Energy Trust Board of Directors Meeting

December 11, 2015

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140th Board Meeting

Friday, December 11, 2015
421 SW Oak Street, Suite 300, Portland, Oregon

	Agenda	Tab	Purpose
12:15pm	**Board Meeting—Call to Order** (Debbie Kitchin) • Approve agenda		
	General Public Comment The president may defer specific public comment to the appropriate agenda topic.		
	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. • November 4 Board meeting minutes • Suspend WREGIS Registration Requirements for Certain Classes of Renewable Energy Certificates—R762	**1**	Action
12:20pm	**President's Report**		
12:30pm	**Final Proposed 2016 Annual Budget & 2016-2017 Action Plan** (Margie Harris, Peter West, Courtney Wilton) • General overview • Public comment discussion	**Separate Document**	Info
	• Adopt 2016 Budget, 2017 Projection and 2016-2017 Action Plan—R761	**2**	Action
1:00pm	**Break**		
1:10pm	**Energy Programs** • Amend Farmers Conservation Alliance Contract—R763 (Jed Jorgensen)	**3**	Action
1:40pm	**Committee Reports** • Evaluation Committee (Alan Meyer)	**4**	Info
	• Executive Director Transition Committee (Ken Canon)		
	• Finance Committee (Dan Enloe)	**5**	Info
	• Policy Committee (Roger Hamilton)	**6**	Info
2:00pm	**Staff Report** • Highlights (Margie Harris) • Clean Power Plan Update (John Volkman, Debbie Menashe)		
3:15pm	**Adjourn**		

The next meeting of the Energy Trust Board of Directors will be held
Wednesday, February 24, 2016 at 12:15 pm
at Energy Trust of Oregon, 421 SW Oak Street, Suite 300, Portland

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Tab 8 **Glossary of Energy Industry Acronyms and Terminology**

Tab 1

Board Meeting Minutes—139th Meeting

November 4, 2015

Board members present: Susan Brodahl, Ken Canon, Melissa Cribbins, Dan Enloe, Roger Hamilton, Lindsey Hardy, Debbie Kitchin, John Reynolds, Anne Root, Eddie Sherman, Warren Cook (special advisor, Oregon Department of Energy)

Board members absent: Heather Beusse Eberhardt, Mark Kendall, Alan Meyer, John Savage (OPUC *ex officio*)

Staff attending: Margie Harris, Ana Morel, Debbie Menashe, Amber Cole, Steve Lacey, Fred Gordon, Peter West, Courtney Wilton, Hannah Cruz, David McClelland, Betsy Kauffman, Jed Jorgensen, Jay Ward, Mike Bailey, Juliett Eck, Kim Crossman, Mia Hart, Scott Clark, Alison Ebbott, Thad Roth, Phil Degens, Jeni Hall, Matt Getchell, Lizzie Rubado, Chris Dearth, Sue Fletcher, Dan Rubado, Dave Moldal

Others attending: Jim Abrahamson (Cascade Natural Gas), Don Jones, Jr. (PacifiCorp), Anne Snyder-Grassman (Portland General Electric), Elaine Prause (Oregon Public Utility Commission), John Charles (Cascade Policy Institute), Scott Kenaston (Evergreen Consulting Group), Kari Greer (PacifiCorp), Ann Siqveland (OneEnergy Renewables)

Business Meeting

Debbie Kitchin called the meeting to order at 12:15 p.m. Reminder that consent agenda items can be changed to regular agenda items at any time.

