- Improve operational efficiency and measure gains
- Pursue strategies to expand program participation and connect with underserved communities
- Prepare for future organizational transitions

Committee members and staff discussed schedules for report out, which in most cases is annual at the board's strategic planning retreat. A reporting matrix has been prepared by staff and will be updated to reflect the committee's discussion.

2. Review Initial Draft Agenda for June Strategic Planning Board Retreat

The board's 2015 strategic planning retreat is scheduled for June 5-6, 2015 at Reed College. Staff presented a draft retreat agenda to the committee for review. Committee members provided helpful input, including a request that succession planning issues be addressed earlier in the day at the retreat to give board members time for productive discussion. In addition to the succession planning discussion, the draft agenda includes time for a brief presentation on the new strategic plan, current energy market conditions affecting the strategic plan and Energy Trust's work, and a report out on strategic plan implementation in the categories discussed previously by the committee.

Staff will revise the draft retreat agenda to reflect the committee's discussion and will begin planning based on the revised agenda.

The meeting adjourned before 5:00 pm.

The next meeting of the Strategic Planning Committee is scheduled for April 14, 2015.

Tab 8

Renewable Energy Advisory Council Meeting Notes

February 4, 2015

Attending from the council:

Bruce Barney, Portland General Electric
Diane Broad, Oregon Department of Energy
Cindy Dolezel, Oregon Public Utility
Commission
Kari Greer, Pacific Power
Suzanne Leta-Liou, Atkins
Frank Vignola, Solar Monitoring, University
of Oregon
Dick Wanderscheid, Bonneville
Environmental Foundation

Attending from Energy Trust:

Chris Dearth
Sue Fletcher
Matt Getchell
Mia Hart
Jed Jorgensen

Betsy Kauffman
Dave McClelland
Dave Moldal
Elaine Prause
Thad Roth
Peter West

Others attending:

Ken Dragoon, Flink Energy Consulting
Evan Elias, Oregon Department of Energy
Shawn Foster, Portland General Electric
Kira Hill, Green Energy Institute
Nate Larson, Green Energy Institute
Alan Meyer, Energy Trust board
John Reynolds, Energy Trust board
Amelia Slusher, Green Energy Institute
Nick Waltman, Green Energy Institute

1. Welcome and introductions

Betsy Kauffman convened the meeting at 9:30 a.m. The agenda, notes and presentation materials are available on Energy Trust's website at: www.energytrust.org/About/public-meetings/REACouncil.aspx.

2. Preliminary year-end results

Betsy provided an overview of 2014 preliminary annual results for energy-efficiency and renewable programs. Results reflect the best available data at this time, and may shift after the release of the annual report to the Oregon Public Utility Commission on April 15.

Standard solar achieved 140 percent of goal for 2014 and three custom projects were completed for hydropower, geothermal and wind technologies. All Oregon Public Utility Commission benchmarks were met. Total generation was 2.39 aMW, falling short of the 4.49 aMW goal. This shortfall was due to several projects with completion delayed into 2015 and 2016 and one cancelled biopower project.

Cindy Dolezel: At what point do we say we can no longer delay a project?

Betsy: If there are legitimate reasons for the project's delay and we're confident that the project is on track to be completed, we will amend the contract. If the project fails to hit an important milestone or if there are substantial changes to the project, we will not amend the contract.

Jed Jorgensen: Consideration is almost always on a case-by-case basis.

3. Other Renewables strategic plan

Betsy highlighted overall themes for technologies funded in the Other Renewables program. Although the technologies served by the Other Renewables program differ, there are similarities

in the barriers faced, the effect of a challenging market and the ways that Energy Trust works with projects. Commonalities across strategic themes include placing greater focus on projects with multiple benefits, looking for projects that can net-meter, engaging stakeholders, using project development assistance and capacity-building to build the pipeline, and applying lessons learned from existing projects to inform future projects.

Dave Moldal provided a brief history of biogas energy projects that Energy Trust has supported, including market factors and strategies to expand the pipeline of biogas projects in the future.

Dave Moldal: Over the last 10 years, Energy Trust has supported 11 biogas energy projects located at wastewater treatment plants, dairy digesters and food waste processing facilities. Of the 20 wastewater treatment plants that are producing biogas from anaerobic digestion and located in Portland General Electric and Pacific Power service territories, nine are generating electricity through cogeneration. Electricity generation is often secondary to the core responsibility of the wastewater treatment plant and there is strong competition for biogas from transportation fuel initiatives. Ultimately, successful biogas energy projects require on-site energy champions. Coming up, the Biomass Producer Collector Tax Credit, HB 2449, legislative concept could extend business tax credits.

Bruce Barney: How would that work?

Dave Moldal: The credit would be sold.

Technological innovation to monetize nutrients has the potential to change the playing field. Food waste regulation and anaerobic digestion paired with water reuse systems could also expand this market. There are opportunities to maximize generation at existing biogas energy projects and to share best operating and management practices. Future biogas support should focus on projects that net-meter and those that secure co-digestible feedstocks.

Dick Wanderscheid: Landfill gas projects do not have above-market costs, but there are more landfills in Oregon than the six completed projects. If developers of landfill projects see a market, they should move that forward. Would that create above-market costs?

Dave: We're not seeing those projects come in.

Peter West: There are regulatory barriers. Thad Roth would know more.

Alan Meyer: Strategies are well written. There are more opportunities for dairy, yet it's not a primary focus. What are the difficulties?

Dave Moldal: I can list six dairy operations in Oregon with 2,000 to 3,000 cows that are not presently using anaerobic digestion to produce biogas. The average dairy size in Oregon has about 600 cows. This is an economies of scale challenge; small dairies simply do not produce enough manure. Dairy-based biogas energy projects are hampered by insufficient incentives. Also, development opportunities are more attractive in other parts of the country.

Betsy: This is about net-metering versus low qualifying facility, QF, prices. Biogas projects that can offset onsite load through net-metering are more economically viable.

Jed: Small family farms are less attractive from a developer perspective.

Diane Broad: We need to encourage sharing across sectors and focus on co-benefits. There's potential for less than well-defined benefits for dairies.

Bruce: Can you expand on the current and future market for fats, oils and grease, FOG?

Dave Moldal: Gresham is receiving tipping fees for FOG at 9 cents per gallon. They turned away a lot more volume of FOG than they need. Adding FOG doubled their production of

biogas. Clean Water Services Durham had eight to 10 respondents to their FOG request for proposals. There is a lot more FOG available in the market but not enough FOG receiving stations.

Chris Dearth presented on the strategic plan for biomass. Energy Trust has participated in about 18 feasibility analyses and two biomass projects over the past 10 years. There are four segments of the biogas market: onsite generation; stand-alone generation projects, which are not likely in the future due to low QF rates; combined heat and power, which is expected to be a major segment for Energy Trust; and liquid biofuel production with generation from waste process heat. Challenges surrounding biomass projects are low QF rates combined with high feedstock costs, and numerous uncertainties pertaining to forest policy, unstable economics for the timber industry and unreliable long-term biomass supply. There is a large amount of biomass built up in our region and it remains a challenge to economically manage the overgrowth. Going forward, strategies for biomass projects include an aggressive outreach strategy, deepening our understanding of the market and technology, cooperating with the Statewide Wood Energy Team and other market actors, and remaining opportunistic with potential projects.

Alan: Can we sell power into PGE and Pacific Power service territories?

Chris: Yes, although it adds wheeling costs.

John: Utilities are not pleased to wheel in projects located outside of their service territory.

Chris: We will participate if project managers are willing to move power into Energy Trust service territory.

Chris presented a summary of the strategic plan for wind. He provided a brief history of the wind program, conversion of Energy Trust incentives to performance-based incentives and the formation of the Interstate Turbine Advisory Council to authorize and support reliable turbines and turbine companies. Distributed wind in the United States was generally stable up until 2013 when there was a dramatic decline in additional wind turbine construction. Similar numbers are expected for 2014.

Bruce: On the distributed wind graph displayed, how do you separate utility-scale distributed wind?

Chris: This chart of distributed wind includes what we would consider utility scale. In this case, distributed wind is dependent on how and where the turbines provide the power.

Wind is experiencing several challenges. There have not been cost decreases like those experienced in the solar market. The Investment Tax Credit is expiring in 2016, creating an uncertain environment. Trade allies do not have the resources to market wind in a small market. Permitting obstacles remain in several Oregon counties and utility incentives are more favorable outside of the U.S. Strategies include engaging with industry players and partnering with trade allies as requested. Energy Trust is no longer proactively seeking projects and will respond opportunistically to potential projects.

Nate Larson: What does it mean to be a bad actor in the wind turbine market?

Chris: The turbine or company does not perform as the company claims. Energy Trust narrows the field to those considered to be good partners and provide reliable technologies.

Dick: Are developers focusing on Europe due to the high feed-in tariffs?

Chris: Yes, high feed-in tariffs are making wind projects more economically viable in European countries.

Diane: Are we seeing activity in refurbishing decommissioned turbines from 1980s to 1990s?
Chris: A Nevada state agency did provide incentives for refurbished turbines, but it hasn't been done in Oregon to my knowledge.

Jed presented on the strategic plan for geothermal, provided a general overview of the geothermal program and addressed market factors for geothermal projects. Those market factors include high upfront risk and costs, challenges in developing projects under 20 MW and low QF prices. It is difficult for Energy Trust to play a role in geothermal, and opportunities for outreach are minimal. Energy Trust will continue to engage with market players and developers, provide Project Development Assistance and maintain an opportunistic approach to funding projects. In the future, technological advances in underground imaging may improve the success rate for well drilling, and there could be a greater government presence in developing small projects.

Alan: You got it right with this form of triage. It's not ratepayer-driven and there's low opportunity.

4. Report on challenges faced by small energy generators related to transmission scheduling and costs

Energy Trust studied the unanticipated costs and challenges faced by several renewable energy projects transmitting power across Bonneville Power Administration transmission lines, such as transaction costs, scheduling and difficulties accommodating fractional generation. Ken Dragoon, principal at Flink Energy Consulting, presented the findings and recommendations.

Ken Dragoon: There are three unanticipated costs associated with transmission for new market entrants. Local utility costs for connecting to Bonneville Power Administration's system, scheduling and e-tagging costs ranging from hundreds to thousands of dollars per month, and scheduling of point-to-point transmission. Transmission schedules and e-tags are required to be submitted in 1 MW increments and Bonneville Power Administration requires 24-hour response for scheduling entities. One recommendation to work around scheduling fractional generation is alternating scheduling requests by increasing and decreasing transmission by 0.5 MW.