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) September 30 Board meeting minutes
2) Amend Consent Agenda Procedure—R756
3) Amend Waste-to-Energy Policy—R757

RESOLUTION 756
AMEND CONSENT AGENDA PROCEDURE

WHEREAS:
1. **In 2003, the board established a policy directing staff to identify non-controversial and routine items for inclusion in a consent agenda.**
2. **Staff was directed to err on the side of caution in that determination.**
3. **This policy, up for its regular three year review, was reviewed by the Policy Committee and is recommended for approval by the full Energy Trust board through the consent agenda at its next full board meeting.**

It is therefore RESOLVED that the Board of Directors hereby amends the Energy Trust Consent Agenda Procedure as shown in Attachment 1:

ATTACHMENT 1

2.01.001-A Consent Agenda Procedure

History			
Source	Date	Action/Notes	Next Review Date
Board Decision	November 5, 2003	Approved (R221)	11/2006
Policy Committee	October 19, 2006	Reviewed-no changes	11/2009
Policy Committee	October 23, 2012	Reveiwed-no changes	10/2015

That Energy Trust of Oregon, Inc., Board of Directors hereby approves the option of placing board action items on a consent agenda, according to the following guidelines:

- ~~Action items brought forward through the renewable energy open solicitation program will follow the process approved by the board specifically for that program.~~
- Written decision documents on consent agenda items will follow the same format and contain the same information as provided for regular agenda items.
- Where appropriate, consent agenda items will meet the following criteria:
  - Involve routine and non-controversial matters
  - Conform with a previously adopted board policy or implement a project previously approved by the board in a formal resolution
  - If an energy efficiency matter, involves a cost-effective action as documented by pertinent financial information, energy savings/production, or other outcomes
  - If a renewable energy matter, items will follow the process approved by the board specifically for that program
  - Can be accomplished within the board-approved budget with clearly specified budget authority
  - No board or public comment is anticipated regarding the proposed action
- If the consent agenda item authorizes an increase in expenditures under a previously existing contract, the resolution must include but not be limited to:
  - The original amount of the contract
  - The number and amount of prior increases
  - The amount of the current proposed increase
  - The reason for the increase, and
  - The resulting total contract amount
- The existing conflict of interest rules apply to votes of all items on the consent agenda.
- Any item on the consent agenda will be moved to the regular agenda upon request from any board member.

~~Moved by: Tom Foley Seconded by: John Klosterman~~

~~Vote: 6 in favor 0 opposed 0 abstained~~

~~Adopted on November 5, 2003 by Energy Trust of Oregon, Inc., Board of Directors.~~

RESOLUTION 757

AMEND WASTE-TO-ENERGY POLICY

WHEREAS:

1. **Senate Bill 1149 defines "waste" as an eligible renewable resource.**
2. **In October 2006, Energy Trust established criteria and procedures to guide its decisions regarding funding for waste-to-energy projects, after it was endorsed by the Renewable Advisory Council.**

3. **This policy, up for its regular three year review, was reviewed by the Policy Committee and is recommended for approval by the full Energy Trust board through the consent agenda at its next full board meeting.**

It is therefore RESOLVED that the Board of Directors hereby amends the Energy Trust Waste-to-Energy Policy as shown in Attachment 1:

ATTACHMENT 1

4.24.000-P Waste-to-Energy Policy

History			
Source	**Date**	**Action/Notes**	**Next Review Date**
Board Decision	November 8, 2006	Approved (R411)	November 2009
Policy Committee	November 17, 2009	No change	November 2012
Policy Committee	October 23, 2012	No change	October 2015

1. **Among waste-to-energy projects, Energy Trust will give top funding priority to those projects using organic or biological wastes from human, animal or plant sources.**
2. **Among waste-to-energy projects, Energy Trust will give secondary funding priority to projects using wastes from manufacturing and industrial processes that are otherwise lost to commercial use, and that have no higher-value use than energy production. These projects will be considered as funds allow.**
3. **Eligible projects may use *de minimus* quantities (provisionally, less than 1% of energy content) of petroleum-based materials.**
4. **Energy Trust will prioritize waste-to-energy projects that meet the above criteria and: (a) do not use waste at the expense of a real, current alternative use with a higher social value, such as re-use or recycling; and (b) divert material from landfills, or otherwise avoid environmentally harmful waste disposal options.**
5. **Waste-to-energy projects will be ~~part of the Biopower program, which will fund both waste and biomass projects from a single budget. All Biopower program procedures and policies will apply to waste-to-energy projects. In addition,~~reviewed by Renewable Energy Advisory Council ~~review of waste-to-energy projects will be required~~before board action.**