Alan: Energy generators have to pay for transmission 100 percent of the time, even though they're only contributing one-third of the time?

Ken: True.

Ken: Based on the tariff structure, it's more cost-effective to schedule low generation in the beginning of the month and higher generation at the end of the month, even though the generator could only be delivering 0.1 MW. Recommendations from the study are to share resources and experiences, pool scheduling and e-tagging services across a group of small generators and consider negotiating with the utility to accept short-term firm transmission. Work can be done with Bonneville Power Administration to develop support for small generators and ensure additional costs associated with transmission are understood for those delivering outside their local utility territories.

Jed: Are there repercussions for not fulfilling the scheduled generation?

Ken: None were identified.

Alan: Good job identifying the complexity of these challenges. This is an area where we could help lower barriers for projects looking at wheeling. There could be opportunity to create a group of experts to consult.

Thad: We try to highlight the costs and challenges of transmission with potential projects and include these costs in the assessment of above-market costs. We encourage customers to use us for Project Development Assistance. We offer guidance and resources to deal with uncertainties.

Dave Moldal: Can you expound on the costs faced by the JC-Biomethane project? Generally, what costs do they realize on a monthly basis?

Ken: Costs of each project are available on page 11 of the report, including costs associated with local transmission, scheduling services with e-web, 24-hour response and ancillary services. These projects are concerned about large setup costs, and some had concerns with software for e-tagging and requirements for scheduling.

Dick: The distributed wheeling fees don't really exist. The utility has to come up with this number when confronted with it. JC-Biomethane was downsized because the utility was charging high transmission fees. Did you identify distributed wheeling fees for each project?

Ken: These fees weren't included in the report. It's the predisposition of the utility and isn't regulated under Federal Energy Regulatory Commission, FERC.

Dick: There are interesting ways to get around it based on where they're placed the system. We could help developers select sites to increase cost-effectiveness.

Betsy: Is there a role for the OPUC or legislation?

Ken: The OPUC and Bonneville Power Administration are not involved with consumer-owned utilities. They follow FERC's rules. There is still potential for discussions about policies and best practices. Consumer-owned utilities want distributed generators in their service territory. I recommended staying away from a regulatory approach.

Diane: Are the zero costs associated with the Middle Fork project on page 11 correct?

Ken: They are not zeroes. Those numbers have been redacted.

Jed: Pacific Power was paying for the e-tagging costs in this case, while PGE did not cover these costs.

Bruce: I have no historical knowledge on this issue, but to venture a guess, this is based on risk to the utility. If long-range generation planning fell through, this would be a cost to ratepayers.

Ken: When scheduling for the month, does it matter how often you change the schedule throughout the month? This is worth discussion.

Dick: There is a workgroup at Bonneville Power Administration that could discuss how to deal with these challenges for small projects, under 3 MW.

5. Public comment

There was no additional public comment.

6. Meeting adjournment

The meeting adjourned at 11:00 a.m. The next Renewable Energy Advisory Council meeting is scheduled on March 11, 2015.

Conservation Advisory Council Meeting Notes



February 4, 2015

Attending from the council:

Jim Abrahamson, Cascade Natural Gas
Brent Barclay, Bonneville Power
Administration
Wendy Gerlitz, NW Energy Coalition
Garret Harris, Portland General Electric
Scott Inman, Oregon Remodelers
Association
Andria Jacob, City of Portland
Don Jones, Jr., Pacific Power
Jason Klotz, Oregon Public Utility
Commission
Don MacOdrum, HP Guild
Holly Meyer, NW Natural
Stan Price, Northwest Energy Efficiency
Council
Blake Shelide, Oregon Department of
Energy

Attending from Energy Trust:

Tom Beverly
Sarah Castor
Amber Cole
Kim Crossman
Sue Fletcher

Fred Gordon
Hannah Hacker
Debbie Menashe
Jessica Rose
Dan Rubado
Jay Ward
Peter West

Others attending:

Audrey Burkhardt, NW Natural
Christina Cabrales, CSG
Bill Edmonds, NW Natural
Sara Fredrickson, CLEARResult
Cameron Gallagher, Nexant
Mark Kendall, Energy Trust board
Alan Meyer, Energy Trust board
Tim Miller, Clean Energy Works
Nick O'Neil, Energy 350
Tom Phillips, Honeywell
Chris Smith, Energy 350
Marty Stipe, Oregon Department of Energy
Barbara Summers, NW Natural
Becky Walker, CLEARResult

1. Welcome and introductions

Kim Crossman convened the meeting at 1:30 p.m. and reviewed the agenda. The agenda, notes and presentation materials are available on Energy Trust's website at:

www.energytrust.org/About/public-meetings/CACMeetings.aspx.

2. 2015 Conservation Advisory Council operating principles (discussion)

Kim called for feedback and comments about Conservation Advisory Council operations in 2015.

Don Jones: How have our operations worked for other users of the information provided at Conservation Advisory Council meetings? We've memorialized our rules and they have worked.

Kim: Staff appreciate the good discussion here.

Peter West: Our 2015 action plans included a number of things that came out of the discussions here. At the staff and management level, these are good rules of engagement. The same is true for Renewable Energy Advisory Council.

Alan Meyer: I thought the Strategic Plan discussion was helpful. Being here and seeing the interaction was good.

Mark Kendall: We are still formalizing and making things more overt. At what level do conversations here rise to the board? We took this on a couple of years ago, and articulated and clarified it here. It's beholden on board members who attend Conservation Advisory Council meetings to be a touchstone for other board members. There are issues that seem urgent here but end up as just a bullet in the board packet. The call for more board participation was important and good. Now let's operationalize it in a meaningful way.

Holly Meyer: Item number two says: draft a schedule and set expectations for the year. We haven't really looked at that for 2015.

Kim: You'll see that at the next meeting.

Holly: It makes a lot of sense to have board members here because it creates a better connection to the board. Also, new Conservation Advisory Council members are here, and we want to make sure they have a mentor or some orientation.

Kim: We will take a lesson from the Renewable Energy Advisory Council and do more onboarding work with new members.

[Holly Meyer and Don Jones indicated an interest in being a touch-point for new members.]

CAC adopted operating principles for the year.

3. Residential sector staffing changes

Peter West: We've had a great deal of turnover in the residential sector. Thad Roth is temporarily replacing Diane Ferington as residential sector lead. Betsy is running the renewable sector in the interim. A search is underway for a new residential sector lead.

Mark Wyman replaces Matt Braman as New Homes and Products program manager. Taylor Bixby works with Mark Wyman on the products side. Marshall Johnson is still in his role as Existing Homes program manager. Christian Conkle has moved to the forms manager position in the Communications and Customer Service group.

Kate Scott is the temporary program manager for multifamily. Scott Swearingen is working with IT on our data processing replacement project. Andrew Shepard is the new manager of the efforts for NW Natural in Washington.

4. Preliminary 2014 annual results (information)

Peter presented preliminary savings results from 2014. These are preliminary numbers. Official annual results will be available in our Annual Report in April. The slides show net savings.

Scott Inman: How does Energy Trust track purchases for residential light bulbs at stores like The Home Depot?

Peter: When the retailer scans a bulb, it charges Energy Trust for any qualifying incentive. We work with Bonneville Power Administration in dual-utility areas using algorithms that Northwest Energy Efficiency Alliance helped us develop to parse out sales in overlapping utility territories.

Mark: How closely aligned are 2014 Energy Trust goals to utility Integrated Resource Plan targets?

Peter: For 2014, we had a timing issue with both PGE and Pacific Power, so Energy Trust goals are slightly off from IRP targets. If Energy Trust's goal setting process occurs after utilities have set their IRP targets and we can identify more potential savings, the process allows us to set higher Energy Trust goals.

Mark: We align ourselves with IRP now, correct?

Don Jones: For Pacific Power, Energy Trust is aligned one year and off the next. It alternates every other year.

Holly: It was interesting to compare results for the industrial and residential sectors. They're close to each other on the electric side, but residential saved twice as much on the gas side. It's interesting for us to see this as measures change following the gas cost-effectiveness docket.

Kim Crossman: The industrial sector's gas efficiency efforts are less mature than the residential sector's gas efficiency efforts. We have been serving industrial customers for only five years, and a lot of businesses are on transport gas and therefore not eligible for Energy Trust incentives. You also see NEEA savings on the electric side, which have a big impact.

Don Jones: Did the financials land commensurate with the savings?

Peter: We were right on target for what we forecasted in September. We underspent our official budget, as predicted. The financials are closing now and we will have the full answer to that question with official annual results in April.

5. Path to Net Zero (information)

Jessica Rose presented information about the Path to Net Zero pilot and initiative. CLEAResult, formerly PECL, delivered the Path to Net Zero offering in the New Buildings program. Becky Walker helped build this from a pilot to what we have today. There is public information on the New Buildings Institute website about the 200 buildings nationwide that are net zero.

Mark: Were most of the early adopters owner occupied?

Jessica: When we started, the majority of participating projects could be placed in that category, but it's changing. As more tenants get involved, non-owner-occupied projects will become a bigger piece of the pie.

Don Jones: This is 2012 code?

Jessica: This is 2014 code.

Wendy Gerlitz: Can you give us a sense of how many buildings in Oregon would participate each year?

Jessica: Around 5 percent for our territory.

Becky Walker: The number always comes out in square footage. We enrolled 500 projects in our program. There are maybe 1,000 projects across Oregon.

Wendy: Where is the starting point? You did nine pilots, but what is the goal by 2030 in number of projects? I'm interested in the scale.

Jessica: Going 30 percent beyond code is possible in our custom program. Path to Net Zero projects go another 10 percent beyond that, putting the starting point at 40 percent beyond code. It's hard to know how many projects will achieve net zero by 2030, and we'll measure on a quarterly and annual basis. It will be a portion of the approximately 500 buildings we enroll in a given year. If 40 percent beyond code is the starting point, we want at least 10 projects per year to go beyond that. We may manage up to 30 Path to Net Zero buildings at a time, which are at various stages of design and construction and also achieving different targets.

Don Jones: You intervene at about 50 percent of the way through the construction documents, CD, process. It seems that you intervene with the customer twice during the value engineering process. Pacific Power sometimes intervenes twice during the CD process: once at 50 percent of the way through the CD process and again at about 80 percent of the way through the process.

Jessica: We intervene at about 50 percent of the way through the CD process and come back after that point to examine installation and commissioning. We have installation incentives we can provide.

Mark: Is commissioning design review having someone come in and review during the design phase, or is it waiting until the project is built?

Jessica: Ideally, we will be part of the design team, but it's during design review. Early is best.

Don Jones: Those savings incentives are regardless of cost, right? You end up with a negative incremental cost otherwise?

Jessica: We don't pay more than 100 percent of incremental costs and have a cap of \$500,000. Negative incremental costs aren't typically paid. The idea is that the benefit is already there and should be captured in the design process. Overall, we don't want the program to be a barrier.

Garrett Harris: What are the levelized costs and how do they compare with standard New Buildings costs?

Jessica: Path to Net Zero is a little more costly just looking at the potential installation incentives. Some buildings may not tap the installation incentives, and that's not a requirement to participate. It will vary by building and customer. Some projects could cost a little more, but they are getting deeper savings to balance it out.

Holly: Was the Edith Green building in the pilot?

Jessica: Yes.

Mark: What was the big surprise learned from the pilot?

Jessica: It's always surprising there isn't more early engagement occurring in the industry when a project is kicked off. Projects move rapidly, and taking the full day with us in early design is a big step beyond a typical charrette, where a developer sees who is on the design team for the first time. We help the design team focus on key strategies and priorities in the early design meeting, after the project charrette. The design team is often worried because of accelerated timelines.

Don Jones: Is an owner's representative required at the charrette?

Jessica: Yes. This is a good opportunity for program staff to connect directly with the owner or owner representative.

Mark: What engagement has the state building codes division shown in this pilot with their cycle of code development?

Jessica: We engage with Oregon Department of Energy. They are well aware of the program. There is potential for tax credits to help. The second piece is bringing up the bottom of the market. That happens through NEEA because NEEA addresses codes as part of their commercial markets strategy.

Mark: With the advent of LEDs, getting 20 percent better than code is easily attainable. Is there an initiative to move the baseline as part of our strategy?

Jessica: Codes in Oregon are on a six-year cycle. There are things we can do with incentive design to adjust the program baseline.

Wendy: Are there other entities offering anything around net zero, nationally?

Jessica: There are others all over the map: ComEd in Chicago, Savings By Design in California, Vermont and others.

Andria Jacob: The city's coming action plan supports net zero, and we can talk more offline. What support would be helpful from a jurisdictional standpoint?

Jessica: Yes, there's a lot of jurisdictional creativity that can happen in this space. We can talk offline.

Blake Shelide: The Oregon Department of Energy offers tax credits that could help align and advance Reach Code. There is some work with Warren Cook. How is net zero being defined? How is a site being looked at versus a source?

Jessica: We look at site usage.

6. NEST Thermostat Evaluation (information)

Dan Rubado presented results of Energy Trust's Nest thermostat evaluation, which indicated that Nest is a viable technology to achieve energy savings in homes with electric heat pumps.

Mark: Is Nest an acronym?

Dan: It's the company name: Nest Labs, which is now owned by Google.

Mark: So Nest's capabilities are not in the thermostat? They have to source those from the Internet?

Dan: The logic is inside the thermostat, but it has to receive weather data and remote control capabilities from online. It also updates its operating system from time to time.

Mark: Did we correlate savings with people making changes to the thermostat settings?

Dan: We did, but the numbers were small and we may not be able to tell much.

Don Jones: There's a single motion detector in the unit?

Dan: Yes. You would have to pass the thermostat during a two-hour period to avoid occupancy sensor changes. It's tuned so it doesn't pick up pets.

Holly: What's the best selling point about the Nest?

Dan: Customers like the scheduling automation and being able to control it remotely with a smart phone.

Don MacOdrum: Does it track energy use?

Dan: It tracks time that a furnace is running, and will tell you if you're making changes that cause the furnace to run.

Mark: Is there any anticipation of cooling load savings?

Dan: Nest claims 15 percent from recently published studies, but actual cooling savings would probably be small in Oregon since cooling loads tend to be small here.

Brent Barclay: What did they claim on the heating side?

Dan: In a recent white paper, Nest claimed 10 to 12 percent savings, which is what we saw.

Mark: What portion of that savings is attributable to the different features?

Dan: It's hard to tell. We weren't able to separate out savings from different features, and the number of households that disabled key features was too small to compare to the rest of the sample. However, we suspect that the heat pump balance point feature is responsible for a lot of the savings we saw.

Jim Abrahamson: Was the baseline the home's actual metered use?

Dan: Yes.

Holly: You offered a free Nest, and the people who took the offer may have a propensity toward energy savings. It could be a skewed sample.

Dan: The people who would go out and buy it in the market would also be a skewed sample. We did have a pretty low follow through rate on the offer. We sent it out to about 1,600 people and only ended up with 174 successful installations.

Wendy: Did the survey pick apart backup heating savings from savings through voluntary efforts?

Dan: Yes, we did ask about how people used the thermostat and what features they used in the surveys. We tried to look at differences in savings by what features they used, like auto-away and controlling the thermostat from their smart phone. Unfortunately, the number of homes in each group was too small to tell.

Don Jones: Was there any overlap with Home Energy Reports?

Dan: We screened out homes receiving Home Energy Reports or any other Energy Trust measures from our analysis.

Alan: I am participating in the Lyric pilot. I saved a lot while I was away on vacation. I could monitor savings while I was away and turn the heat back up before I came home. Even if you don't do anything, a smart thermostat will save energy.

Mark: What kind of data do we know about the control group?

Dan: We assume they were similar to the test group. Control group participants were chosen from the same group of homes with the same selection criteria.

7. Greenhouse gas emissions reduction at Northwest Natural (information)

SB 844 passed during the 2013 legislative session and allows natural gas utilities to develop voluntary projects to reduce greenhouse gas, GHG, emissions. Kim introduced guest speakers Bill Edmonds and Barbara Summers of NW Natural to describe how this new law works and present some of the early emission reduction projects under development. NW Natural projects to reduce GHG emissions could include methane abatement programs and a market solicitation for combined heat and power, CHP, projects.

Mark: Does the CHP MW capacity include those on transport gas?

Barbara Summers: It does, and I'm indifferent to whether it's transport. Energy Trust would pay for efficiency and the Oregon Department of Energy would look at upfront capital investment. We have the same eligibility criteria and evaluation and verification processes. We would have to verify and measure over the entire period we pay SB 844 incentives.

Don Jones: This assumes that none of these come in under a qualifying facility, QF, and no Public Utility Regulatory Policy Act contracts.

Barbara: I haven't addressed that at all.

Kim: On our side, most QFs aren't going to be efficient enough to receive SB 844 incentives.

Barbara Summers: If a system isn't utilizing the waste heat, we probably aren't going to support it because it won't be efficient enough.

Don Jones: It seems like that would be perfect to get them to QF status.

Barbara: I haven't looked at it, but it's on my list.

Mark: This is an innovative program. Are others around the country engaging their commissions?

Bill Edmonds: This new law allows this kind of thinking and opens things up. Washington is also thinking about it. The Oregon law was a commissioner's idea to begin with.

Mark: There is a long lead time and background work in ramping up these new programs. Is that allowable under the 4 percent rate recovery?

Barbara: We asked that of the commission, and we can incur this as a utility cost.

Don MacOdrum: What about oil conversion?

Bill: There's not much more than what I covered. There is a team working on it, and the barriers are gas availability, low-income homeowners and renters. Low oil prices aren't helping either. How do you overcome those barriers? On-bill financing is one strategy.

Kim: Where can people learn more?

Bill: They can send me an email. Public process will be more formal at the OPUC. Jason Eisdorfer will likely oversee that process.

Kim: This is something very unusual and innovative, and something for Oregon to be proud of.

8. Support for natural gas-fired Combined Heat and Power systems (discussion)

Kim presented an overview of program and technical guidelines for high-efficiency CHP projects, including a proposed incentive change.

Don Jones: When we say CHP needs to beat the heat rate of a new turbine, that's new as of when?

Kim: That's 2006. This isn't the baseline for calculating savings, just the hurdle it needs to pass. We didn't see an immediate need to update the heat rate at this time.

Don: I'll take these slides back to my organization for review.

Kim: This heat rate was agreed on by the utilities and the Conservation Advisory Council. When we do update the heat rate, that effort will be in Energy Trust's Planning department. The CHP also has to be cost-effective, like all custom projects. Some micro-turbines and fuel cells won't meet our cost-effectiveness tests.

Holly: Are you allowed to count non-energy benefits to CHP systems?

Kim: Yes, and that's the beauty of the custom process. There are often quantifiable non-energy benefits to CHP projects. People are also trying to solve other problems.

Wendy: How does the proposed incentive level relate to cost-effectiveness?

Kim: The costs remain the same wherever we set the incentive.

Wendy: What's the threshold you wouldn't want to go beyond paying?

Kim: We have program-level cost-effectiveness requirements from the OPUC. Let's say 4 cents/kWh levelized. With CHP at the same incentives as other custom projects, 25 cents/kWh, and with a 15-year measure life, savings are less than 2 cents/kWh levelized. All

of the programmatic costs get layered on top of that. We would still be well under where we want to be on our levelized costs.

Chris Smith: It's a measure of the amount of extra fuel needed to generate electricity versus what you would use for heat anyway. It's an apples-to-apples comparison.

Don Jones: Is this technical guideline new or a revision of something you had?

Kim: It's new, but it's documentation of what we already have been doing. Chris Smith and Nick O'Neil had a huge hand in creating this documentation.

Mark: This is industry standard arithmetic, correct?

Kim: This is industry standard.

Don Jones: How does this relate to the IRPs?

Fred: It's not in the supply curves. There's a little increment the board put into the strategic plan for other things that might happen. We used it to slightly hedge up our goals.

Garrett: How does this work with SB 844?

Kim: The point of this chart is that there are stacked incentives. We don't know what the NW Natural share is. Oregon Department of Energy is fairly clear on what portion of project costs we are supporting.

Fred: These are capital costs, not fuel costs.

Chris: NW Natural's payment is annual, by the way.