Moved by: John Reynolds — Seconded by: Anne Root
Vote: In favor: 10 — Abstained: 0
Opposed: 0

President's Report

Debbie Kitchin shared economic and market outlook highlights from recent conferences she attended. For example, population growth in Portland is increasing, though not as quickly as in 2006. Some other parts of the state have not seen as much growth or are only recently experiencing growth. Portland also saw a 3.2 percent employment increase since 2011, and increases in single-family and multifamily new construction permits. Portland is experiencing record low vacancy rates in the central business district, which includes the Lloyd District, central eastside, Pearl District, South Waterfront and downtown. The demand for office space is being fed by growth in high-tech, creative services and software businesses.

Debbie noted there was a 20 percent increase in the value of the trade-weighted dollar impacting U.S. exports. Slower growth in China is also impacting U.S. exports, including Oregon manufacturers. Capital

goods orders are stabilizing, which could have a dampening effect on manufacturing. It is forecasted that U.S. real gross domestic product growth in 2016 will be slightly slower than 2014.

Draft 2016 Annual Budget & Draft 2016-2017 Action Plan

Margie Harris, Peter West, Courtney Wilton

Margie thanked all staff involved in developing the draft budget and action plan.

The 2015 forecast was shared with the board. Results are looking strong, and the organization is solidly on course to fulfill the 2015 budget and action plan. Margie reviewed Energy Trust's cumulative results since 2002, including total revenue invested, participant utility bill savings, economic benefits and carbon dioxide emissions avoided.

The draft 2016 annual budget reflects sustained savings at fairly high levels, an increase in expenditures for customer incentives, low levelized costs in a year without a megaproject, high solar project volume and investments in other renewable energy technologies for future generation. The reserve balance will continue to decline and there is a request for a single full-time equivalent, FTE, position. It is projected the organization will come in below the OPUC minimum annual performance measure for program and administrative staffing costs. The action plan also furthers new efforts launched in 2014, such as the diversity initiative, restructuring the residential sector, internal process improvements, staff development and the executive director transition.

Margie reviewed the four building blocks Energy Trust uses when developing the annual budget and action plan. The building blocks include the current strategic plan; utility Integrated Resource Plans, IRP, and renewable energy resource assessments; market knowledge and context; and areas of emphasis specific to the coming year.

Next year's budget will be driven by capturing all cost-effective energy efficiency, serving high solar volume and investing in future other renewable energy projects, continuing to draw down reserves through 2016, managing internal costs through process improvements and staying open to new opportunities that may arise.

The draft budget proposes investing $187.7 million to acquire 58.5 aMW and 5.7 million annual therms of savings and generation. Spending will be up from the $170 million in the 2015 budget. The 10.5 percent increase is dominated by incentive spending and program delivery expenditures, while staffing and internal costs remain relatively flat compared to 2015.

The board asked how the organization will be positioned after 2016 given the planned reduction of reserves and increased spending in 2016. Will the organization need to request utility rate increases in 2017 or reduce future budgets? Margie responded that each utility is in a different and unique situation. The organization is spending down reserves at a faster rate than predicted. Rate adjustments are expected with some utilities, which would be done in the next one to two years to make sure any rate increases are measured.

The draft budget includes proposed revenues of $152.8 million, an increase of 3.1 percent over the current year budget. The path to draw down program reserves over a three-year period starting with the current year budget is now predicted to be complete in two years, due to high economic growth driving large project volumes.

The single largest change is in incentive spending, responsible for 75 percent of the anticipated increase in 2016 expenditures. Incentive spending will go up 14.2 percent compared to the current year and will equal approximately 57 percent of total expenditures.