Mark: That's Investment Tax Credit. Does it include accelerated depreciation?

Chris: No. It's simpler than that.

Kim: We are also looking at much more complex models, but we don't have a lot of flexibility. We wouldn't pay more than we pay for other custom incentives. Our cap is at 25 cents. Our incentives are not an insignificant part of project costs.

Holly: When you say current, you mean with the NW Natural SB 844 work?

Kim: The economics weren't there previously. even with new SB 844 incentives, these projects aren't slam dunks.

Peter: Based on my renewable energy experience, the Investment Tax Credit and accelerated depreciation would drive you to a stop near the hurdle rate. You still need someone with a tax liability to do this.

Kim: Will it actually fly even with higher incentives? We don't know.

Don Jones: I will reiterate my QF comment. There's a QF incentive in there, too. Would you pay all of this?

Alan Meyer: With avoided costs, is there a QF incentive? I don't believe so.

Holly: I'm thinking of the bottle bill. When it was instituted, 5 cents was worth what 25 cents would be today. I'm glad you are looking at higher incentives.

Brent: If you had a straight heat recovery-to-electric conversion with no net gas consumption, would it go through this program?

Kim: If it's heat recovery, it goes through as gas efficiency. This is all about policy stuff.

[The CAC was tentatively supportive of an incentive increase when polled.]

Kim: Generally, incentive increases are vetted here, but final designs are done inside the programs. CHP is odd, so I wanted Conservation Advisory Council members to see it. We know we have to increase incentives. The question is where we set the level.

Jim: What would be the dollar impact on Energy Trust of doubling the incentives for CHP?

Kim: At worst case we are coming in under 2 cents/kWh and under the OPUC threshold.

Wendy: I wonder if you'll be quickly bumping against the cap if a couple of large projects come in?

Kim: That could happen. Larger sites are best for CHP. We hope for CHP systems on the smaller end.

Don Jones: At this point, Pacific Power will abstain until we consult with some internal folks.

Kim: We can talk. We have at least a month before we roll anything out.

Mark: This wouldn't come to the February board meeting, so we can discuss it here next time, correct?

Kim: I believe this does go to the board in February. I'm hearing that the other incentives will be ready in June or July. We do have three customers considering CHP who are curious about what our incentives will be.

9. Meeting adjournment

The meeting adjourned at 5:00 p.m. The next Conservation Advisory Council meeting is scheduled on March 11, 2015.

Tab 9

Briefing Paper

2015 State Legislation Update

April 1, 2015

Summary

This paper updates you on bills in the 2015 Oregon legislature. A comprehensive listing with links to the bills themselves (in the “Bill Number” column) is attached.

Background

- Our February briefing memo provided highlights of the bills introduced at the beginning of the 78th legislative session.
- Since then, there has been action on a few bills, and several new bills introduced. This paper highlights these legislative actions and a portion of the new bills being monitored.

Discussion

Legislative action:

- **Public purpose charge: SB 324**, which repeals the sunset provisions for Oregon’s Low Carbon Fuel Standard, passed through the legislature and was signed by Governor Brown on March 12. While the House Committee on Energy and Environment was considering SB 324, an amendment was proposed that would have diverted half of the SB 1149 revenue for Energy Trust electric efficiency and renewable energy programs to transportation fuels carbon reduction research and development at Oregon universities. The amendment was rejected by the committee, included in a minority report to the floor of the House, and rejected by the House.
- **Energy tax credits: HB 2448**, which would extend a tax credit for post-August 2015 energy conservation projects for owners with performance agreements, and **HB 2447**, which would extend a tax credit for alternative energy devices, were reported out of the House Energy and Environment Committee with a “do-pass” recommendation.
- **Natural gas carbon-reduction projects: SB 456**, which would amend current law (SB 844) to clarify the OPUC may establish a voluntary greenhouse gas emission reduction program for the purpose of incentivizing utilities to invest in such projects, passed the Senate and was referred to the House Energy & Environment Committee.

New bills being monitored:

- **Energy efficiency rating system: HB 3065** would direct the Oregon Department of Energy to create an energy efficiency rating system for use in tax credit certification, or adopt another “commonly used” system.
- **Air emissions, clean fuels and carbon:**
 - **HB 3091** would require the Oregon Department of Environmental Quality to study Oregon’s return on 2005-2014 investment in state carbon-reduction programs.
 - **HB 3246** would establish a property tax exemption for improvements that increase energy efficiency or reduce greenhouse gas emissions.
 - **HB 3250** would require the Environmental Quality Commission (EQC) to develop a carbon cap-and-dividend program, auctioning emission allowances and refunding proceeds to taxpayers and their dependents. **HB 3470** would require EQC to adopt

2020-2050 greenhouse gas emissions limits and a program and action plan to achieve them.

- **Renewable portfolio standard: SB 815** would remove various restrictions on hydropower projects under renewable energy portfolio requirements, including to allow systems developed before 1995 to comply with the standard.

Report Date: March 23, 2015

Bill Number	Relating Clause	Sponsor
HB 2082 INTRO	Relating to carbon tax; prescribing an effective date; providing for revenue raising that requires approval by a three-fifths majority.	House Interim Committee on Revenue
HB 2086 INTRO	Relating to climate protection; prescribing an effective date; providing for revenue raising that requires approval by a three-fifths majority.	House Interim Committee on Revenue
HB 2092 INTRO	Relating to a tax credit for contributions; prescribing an effective date.	House Interim Committee on Revenue
HB 2159 INTRO	Relating to carbon-based fuel; prescribing an effective date; providing for revenue raising that requires approval by a three-fifths majority.	House Interim Committee on Revenue
HB 2187 INTRO	Relating to ocean energy; declaring an emergency.	House Interim Committee on Energy & Environment
HB 2191 INTRO	Relating to air pollution; declaring an emergency.	House Interim Committee on Energy & Environment
HB 2192 INTRO	Relating to greenhouse gas emissions; declaring an emergency.	House Interim Committee on Energy & Environment
HB 2193 INTRO	Relating to energy storage; declaring an emergency.	House Interim Committee on Energy & Environment
HB 2216 INTRO	Relating to facilities located in federal waters that use wind power to generate electricity.	Rep. MCKEOWN; Sen. ROBLAN
HB 2272 INTRO	Relating to motor vehicle fuels; prescribing an effective date; providing for revenue raising that requires approval by a three-fifths majority.	House Interim Committee on Transportation & Economic Development
HB 2400 INTRO	Relating to water policies; declaring an emergency.	At the request of the Governor
HB 2442 A	Relating to governance of the Housing and Community Services Department.	At the request of the Governor for Housing & Community Services Department
HB 2447 A	Relating to residential energy tax credits; prescribing an effective date.	At the request of the Governor for State Department of Energy
HB 2448 A	Relating to energy incentives programs; prescribing an effective date.	At the request of the Governor for State Department of Energy
HB 2449 INTRO	Relating to tax credits for bioenergy; prescribing an effective date.	At the request of the Governor for State Department of Energy
HB 2450 INTRO	Relating to reducing greenhouse gas emissions from transportation fuels; declaring an emergency.	At the request of the Governor for Department of Environmental Quality

<u>HB 2499</u> <u>INTRO</u>	Relating to rules concerning the environment; declaring an emergency.	Rep. WHITSETT; Sen. WHITSETT
<u>HB 2559</u> <u>INTRO</u>	Relating to solar access for residential real property.	Rep. GREENLICK; Reps. BARNHART, BUCKLEY, FREDERICK, GORSEK, HELM, LININGER, READ, REARDON, VEGA PEDERSON, WILLIAMSON at request of Jerry Weinert
<u>HB 2572</u> <u>INTRO</u>	Relating to carbon labeling; declaring an emergency.	Rep. BARNHART
<u>HB 2573</u> <u>INTRO</u>	Relating to electric vehicle charging station; declaring an emergency.	Rep. BARNHART; Reps. NATHANSON, REARDON
<u>HB 2574</u> <u>INTRO</u>	Relating to solar access for residential real property.	Rep. BARNHART; Reps. LIVELY, REARDON, SMITH WARNER
<u>HB 2577</u> <u>INTRO</u>	Relating to electric vehicle charging infrastructure at parking facilities.	Rep. BARNHART; Reps. LIVELY, REARDON
<u>HB 2585</u> <u>INTRO</u>	Relating to electric vehicle charging stations; declaring an emergency.	Rep. BARNHART
<u>HB 2586</u> <u>INTRO</u>	Relating to pollutants emitted by facilities that generate electricity.	Rep. BARNHART
<u>HB 2627</u> <u>INTRO</u>	Relating to the state's return on energy investments.	Rep. LININGER; Rep. NATHANSON
<u>HB 2632</u> <u>INTRO</u>	Relating to solar energy.	Rep. BENTZ and Sen. ROBLAN; Reps. GILLIAM, HUFFMAN, READ, VEGA PEDERSON, Sen. DEMBROW
<u>HB 2688</u> <u>INTRO</u>	Relating to taxation; prescribing an effective date.	Rep. GOMBERG
<u>HB 2729</u> <u>INTRO</u>	Relating to energy.	Rep. READ and Sen. EDWARDS; Reps. BUCKLEY, GALLEGOS, GORSEK, Sens. BATES, DEMBROW, MONROE
<u>HB 2745</u> <u>INTRO</u>	Relating to the generation of renewable energy; declaring an emergency.	Rep. READ
<u>HB 2822</u> <u>INTRO</u>	Relating to capital improvements income tax credit; prescribing an effective date.	Rep. DAVIS
<u>HB 2833</u> <u>INTRO</u>	Relating to green energy technology for public buildings; prescribing an effective date.	Rep. WITT and Sen. GIROD; Reps BARKER, BOONE, DOHERTY, ESQUIVEL, EVANS, GILLIAM, GORSEK, HOYLE, JOHNSON, KRIEGER, LIVELY, REARDON, WHISNANT, Sens. BAERTSCHIGER JR., DEMBROW, FERRIOLI, HASS, KNOPP, ROBLAN