The board noted revenue for renewable energy is $14.5 million while expenditures are $20.6 million. Margie clarified that the difference is made up from reserves, and payments will also be made on commitments for some renewable energy projects completed in prior years.

The board asked whether spending three times more on external program delivery is typical. Margie noted this percentage of spending has been stable since the Production Efficiency program was brought in-house.

Peter provided detail on the sources of savings, expenditures and activities by program.

The board asked for more details on the measure analysis conducted by Planning, and why it was unusually high this year. Peter provided an example of a new technology, like smart thermostats, and the need to conduct engineering analysis to determine projected savings and whether they will be sustained savings, as well as market and behavioral analysis to determine demand for the measure at an affordable cost for all ratepayers. Another change in the budget is shifting the avoided cost to be weighted more toward peak demand. Third, with lower gas prices and a shift to time-of-day avoided costs, more measures are on the line for cost-effectiveness, meaning Energy Trust activity needs to go deeper or programs need to implement new pilots to achieve similar levels of savings.

The budget proposes a natural gas savings goal of 5.7 million annual therms at 34.1 cents per therm levelized. The savings goal is a decrease of about 3.2 percent due to serving more customers and completing more projects that are smaller in scope. Peter described the trend of more projects but fewer savings. The programs now need to drive deeper into markets and the key is stopping before actions are no longer cost effective. A large share of residential gas savings are expected from new home construction and the New Buildings program has a pipeline larger than ever before.

Existing commercial and industrial buildings are expected to see steady activity in 2016. A large piece of the incentive increase on the gas side has to do with Existing Buildings and Existing Multifamily. There is an erosion for customers in the value of doing projects because the payback for capital stand-alone measures is more than six years. Businesses are more comfortable with a payback of five years or less. In response and to re-establish activity, incentives will be increased. Peter noted the gas portfolio includes gas market transformation activities supported regionally through NEEA and savings will likely not show for some time as the program gears up.

The board asked what the pie chart on slide 14 would look like if the Existing Homes measures that are on the cost-effectiveness margin were to be removed. Staff will bring back the exact numbers for the board. Peter said the removal of those measures will not affect the overall picture very much as these measures and corresponding savings have been tailing off for a few years. In addition, the OPUC cost-effectiveness exceptions for single-family homes are no longer a large piece of the budget. The board discussed looking at the numbers and seeing if Energy Trust should walk away completely from those measures.

The board asked what the sources of savings are for Production Efficiency. Peter said the Production Efficiency program serves any industrial or agricultural business. There are greater electric savings than gas as a percentage of the whole due to electric savings from lighting measures in industrial facilities and buildings.

The board asked for more detail on the shift from Strategic Energy Management, SEM, savings to capital project savings, and whether the improved economy is causing some of that shift. Peter responded that improved cash flow and greater comfort with longer payback periods has improved demand for capital projects. SEM is both a savings and an engagement strategy for the organization, contributing operations and maintenance savings and continuing the engagement with customers as they consider capital improvements.

The budget proposes an electric savings goal of 55.7 average megawatts at 2.9 cents per kilowatt hour levelized. The savings goal is an increase of 4.8 percent over the current year largely due to increased savings from the Northwest Energy Efficiency Alliance.

The budget proposes renewable energy generation of 2.84 aMW, 18 percent less generation than the 2015 budget. Nearly all generation will be from standard and custom solar projects. This is part of the cycle of renewable energy project investments.

The board asked what is being supported for the $5.8 million in expenditures for Other Renewables. Peter answered the expenditures are for one project that will come online and also milestone payments for already completed projects or projects in progress that will begin generating after 2016. The board recommended providing more explanation to that point on slide 17 to distinguish annual costs from annual benefits.

Peter reviewed the savings and generation by utility.