<u>HB 2941 INTRO</u>	Relating to solar energy; declaring an emergency.	Rep. HOLVEY
<u>HB 2942 INTRO</u>	Relating to a tax credit for anaerobic digesters; prescribing an effective date.	Rep. HOLVEY
<u>HB 2946 INTRO</u>	Relating to cost-effective energy conservation measures.	House Committee on Energy and Environment
<u>HB 2987 INTRO</u>	Relating to compliance with green energy technology mandates for public buildings.	Rep. HOLVEY
<u>HB 3065 INTRO</u>	Relating to energy efficiency rating systems for energy conservation projects; prescribing an effective date.	Rep. JOHNSON
<u>HB 3068 INTRO</u>	Relating to energy source conversion programs; declaring an emergency.	Rep. JOHNSON
<u>HB 3082 INTRO</u>	Relating to nonprofit corporation low income housing	Rep. FREDERICK; Sen. SHIELDS
<u>HB 3091 INTRO</u>	Relating to carbon emission reduction programs; declaring an emergency.	Reps. BENTZ, JOHNSON; Reps. ESQUIVAL, HACK, NEARMAN, SMITH, WHISNANT
<u>HB 3129 INTRO</u>	Relating to electric vehicle charging stations; declaring an emergency.	Rep. BARNHART; Reps. FREDERICK, HELM, KENY-GUYER, LIVELY, NATHANSON, TAYLOR, WITT
<u>HB 3176 INTRO</u>	Relating to climate protection; prescribing an effective date; providing for revenue raising that requires approval by a three-fifths majority.	Revenue Committee
<u>HB 3246 INTRO</u>	Relating to energy-related improvements to property; prescribing an effective date.	Rep. VEGA PEDERSON, Sen. HASS; Reps. DAVIS, JOHNSON, NOSSE, READ
<u>HB 3250 INTRO</u>	Relating to climate protection; prescribing an effective date.	House Energy & Environment
<u>HB 3252 INTRO</u>	Relating to carbon-based fuel; prescribing an effective date; providing for revenue raising that requires approval by a three-fifths majority.	House Energy & Environment
<u>HB 3253 INTRO</u>	Relating to energy source conversion programs, declaring an emergency.	House Energy & Environment
<u>HB 3257 INTRO</u>	Relating to low-income electric bill payment assistance, declaring an emergency.	House Energy & Environment
<u>HB 3329 INTRO</u>	Relating to geothermal standard for green energy technology in public improvement contracts for public school buildings; prescribing an effective date.	Rep. WHITSETT
<u>HB 3344 INTRO</u>	Relating to solar energy.	Reps REARDON, HUFFMAN, Sen. DEMBROW; Reps. HOLVEY, WHISNANT, Sen. BOQUIST
<u>HB 3353 INTRO</u>	Relating to energy-related improvements; prescribing an effective date.	Rep. EVANS
<u>HB 3398 INTRO</u>	Relating to ocean power districts.	Rep. NATHANSON

HB 3470 INTRO	Relating to greenhouse gas emissions.	Rep. BARNHART
HB 3492 INTRO	Relating to taxation of solar projects; prescribing an effective date.	Rep. HUFFMAN; Reps. BENTZ, HELM, READ, REARDON, Sen. ROBLAN
HJR 10 INTRO	Proposes amendment to Oregon Constitution allowing Legislative Assembly to impose taxes on carbon.	House Interim Committee on Revenue
HJR 11 INTRO	Proposes amendment to Oregon Constitution removing limitation of six percent of market value on rate of taxes imposed on oil or natural gas.	House Interim Committee on Revenue
SB 20 INTRO	Relating to minimum energy efficiency standards.	Senate Interim Committee on Environment & Natural Resources
SB 21 INTRO	Relating to the Task Force on Clean Air Fee or Tax Implementation; declaring an emergency.	Senate Interim Committee on Environment & Natural Resources
SB 23 INTRO	Relating to energy source conversion programs; declaring an emergency.	Senate Interim Committee on Environment & Natural Resources
SB 32 INTRO	Relating to natural gas; declaring an emergency.	Senate Interim Committee on Rural Communities and Economic Development
SB 98 INTRO	Relating to audits; declaring an emergency.	Sen. THATCHER; Rep. STARK
SB 105 INTRO	Relating to state agencies; declaring an emergency.	Sen. THATCHER; Rep. STARK
SB 258 INTRO	Relating to energy facility site certificates.	At the request of the Governor for State Department of Energy
SB 259 INTRO	Relating to energy facility siting process cost recovery.	At the request of the Governor for State Department of Energy
SB 260 INTRO	Relating to funding for energy projects in schools; declaring an emergency.	At the request of the Governor for State Department of Energy
SB 304 INTRO	Relating to energy resource supplier assessment.	Sen. JOHNSON at request of Oregon People's Utility District Association
SB 319 A	Requires proprietary authorization from Department of State Lands to construct or operate ocean renewable energy facility in Oregon's territorial sea.	Sen. ROBLAN; Sens. JOHNSON, KRUSE, WHITSETT, Reps. BOONE, GOMBERG, MCKEOWN
SB 324 ENROLLED	Relating to reducing greenhouse gas emissions from transportation fuels; declaring an emergency.	Sens. BEYER, GELSER, DEMBROW; Sens. BATES, EDWARDS, MONNES ANDERSON, PROZAN-SKI, ROBLAN, ROSENBAUM
SB 431 INTRO	Relating to the public purpose expenditure standard.	Sen. OLSEN
SB 452 INTRO	Relating to wind turbines	Sen. GIROD

<u>SB 456 INTRO</u>	Relating to the voluntary emission reduction program for natural gas utilities; declaring an emergency.	Sen. BEYER
<u>SB 477 INTRO</u>	Relating to energy.	Sen. EDWARDS, Rep. READ; Sens. BATES, DEMBROW, MONROE, Reps. BUCKLEY, GALLEGOS, GORSEK
<u>SB 499 INTRO</u>	Relating to a nongovernmental entity that receives public purpose charge moneys; declaring an emergency.	Sen. OLSEN
<u>SB 541 INTRO</u>	Relating to the Sunset Advisory Committee; declaring an emergency.	Sen. WINTERS
<u>SB 571 INTRO</u>	Relating to data centers; prescribing an effective date.	Senate Committee on Finance & Revenue
<u>SB 611 B</u>	Relating to central assessment; prescribing an effective date.	Senate Committee on Finance & Revenue
<u>SB 730 INTRO</u>	Relating to energy.	Sen. GIROD, Rep. WITT; Sens. BAERTSCHIGER JR, JOHNSON, Rep. CLEM
<u>SB 815 INTRO</u>	Relating to use of hydroelectric electricity to comply with a renewable portfolio standard.	Sen. FERRIOLI
<u>SB 858 INTRO</u>	Relating to green energy technology; prescribing an effective date.	Sen. KNOPP
<u>SB 873 INTRO</u>	Relating to utility facilities on land zoned for exclusive farm use; declaring an emergency.	Sen. HANSELL
<u>SB 887 INTRO</u>	Relating to development of solar energy systems; declaring an emergency.	Senate Business & Transportation

Tab 10

Glossary of Energy Industry Terms

Glossary provided to the Energy Trust Board of Directors for general use. Definitions and acronyms are compiled from a variety of resources. Energy Trust policies on topics related to any definitions listed below should be referenced for the most up-to-date and comprehensive information. Last updated May 2014.

Above-Market Costs of New Renewable Energy Resources

The portion of the net present value cost of producing power (including fixed and operating costs, delivery, overhead and profit) from a new renewable energy resource that exceeds the market value of an equivalent quantity and distribution (across peak and off-peak periods and seasonally) of power from a nondifferentiated source, with the same term of contract. Energy Trust board policy specified the methodology for calculating above-market costs.

Aggregate

Combining retail electricity consumers into a buying group for the purchase of electricity and related services. “Aggregator” is an entity that aggregates.

Air Sealing (Infiltration Control)

Conservation measures, such as caulking, better windows and weatherstripping, which reduce the amount of cold air entering or warm air escaping from a building.

Ampere (Amp)

The unit of measure that tells how much electricity flows through a conductor. It is like using cubic feet per second to measure the flow of water. For example, a 1,200 watt, 120-volt hair dryer pulls 10 amperes of electric current (watts divided by volts).

Anaerobic Digestion

A biochemical process by which organic matter is decomposed by bacteria in the absence of oxygen, producing methane and other byproducts.

Average Megawatt (aMW)

One megawatt of capacity produced continuously over a period of one year. 1 aMW equals 1 megawatt multiplied by the 8,760 hours in a year. 1 aMW equals 8,760 MWh or 8,760,000 kWh.

Avoided Cost

(Regulatory) The amount of money that an electric utility would need to spend for the next increment of electric generation they would need to either produce or purchase if not for the reduction in demand due to energy-efficiency savings or the energy that a co-generator or small-power producer provides. Federal law establishes broad guidelines for determining how much a qualifying facility (QF) gets paid for power sold to the utility.

Base Load

The minimum amount of electric power delivered or required over a given period of time at a steady rate.

Benefit/Cost Ratios

By law, Oregon public purpose funds may be invested only in cost-effective energy-efficiency measures—that is, efficiency measures must cost less than acquiring the energy from conventional sources, unless exempted by the OPUC.

Energy Trust calculates Benefit/Cost ratios (BCR) on a prospective and retrospective basis. Looking forward, all prescriptive measures and custom projects must have a total resource cost test $BCR > 1.0$ unless the OPUC has approved an exception. As required in the OPUC grant agreement, Energy Trust reports annually how cost effective programs were by comparing total costs to benefits, which also need to exceed 1.0.

Biomass

Solid organic wastes from wood, forest or field residues which can be heated to produce energy to power an electric generator.

Biomass Gas

A medium Btu gas containing methane and carbon dioxide, resulting from the action of microorganisms on organic materials such as a landfill.

Blower Door

Home Performance test conducted by a contractor (or energy auditor) to evaluate a home's air tightness. During this test a powerful fan mounts into the frame of an exterior door and pulls air out of the house to lower the inside air pressure. While the fan operates, the contractor can determine the house's air infiltration rate and better identify specific leaks around the house.

British Thermal Unit

The standard measure of heat energy. The quantity of heat required to raise the temperature of 1 pound of liquid water by 1 degree Fahrenheit at the temperature at which water has its greatest density (approximately 39 degrees Fahrenheit).

Cogeneration (Combined Heat & Power or CHP)

The sequential production of electricity and useful thermal energy, often by the recovery of reject heat from an electric generating plant for use in industrial processes, space or water heating applications. Conversely, may occur by using reject heat from industrial processes to power an electricity generator.

Compact Fluorescent Light Bulbs (CFL)

CFLs combine the efficiency of fluorescent lighting with the convenience of a standard incandescent bulb. There are many styles of compact fluorescent, including exit light fixtures and floodlights (lamps containing reflectors). Many screw into a standard light socket, and most produce a similar color of light as a standard incandescent bulb.

CFLs come with ballasts that are electronic (lightweight, instant, no-flicker starting, and 10–15 percent more efficient) or magnetic (much heavier and slower starting). Other types of CFLs include adaptive circulation and PL and SL lamps and ballasts. CFLs are designed for residential uses; they are also used in table lamps, wall sconces, and hall and ceiling fixtures of hotels, motels, hospitals and other types of commercial buildings with residential-type applications.

Conservation

While not specifically defined in the law or OPUC rules on direct access regulation, “conservation” is defined in the OPUC rule 860-027-0310(1)(a) as follows: 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 includes cost-effective fuel switching.

Although fuel switching is part of the definition, this aspect of the rule has not been operationalized as of March 2013.

Cost Effective

Not specifically defined in SB 1149. The OPUC has a definition which refers to a definition from ORS 469.631 (4) stating that an energy resource, facility or conservation measure during its life cycle results in delivered power costs to the ultimate consumer no greater than the comparable incremental cost of the least-cost alternative new energy resource, facility or conservation measure. Cost comparison under this definition shall include but not be limited to: (a) cost escalations and future availability of fuels; (b) waste disposal and decommissioning cost; (c) transmission and distribution costs; (d) geographic, climatic and other differences in the state; and (e) environmental impact. ORS 757.612 (4) (SB 1149) exempts utilities from the requirements of ORS 469.631 to 469.645 when the public purpose charge is implemented.

By law, Oregon public purpose funds may be invested only in cost-effective energy-efficiency measures—that is, efficiency measures must cost less than acquiring the energy from conventional sources, unless exempted by the OPUC.

Cumulative Savings

Sum of the total annual energy savings over a certain time frame while accounting for measure savings “lives.” (For example, if a measure is installed for each of two years, the cumulative savings would be the sum of the measure installed in the first year, plus the incremental savings from the savings installed in the second year plus the savings in the second year from the measure installed in the first year.)

Decoupling

A rate provision which reduces or eliminates the degree to which utility profits are driven by the volume of electricity or gas sold. Decoupling is thought by its proponents to reduce utility disincentives to support efficiency. There are many specific variants employed in different states and with different utilities.

Direct Access

The ability of a retail electricity consumer to purchase electricity and certain ancillary services from an entity other than the distribution utility.

Economizer Air

A ducting arrangement and automatic control system that allows a heating, ventilation and air conditioning (HVAC) system to supply up to 100 percent outside air to satisfy cooling demands, even if additional mechanical cooling is required.

Energy Management System (EMS)

A system designed to monitor and control building equipment. An EMS can often be used to monitor energy use in a facility, track the performance of various building systems and control the operations of equipment.

ENERGY STAR®

ENERGY STAR is a joint Environmental Protection Agency and Department of Energy program that encourages energy conservation by improving the energy efficiency of a wide range of consumer and commercial products, enhancing energy efficiency in buildings and promoting energy management planning for businesses and other organizations.

Energy Use Intensity (EUI)

A metric that describes a building's energy use relative to its size. It is the total annual energy consumption (kBtu) divided by the total floor space of the building. EUI varies significantly by building type and by the efficiency of the building.

Enthalpy

Enthalpy is the useful energy or total heat content of a fluid. Ideally, the total enthalpy of a substance is the amount of useful work that substance can do. Enthalpy is used in fluid dynamics and thermodynamics when calculating properties of fluids as they change temperature, pressure and phase (e.g. liquid to liquid-vapor mixture). In HVAC, refrigeration and power cycle processes, enthalpy is used extensively in calculating properties of the refrigerant or working fluid. Additionally, in HVAC applications, enthalpy is used in calculations relating to humidity. An enthalpy economizer is a piece of HVAC equipment that modulates the amount of outdoor air entering into a ventilation system based on outdoor temperature and humidity.

Environmental Protection Agency (EPA)

Founded in 1970, this independent agency was designed to "protect human health and safeguard the natural environment." It regulates a variety of different types of emissions, including the greenhouse gases emitted in energy use. It runs several national end-use programs, like ENERGY STAR, SmartWay, Smart Growth programs and green communities programs.

Evaluation

After-the-fact analysis of the effectiveness and results of programs. *Process and Market Evaluations* study the markets to be addressed and the effectiveness of the program strategy, design and implementation. They are used primarily to improve programs. *Impact evaluations* use post-installation data to improve estimates of energy savings and renewable energy generated.

Feed-in Tariff

A renewable energy policy that typically offers a guarantee of payments to project owners for the total amount of renewable electricity they produce; access to the grid; and stable, long-term contracts.

Footcandle

A unit of illuminance on a surface that is one foot from a uniform point source of light of one candle and is equal to one lumen per square foot

Free Rider

This evaluation term describes energy efficiency program participants who would have taken the recommended actions on their own, even if the program did not exist. Process evaluations include participant survey questions, which lead to the quantification of the level of free rider impacts on programs that is applied as a discounting factor to Energy Trust reported results.

Geothermal

Useful energy derived from the natural heat of the earth as manifested by hot rocks, hot water, hot brines or steam.

Green Tags (Renewable Energy Credits or RECs)

A Green Tag is a tradable commodity that represents the contractual rights to claim the environmental attributes of a certain quantity of renewable electricity. For wind farms, the environmental attributes include the reductions in emissions of pollutants and greenhouse gases that result from the delivery of the wind-generated electricity to the grid.

Here's how emission reductions occur: When wind farms generate electricity, the grid operators allow that electricity to flow into the grid because it is less expensive to operate, once it has been built, than generators that burn fossil fuels. But the electricity grid cannot have more electricity flowing into it than is flowing out to electricity users, so the grid operators have to turn down other generators to compensate. They generally turn down those that burn fossil fuels. By forcing the fossil fuel generators to generate less electricity, wind farms cause them to generate fewer emissions of pollutants and greenhouse gases. These reductions in emissions are the primary component of Green Tags.

Green Tags were developed as a separate commodity by the energy industry to boost construction of new wind, solar, landfill gas and other renewable energy power plants. Green Tags allow owners of these power plants to receive the full value of the environmental benefits their plants generate. They also allow consumers to create the same environmental benefits as buying green electricity, or to neutralize the pollution from their consumption of fossil fuels.

Green Tags are bought and sold every day in the electricity market. Tens of millions of dollars in Green Tags are under contract today. They are measured in units, like electricity. Each kilowatt hour of electricity that a wind farm produces also creates a one-kilowatt hour Green Tag. Wind farm owners may sell Green Tags to other purchasers, remote or local, to obtain the extra revenues they need for their wind farms to be economically viable.

Gross Savings

Savings that are unadjusted for evaluation factors of free riders, spillover, and savings realization rates. Energy Trust reports all savings in net terms, not gross terms, unless otherwise stated in the publication.

Heat Pump

An HVAC system that works as a two-way air conditioner, moving heat outside in the summer and scavenging heat from the cold outdoors with an electrical system in the winter. Most use forced warm-air delivery systems to move heated air throughout the house.

Heating, Ventilation and Air Conditioning (HVAC)

The mechanical systems that provide thermal comfort and air quality in an indoor space are often grouped together because they are generally interconnected. HVAC systems include: central air conditioners, heat pumps, furnaces, boilers, rooftop units, chillers and packaged systems.

Hydroelectric Power (Hydropower)

The generation of electricity using falling water to turn turbo-electric generators.

Incremental Annual Savings

Energy savings in one year corresponding to the energy-efficiency measures implemented in that same year.

Incremental Cost

The difference in cost relative to a base case, including equipment and labor cost.

Instant-savings Measure (ISM)

Inexpensive energy-efficiency products installed at no charge, such as CFLs, low-flow showerheads and high-performance faucet aerators. Predominately used by the Existing Homes program and multifamily track to provide homeowners and renters with easy-to-install, energy-saving products.

Integrated Resources Planning (Least-Cost Planning)

A power-planning strategy that takes into account all available and reliable resources to meet current and future loads. This strategy is employed by each of the utilities served by Energy Trust, and for the region's electric system by the Northwest Power and Conservation Council. The term "least-cost" refers to all costs, including capital, labor, fuel, maintenance, decommissioning, known environmental impacts and difficult to quantify ramifications of selecting one resource over another.

Interconnection

For all distributed generation—solar, wind, CHP, fuel cells, etc.—interconnection with the local electric grid provides back-up power and an opportunity to participate in net-metering and sell-back schemes when they are available. It's important to most distributed generation projects to be interconnected with the grid, but adding small generators at spots along an electric grid can produce a number of safety concerns and other operational issues for a utility. Utilities, then, generally work with their state-level regulatory bodies to develop interconnection standards that clearly delineate the manner in which distributed generation systems may be interconnected.

Joule

A unit of work or energy equal to the amount of work done when the point of application of force of 1 newton is displaced 1 meter in the direction of the force. It takes 1,055 joules to equal a British thermal unit. It takes about 1 million joules to make a pot of coffee.

Kilowatt

One thousand (1,000) watts. A unit of measure of the amount of electricity needed to operate given equipment.

Large Customers (with reference to SB 838)

Customers using more than 1 aMW of electricity a year are not required to pay electric conservation charges under SB 838. Additionally, Energy Trust may not provide them with services funded under SB 838 provisions.

Least Cost

The term "least-cost" refers to all costs, including capital, labor, fuel, maintenance, decommissioning, known environmental impacts and difficult to quantify ramifications of selecting one resource over another.

Levelized Cost

The level of payment necessary each year to recover the total investment and interest payments (at a specified interest rate) over the life of the measure.

Local Energy Conservation

Conservation measures, projects or programs that are installed or implemented within the service territory of an electric company.

Low-income Weatherization

Repairs, weatherization and installation of energy-efficient appliances and fixtures for low-income residences for the purpose of enhancing energy efficiency. In Oregon, SB 1149 directs a portion of public purpose funds to Oregon Housing and Community Services to serve low-income customers. Energy Trust coordinates with low-income agencies and refers eligible customers.

Lumen

A measure of the amount of light available from a light source equivalent to the light emitted by one candle.

Lumens/Watt

A measure of the efficacy of a light fixture; the number of lumens output per watt of power consumed.