Peter clarified the levelized costs for NW Natural in Washington are higher than the levelized costs for NW Natural in Oregon because there is no industrial program offered in Washington.

The board asked how the organization will be in relation to the strategic plan goals when 2016 projected achievements are included. Peter noted the organization will be slightly ahead of where it needs to be to meet the five-year strategic plan goals.

Margie reviewed the four main areas of emphasis in the action plan: managing transition, emerging technologies and approaches, expanding participation, and efficient and effective operations.

Managing transition relates to program design changes, exploring advantages of more upstream measures at retail locations, expanding outreach to more and different kinds of customers to sustain volume, and targeting smaller multifamily customers throughout the state. Managing transition also includes readiness for the future, such as policy changes on the horizon from federal Clean Power Plan compliance or potential legislative proposals from the 2016 or 2017 state legislative sessions. Preparing staff for the future through the diversity and staff development initiatives, and planning for and transitioning to a new executive director round out the managing transition area of emphasis.

Emerging technologies and approaches includes a potential PGE demand response pilot, which will explore the intersection between energy efficiency and demand response.

Expanding participation includes completing an in-house research study on where participation is strong and what the opportunities are to go deeper or fill participation gaps. This area of emphasis also includes an increase in the number and engagement of commercial trade allies, and investing in them as a sales force. Energy Trust will continue to offer pre-packaged solutions for new construction, as well as pursue ongoing collaboration on customer outreach and customer service with utilities.

Efficient and effective operations is a piece of the strategic plan and was also identified as part of the 2014 Management Review. In 2015, staff identified four core processes and developed corresponding metrics for improvements to the procurement process, project tracking system, customer information and services, and incentive processing. Year-end incentive changes and expediting measure analyses will be taken up in 2016.

The draft budget proposes one new full-time equivalent position. This individual will work on program delivery, project tracking, data entry and incentive processing for the renewable energy sector and the commercial SEM initiative. This is the fewest annual FTE ever requested, and at a time when Energy

Trust is seeing workload pressure from growth in activity, project volume and incentive processing. With the additional FTE, staffing costs as a percentage of total expenditures will remain well below the OPUC annual minimum performance measure of 7.75 percent. If the FTE is approved, Energy Trust will have 105 FTE.

The board thanked staff for the presentation and summary, noting it was well written and clear in the summary and use of graphics. The board noted that before or at the May 2016 strategic planning workshop, more information and discussion will be needed on the 2017 budget makeup once reserves are drawn down.

The board took a break from 1:52 p.m. to 2:05 p.m.

Energy Programs

Authorize funds for Ewauna 2 Solar Project, David McClelland

Staff is seeking board authorization for an $850,000 custom incentive for a 2.9-MW solar project outside Klamath Falls. The Ewauna 2 project is a result of a competitive request for proposals, RFP, for custom solar projects in Pacific Power territory last spring. Energy Trust received 16 applications adding up to $14.6 million in incentives requested for the available $2 million. Of those, 14 projects were screened out for not meeting RFP requirements, particularly for above market costs.

As background prior to reviewing the project financial detail, Dave provided information on qualifying facilities and recent rate changes at the Oregon Public Utility Commission, OPUC. This impacted projects submitting requests for incentives to Energy Trust through the RFP. For instance, five projects secured the 2012 power rate and had no above-market costs. The Ewauna 2 project secured the lower 2014 power rate.

Dave reviewed the project details for the Ewauna 2 project, and noted generation from the system will be about 8 percent of Energy Trust's five-year strategic plan goal of 10 aMW. The developer is OneEnergy Renewables, which also is the developer for the nearly completed Steel Bridge project previously supported by Energy Trust.

Dave noted the single-axis trackers on the system have become very commonplace for utility-scale projects, and most large projects in Southern Oregon now include trackers. Single-axis trackers are relatively simple compared to dual-axis trackers. Staff will follow up with the board on how much, if any, single-axis trackers add to the project's operations and maintenance costs.