Market Transformation

Lasting structural or behavioral change in the marketplace and/or changes to energy codes and equipment standards that increases the adoption of energy-efficient technologies and practices. Market transformation is defined in the Oregon Administrative Rules.

Megawatt

The electrical unit of power that equals one million watts (1,000 kW).

Megawatt Hour

One thousand kilowatt hours, or an amount of electrical energy that would power approximately one typical PGE or Pacific Power household for one month. (Based on an average of 11,300 kWh consumed per household per year.)

Methane

A light hydrocarbon that is the main component of natural gas and marsh gas. It is the product of the anaerobic decomposition of organic matter, enteric fermentation in animals and is one of the greenhouse gases.

Monitoring, Targeting and Reporting (MT&R)

A systematic approach to measure and track energy consumption data by establishing a baseline in order to establish reduction targets, identify opportunities for energy savings and report results.

Municipal Solid Waste

Refuse offering the potential for energy recovery. Technically, residential, institutional and commercial discards. Does not include combustible wood by-products included in the term "mill residue."

Net Metering

An electricity policy for consumers who own (generally small) renewable energy facilities (such as wind, solar power or home fuel cells). "Net," in this context, is used in the sense of meaning "what remains after deductions." In this case, the deduction of any energy outflows from metered energy inflows. Under net metering, a system owner receives retail credit for at least a portion of the electricity they generate.

Net-to-Gross

Net-to-gross ratios are important in determining the actual energy savings attributable to a particular program, as distinct from energy efficiency occurring naturally (in the absence of a program). The net-to-gross ratio equals the net program load impact divided by the gross program load impact. This factor is applied to gross program savings to determine the program's net impact.

Net Savings

Savings that are adjusted for evaluation factors of free riders, spillover and savings realization rates. Energy Trust reports all savings in net terms, not gross terms, unless otherwise stated in the publication.

Nondifferentiated Source (Undifferentiated Source)

Power available from the wholesale market or delivered to retail customers.

Non-energy Benefit (NEB)

The additional benefits created by an energy-efficiency or renewable energy project beyond the energy savings or production of the project. Non-energy benefits often include things like water and sewer savings (e.g. clothes washers, dishwashers), improved comfort (e.g. air sealing, windows), sound deadening (e.g. insulation, windows), property value increase (e.g. windows, solar electric), improved health and productivity and enhanced brand.

Path to Net Zero Pilot (PTNZ)

The Path to Net Zero pilot was launched in 2009 by Energy Trust's New Buildings program to provide increased design, technical assistance, construction, and measurement and reporting incentives to commercial building projects that aimed to achieve exceptional energy performance. Approximately 13 buildings worked with New Buildings to develop strategies to save 60 percent more energy than Oregon's already stringent code through a combination of 50 percent energy efficiency and 10 percent renewable power. The pilot demonstrates that a wide range of buildings can achieve aggressive energy goals using currently available construction methods and technology, as well as by testing innovative design strategies.

Photovoltaic

Direct conversion of sunlight to electric energy through the effects of solar radiation on semi-conductor materials. Photovoltaic systems are one type of solar system eligible for Energy Trust incentives.

Public Utility Commissions

State agencies that regulate, among others, investor-owned utilities operating in the state with a protected monopoly to supply power in assigned service territories.

Public Utility Regulatory Act of 1978 (PURPA)

Federal legislation that requires utilities to purchase electricity from qualified independent power producers at a price that reflects what the utilities would have to pay for the construction of new generating resources. The Act was designed to encourage the development of small-scale cogeneration and renewable resources.

Qualifying Facility (QF)

A power production facility that generates its own power using cogeneration, biomass waste, geothermal energy, or renewable resources, such as solar and wind. Under PURPA, a utility is required to purchase power from a QF at a price equal to that which the utility would otherwise pay to another source, or equivalent to the cost if it were to build its own power plant.

Renewable Energy Resources

- a) Electricity-generation facilities fueled by wind, waste, solar or geothermal power or by low-emission nontoxic biomass based on solid organic fuels from wood, forest and field residues
- b) Dedicated energy crops available on a renewable basis
- c) Landfill gas and digester gas
- d) Hydroelectric facilities located outside protected areas as defined by federal law in effect on July 23, 1999

Renewable Portfolio Standard

A legislative requirement for utilities to meet specified percentages of their electric load with renewable resources by specified dates, or a similar requirement. May be referred to as Renewable Energy Standard.

Retrofit

A retrofit involves the installation of new, usually more efficient equipment into an existing building or process prior to the existing equipment's failure or end of its economic life. In buildings, retrofits may involve either structural enhancements to increase strength, or replacing major equipment central to the building's functions, such as HVAC or water heating systems. In industrial applications, retrofits involve the replacement of functioning equipment with new equipment.

Roof-top Units (RTU)

Packaged heating, ventilating and air conditioning unit that generally provides air conditioning and ventilating services for zones in low-rise buildings. Roof-top units often include a heating section, either resistance electric, heat pump or non-condensing gas (the latter are called "gas-paks"). Roof-top units are the most prevalent comfort conditioning systems for smaller commercial buildings. Generally small (<10 ton) commodity products, but very sophisticated high-efficiency versions are available, as are units larger than 50 tons.

R-Value

A unit of thermal resistance used for comparing insulating values of different material. It is basically a measure of the effectiveness of insulation in stopping heat flow. The higher the R-Value number, a material, the greater its insulating properties and the slower the heat flow through it. The specific value needed to insulate a home depends on climate, type of heating system and other factors.

SB 1149

The Oregon legislation enacted in 1999 allowing for the creation of a third party, nonprofit organization to receive approximately 74 percent of a 3 percent utility surcharge (public purpose charge) and deliver energy-efficiency and renewable energy programs to the funding Oregon ratepayers of Portland General Electric and Pacific Power. Energy Trust was approved by the OPUC to deliver the services. The rest of the surcharge is distributed to school districts and Oregon Housing and Community Services.

SB 838

SB 838, enacted in 2007, augmented Energy Trust's mission in many ways. Most prominently, it provided a vehicle for additional electric efficiency funding for customers under 1 aMW in load, and restructured the renewable energy role to focus on generation plants that produce less than 20 aMW. SB 838 is also the legislation creating the state's Renewable Portfolio Standard and extended Energy Trust's sunset year from 2012 to 2026.

SBW Consulting, Inc

A consulting firm based in Bellevue, WA, with expertise in facility energy assessments, utility conservation programs and program evaluations.

Sectors

For energy planning purposes, the economy is divided into four sectors: residential, commercial, industrial and irrigation.

Self-Directing Consumers

A retail electricity consumer that has used more than one average megawatt of electricity at any one site in the prior calendar year or an aluminum plant that averages more than 100 average megawatts of electricity use in the prior calendar year, that has received final certification from the Oregon Department of Energy for expenditures for new energy conservation or new renewable energy resources and that has notified the electric company that it will pay the public purpose charge, net of credits, directly to the electric company in accordance with the terms of the electric company's tariff regarding public purpose credits.

Societal Cost

Similar to the total resource cost as including the full cost to install a measure including equipment, labor and Energy Trust cost to administer and deliver the program, societal cost also includes any costs beyond those realized by the participant and Energy Trust associated with the energy-saving project. Typically additional societal benefits are seen with energy-efficiency projects that can be difficult to quantify and include in the Societal Cost Test for cost effectiveness.

Solar Power

Using energy from the sun to make electricity through the use of photovoltaic cells.

Solar Thermal

The process of concentrating sunlight on a relatively small area to create the high temperatures needed to vaporize water or other fluids to drive a turbine for generation of electric power.

Spillover

Additional measures that were implemented by the program participant for which the participant did not receive an incentive. They undertook the project on their own, influenced by prior program participation.

Therm

One hundred thousand (100,000) British thermal units (1 therm = 100,000 Btu).

Total Resource Cost

The OPUC has used the “total resource cost” (TRC) test as the primary basis for determining conservation cost-effectiveness as determined in Order No. 94-590 (docket UM 551). SB 1149 allows the “self-directing consumers” to use a simple payback of one to 10 years as the cost-effectiveness criterion.

Tidal Energy

Energy captured from tidal movements of water.

U-Value (U-Factor)

A measure of how well heat is transferred by the entire window—the frame, sash and glass—either into or out of the building. U-Value is the opposite of R-Value. The lower the U-Value number, the better the window will keep heat inside a home on a cold day.

Wave Energy

Energy captured by the cyclical movement of waves in the ocean or large bodies of water.

Watt

A unit of measure of electric power at a point in time, as capacity or demand. One watt of power maintained over time is equal to one joule per second.

Wind Power

Harnessing the energy stored in wind via turbines, which then convert the energy into electricity. Mechanical power of wind can also be used directly.

Weatherization

The activity of making a building (generally a residential structure) more energy efficient by reducing air infiltration, improving insulation and taking other actions to reduce the energy consumption required to heat or cool the building. In practice, “weatherization programs” may also include other measures to reduce energy used for water heating, lighting and other end uses.