The board requested to have the table "Ewauna Solar 2 financial model" on slide seven in the board packet briefing papers going forward.

The board asked why the Ewauna 2 project is cheaper than the Steel Bridge project, which does not have trackers. Dave noted that costs in the solar market have been coming down significantly in the short timeframe between the two projects requesting incentives. Several developers who responded to the RFP had similar costs as Ewauna 2.

The board asked what was appealing about the Klamath Falls location. Dave noted this will be Energy Trust's first large-scale solar system in Klamath Falls. For the developer, it was a combination of the right mix of available land, proximity to a substation for ease of interconnection and proximity to an electric load from the city. Ann Siqveland from OneEnergy Renewables confirmed those details, describing the high production profile of Klamath Falls, the site's vicinity to an interconnection grid and a more urban center, and the zoning of the land as heavy industrial.

Dave reviewed the solar qualifying facility rate schedule and how it was applied to this project. For the first time for Energy Trust, a project will be operating under three different rate periods: a renewables sufficiency period from 2017-2023, a renewables deficiency period from 2024-2032, and from 2033 and beyond the project will not have a contract with Pacific Power and the rate is assumed to be the market rate. One implication is during the renewables deficiency period, Pacific Power will also be receiving renewable energy certificates, RECs, from the project. In response, Energy Trust's share of RECs will be adjusted.

Dave summarized the strengths of the project, which includes an experienced developer, experienced installer and experienced owner/operator. OneEnergy Renewables has a solid business plan with a number of key milestones, some of which have already been met. Ewauna 2 is also the lowest-cost solar project Energy Trust has supported through a competitive process.

The board asked whether Energy Trust has any interest in the RECs the project plans to retain and sell. Dave said the project will keep the first five years of RECs, allowing them to market and sell the RECs and cover additional above-market costs. Because Energy Trust is not covering 100 percent of the above-market costs, it is appropriate not to require receiving all the RECs.

Margie asked if the renewables sufficiency and deficiency rates going forward will be the same. Dave said once a contract is signed, the rates are locked in for 15 years.

RESOLUTION 758
AUTHORIZING FUNDS FOR EWAUNA 2 SOLAR PROJECT

WHEREAS:

1. **Consistent with Energy Trust's 2015-2019 Strategic Plan, Energy Trust supports all eligible renewable energy technologies using competitive approaches to identify and fund new projects and market solutions for those projects receiving non-standard incentives.**
2. **In addition, the Oregon Public Utility Commission's (OPUC's) fourth funding priority for renewables for Energy Trust to support the above-market costs associated with innovative and custom solar projects, "as funds are available."**
3. **In early-2015, Staff identified $2,000,000 in available funds for innovative and custom solar projects in Pacific Power territory, funds unallocated after a 2015 "Other Renewables" RFP process and support of standard solar projects.**
4. **In March 2015, Energy Trust released a Request for Proposals for innovative and custom solar projects in Pacific Power territory, and sixteen applications were received and reviewed.**
5. **Evaluating the proposed projects for readiness and above-market cost, Energy Trust staff recommends moving forward with Ewauna 2 Solar: a 2.9 MW_{AC} project, ground mounted, with single-axis trackers to boost generation approximately 25% over a fixed tilt system. The project will be located on the south side of Klamath Falls, in Oregon on leased land zoned for industrial use and currently used for grazing. This project proposal demonstrated many strengths.**
6. **This project has a solid business plan, executed 26-year lease, experienced developer, construction contractor, and owner, and executed power purchase agreement (PPA) and interconnection agreement.**
7. **Total project cost is estimated to be approximately $7,166,000, which Energy Trust staff considers reasonable for a project of this size and design, at $1.95/ $W_{DC,}$ comparing favorably to the recent Steel Bridge Solar project at $1.98/$W_{DC}$.**