Energy Industry Acronyms

AAMA	American Architectural Manufacturers Association	Trade group for window, door manufacturers
A/C	Air Conditioning	
ACEEE	American Council for an Energy-Efficient Economy	Environmental Advocacy, Researcher
AEE	Association of Energy Engineers	
AEO	Annual Energy Outlook	
AESP	Association of Energy Services Professionals	Energy services and energy efficiency trade org
A+E	Architecture + Energy	Outreach program for architects
AFUE	Annual Fuel Utilization Efficiency	The measure of seasonal or annual efficiency of a furnace or boiler
AgriMet	Agricultural Meteorology	Program for soil moisture data
AIA	American Institute of Architects	Trade organization
AIC	Association of Idaho Cities	Local government organization
aMW	Average Megawatt	A way to equally distribute annual energy over all the hours in one year; there are 8,760 hours in a year
AOI	Associated Oregon Industries	
APEM	Association of Professional Energy Managers	
ARI	Air-Conditioning and Refrigeration Institute	AC trade association
ASE	Alliance to Save Energy	Environmental advocacy organization
ASERTTI	Association of State Energy Research and Technology Transfer Institutions, Inc.	
ASHRAE	American Society of Heating, Refrigeration, and Air Conditioning Engineers	Technical (engineers) association
ASME	American Society of Mechanical Engineers	Professional organization
ASiMi	Advanced Silicon Materials LLC	Manufacturer of polysilicon with plants in Moses Lake and Butte Mountain
AWC	Association of Washington Cities	Local government trade organization
BACT	Best Achievable Control Technology	
BCR	Benefit/Cost ratio	See definition in text
BEF	Bonneville Environmental Foundation	Nonprofit that funds renewable energy projects
BETC	Business Energy Tax Credit	Oregon tax credit
BOC	Building Operator Certification	Alliance funded project that trains and certifies building operators
BOMA	Building Owners and Managers Association	
BPA	Bonneville Power Administration	Federal power authority
C&RD	Conservation & Renewable Discount	BPA program
CAC	Conservation Advisory Council	
CARES	Conservation and Renewable Energy System	Defunct consortium of Pacific Northwest PUDs
CCS	Communications and Customer Service	A group within Energy Trust
CCCT	Combined Cycle Combustion Turbine	

CEE	Consortium for Energy Efficiency	National energy efficiency group
CEWO	Clean Energy Works Oregon	
CFL	Compact Fluorescent Light bulb	
CHP	Combined Heat and Power	
CNG	Cascade Natural Gas	Investor-owned utility
ConAug	Conservation Augmentation Program	BPA program
CHT	Coefficient of Heat Transmission (U-Value)	A value that describes the ability of a material to conduct heat. The number of Btu that flow through 1 square foot of material, in one hour. It is the reciprocal of the R-Value (U-Value = 1/R-Value).
COU	Consumer-Owned Utility	
COP	Coefficient of Performance	The Coefficient of Performance is the ratio of heat output to electrical energy input for a heat pump
CT	Combustion Turbine	
CUB	Citizens' Utility Board of Oregon	Public interest group
Cx	Commissioning	
DG	Distributed Generation	
DSI	Direct Service Industries	Direct Access customers to BPA
DOE	Department of Energy	Federal agency
DSM	Demand Side Management	
EA	Environmental Assessment	
EASA	Electrical Apparatus Service Association	Trade association
ECM	Electrically Commutation Motor	An Electrically Commutation Motor, also known as a variable-speed blower motor, can vary the blower speed in accordance with the needs of the system
EE	Energy Efficiency	
EER	Energy Efficiency Ratio	The cooling capacity of the unit (in Btu/hour) divided by its electrical input (in watts) at standard peak rating conditions
EF	Energy Factor	An efficiency ratio of the energy supplied in heated water divided by the energy input to the water heater
EIA	Energy Information Administration	
EIC	Energy Ideas Clearinghouse	Washington State University program that provides energy-efficiency information, Alliance funded project
EMS	Energy Management System	See definition in text
EPA	Environmental Protection Agency	Federal agency
EPRI	Electric Power Resource Institute	Utility organization

		Brand name used by Energy Trust for the rating that assesses a newly built or existing home's energy use, carbon impact and estimated monthly utility costs
EPS	Energy Performance Score	
EQIP	Environmental Quality Incentive Program	
EREN	Energy Efficiency and Renewable Energy Network	DOE program
ESS	Energy Services Supplier	
EUI	Energy Use Intensity	See definition in text
EWEB	Eugene Water & Electric Board	Utility organization
FCEC	Fair and Clean Energy Coalition	Environmental advocacy organization
FEMP	Federal Energy Management Program	
FERC	Federal Energy Regulatory Commission	Federal regulator
GHG	Greenhouse gas	
HER	Home Energy Review	A free visit to a customer's home by an Energy Trust energy advisor to assess efficiency and provide personalized recommendations for improvement
HSPF	Heating Season Performance Factor	
HVAC	Heating, Ventilation and Air Conditioning	
ICNU	Industrial Consumers of Northwest Utilities	Trade interest group
ICF	ICF International	Existing Buildings Program Management Contractor
ICL	Institute for Conservation Leadership	
IDWR	Idaho Department of Water Resources	State agency
IEEE	Institute of Electrical and Electronic Engineers	Professional association
IESNA	Illuminating Engineering Society of America	
IOU	Investor-Owned Utility	
IRP	Integrated Resource Plan	
ISIP	Integrated Solutions Implementation Project	
ISM	Instant-Savings Measure	See definition in text
kW	Kilowatt	
kWh	Kilowatt Hours	8,760,000 kWh = 1 aMW
LBL	Lawrence Berkeley Laboratory	
LED	Lighting Emitting Diode	Solid state lighting technology
LEED	Leadership in Energy & Environmental Design	Building rating system from the U.S. Green Building Council
LIHEAP	Low Income Housing Energy Assistance Program	
LIWA	Low Income Weatherization Assistance	
LOC	League of Oregon Cities	Local government organization
MEEA	Midwest Energy Efficiency Alliance	Midwest Market Transformation organization, Alliance counterpart
MLCT	Montana League of Cities and Towns	Local government organization

MLGEO	Montana Local Government Energy Office	Local government organization
MT&R	Monitoring, Targeting and Reporting	See definition in text
MW	Megawatt	Unit of electric power equal to one thousand kilowatts
MWh	Megawatt Hour	Unit of electric energy, which is equivalent to one megawatt of power used for one hour
NAHB	National Association of Home Builders	Trade association
NCBC	National Conference on Building Commissioning	
NEB	Non-Energy Benefit	See definition in text
NEEA	Northwest Energy Efficiency Alliance	
NEEC	Northwest Energy Efficiency Council	Trade organization
NEEI	Northwest Energy Education Institute	Training organization
NEEP	Northeast Energy Efficiency Partnership	Northwest market transformation organization, Alliance counterpart
NEMA	National Electrical Manufacturer's Association	Trade organization
NERC	North American Electricity Reliability Council	
NFRC	National Fenestration Rating Council	
NRC	National Regulatory Council	Federal regulator
NRCS	Natural Resources Conservation Service	
NRDC	Natural Resources Defense Council	
NREL	National Renewable Energy Lab	
NRTA	Northwest Regional Transmission Authority	
NWEC	Northwest Energy Coalition	Environmental advocacy organization
NWBOA	Northwest Building Operators Association	Trade organization
NWFPA	Northwest Food Processors Association	Trade organization
NWN	NW Natural	Investor-owned utility
NWPPA	Northwest Public Power Association	Trade organization
NWPCC	Northwest Power and Conservation Council	Regional energy planning organization, "the council"
NYSERDA	New York State Energy Research & Development Authority	New York public purpose organization
OBA	Oregon Business Association	Business lobby group
OEFC	Oregon Energy Facility Siting Council	Authority to site energy facilities in Oregon
ODOE	Oregon Department of Energy	Oregon state energy agency
OPUC	Oregon Public Utility Commission	
OPUDA	Oregon Public Utility District Association	Utility trade organization
OPEC	Organization of Petroleum Exporting Countries	
ORECA	Oregon Rural Electric Cooperative Association	Utility trade organization
OSD	Office of Sustainable Development	
OSEIA	Solar Energy Industries Association of Oregon	Volunteer nonprofit organization dedicated to education/promotion
OTED	Office of Trade & Economic Development	Washington State agency
P&E	Planning and Evaluation	A group within Energy Trust
PDC	Program Delivery Contractor	Company contracted with Energy

		Trust to identify and deliver industrial and agricultural services to Energy Trust customers
PEA	Pacific Energy Associates	
PECI	Portland Energy Conservation, Inc.	Energy Trust Program Management Contractor
PGE	Portland General Electric	Investor-owned utility
PG&E	Pacific Gas & Electric	California investor-owned utility
PMC	Program Management Contractor	Company contracted with Energy Trust to deliver a program
PNGC	Pacific Northwest Generating Cooperatives	
PNUCC	Pacific Northwest Utilities Conference Committee	
PPC	Public Power Council	National trade group
PPL	Pacific Power	
PSE	Puget Sound Energy	Investor-owned utility
PTC	Production Tax Credit	
PTCS	Performance Tested Comfort Systems	Alliance project that promotes the efficiency of air-systems in residential homes
PTNZ	Path to Net Zero pilot	See definition in text
PUC	Public Utility Commission	Oregon and Idaho PUCs
PUD	Public Utility District	
PURPA	Public Utility Regulatory Policies Act	See definition in text
QF	Qualifying Facility	
RAC	Renewable Energy Advisory Council	
RE	Renewable Energy	
REIT	Real Estate Investment Trust	
RETC	Residential Energy Tax Credit	Oregon tax credit
RFI	Request for Information	
RFP	Request for Proposal	
RFQ	Request for Qualification	
RNP	Renewable Northwest Project	Renewable energy advocacy group
RSES	Refrigeration Service Engineers Society	Trade association
RTF	Regional Technical Forum	BPA funded research group
RTU	Rooftop HVAC Unit Tune Up	Rooftop HVAC unit tune up, an Existing Buildings incentive offering
SCCT	Single Cycle Combustion Turbine	
SCL	Seattle City Light	Public utility
SEED	State Energy Efficient Design	Established in 1991, requires all state facilities to exceed the Oregon Energy Code by 20 percent or more
SEER	Seasonal Energy Efficiency Ratio	A measure of cooling efficiency for air conditioners; the higher the SEER, the more energy efficient the unit

SGC	Super Good Cents	Alliance project & legacy BPA & utility program that promotes the sales of SGC homes
SIS	Scientific Irrigation Scheduling	Agricultural information program
SNOPUD	Snohomish Public Utility District	Washington State PUD
SEIA	Solar Energy Industries Association	Volunteer nonprofit organization dedicated to education/promotion
SWEEP	Southwest Energy Efficiency Partnership	Southwest market transformation group, Alliance counterpart
T&D	Transmission & Distribution	
TNS	The Natural Step	
TRC	Total Resource Cost	See definition in text
TXV	Thermal Expansion Valve	
	University of Oregon Solar Monitoring Laboratory	Solar resource database
U-Value		The reciprocal of R-Value; the lower the number, the greater the heat transfer resistance (insulating) characteristics of the material
USGBC	U.S. Green Building Council	Sustainability advocacy organization responsible for LEED
VFD	Variable Frequency Drive	An electronic control to adjust motion
WAPUDA	Washington Public Utility District Association	Utility trade organization
WNP	Washington Nuclear Power Plant	
WPPSS	Washington Public Power Supply System	Also called "whoops"
WUTC	Washington Utilities and Transportation Commission	
Wx	Weatherization	
W	Watt	