8. **Netting out Pacific Power's contribution towards the above-market cost of the project through its above-market QF rate pursuant to the project's executed PPA, the remaining above-market cost on a net-present value basis over 20 years is estimated at 1,415,000.**
9. **Based on its analysis of above-market cost and available incentive funding for projects of this type, staff recommends an Energy Trust incentive of up to $850,000.**
10. **In consideration for its incentive funding contribution, Energy Trust will require that the project owner assign up to 48 percent of the Renewable Energy Certificates (RECs) for the project to Pacific Power for compliance with Oregon's solar mandate and renewable energy requirements.**

It is therefore RESOLVED that the board of directors of Energy Trust of Oregon, Inc. authorizes:

1. **An incentive of up to $850,000, payable in not less than two increments, for the Ewauna 2 ground-mounted solar project in Klamath Falls, Oregon with minimum capacity of 2.9 MW_{AC} and expected generation of 7,246 MWh/year (0.83 aMW).**
2. **Energy Trust to require the project owner to deliver up to 48% of all RECs from this project to Pacific Power for the benefit of its ratepayers and for compliance with Pacific Power's renewable energy generation and solar capacity obligations to the state, recognizing that through the project's PPA, the project is also providing additional RECs directly to Pacific Power such that Pacific Power will be receiving a total of approximately 78% of the RECs from the project.**
3. **The executive director or her designee to negotiate and sign an agreement consistent with this resolution.**

Moved by: John Reynolds Seconded by: Ken Canon
Vote: In favor: 10 Abstained: 0
Opposed: 0

Committee Reports

Executive Director Transition Committee, Ken Canon
The board met in executive session today. The committee is drafting an opportunity announcement to send out in January to start the solicitation process for applicants. The committee will start working on the details of the candidate application.

Evaluation Committee, Susan Brodahl
The committee reviewed findings of the air sealing pilot, which tested whether combining the measure with attic insulation improved its cost-effectiveness. The committee received a presentation on solar system soft costs. The Solar program is trying to determine the baseline of non-hardware costs. A qualitative market research study was completed for commercial trade allies. A qualitative market research study was completed for small manufacturers and how to better serve them. An evaluation of an efficiency sales training conducted in February 2014 showed respondents reporting they made changes to their sales approach as a result of the training.

Finance Committee, Dan Enloe
Dan provided highlights of the September 2015 financial statements, noting reserves have been drawn down as planned and pointed to the change in PGE's reserves over last year.

Spending so far this year is $2.5 million below budget, about a 2 percent variance, and spending this year is 16 percent higher than last year. Energy Trust has spent $11.5 million more on incentives this year than last year. Revenue from investments, which are conservatively invested, brought in a small

amount. It remains to be seen whether the attempt to minimize the impact of the year-end "hockey stick" was effective or Energy Trust is seeing more activity overall.

Policy Committee, Roger Hamilton

The committee approved a new member to the Conservation Advisory Council, Tyler Pepple, a partner at Davison Van Cleve, P.C. The law firm represents the Industrial Customers of Northwest Utilities.

Amend Renewable Energy Certificate Policy, Jed Jorgensen

Jed provided a brief background on renewable energy certificates, RECs, similar to the content the board heard a few meetings prior. One REC is one MWh of renewable energy that is a tradeable commodity. It represents all the green or environmental benefits derived from electricity produced by 1 MWh of renewable energy. There are two markets for RECs, a compliance market and a voluntary market. Oregon uses the compliance market for utility compliance with the state's Renewable Portfolio Standard. So far, PGE has enough RECs to meet its compliance obligation through 2020 and Pacific Power through 2024. Jed noted this is what is driving the sufficiency and deficiency rates Dave McClelland referenced during the Ewauna 2 project presentation. The voluntary market is for transactions made by households or businesses looking to make a green claim, such as "powered by renewable energy." Once a REC has been used to make a claim, either for RPS compliance or a voluntary claim, it is retired.

Jed described the origination of Energy Trust's REC policy, which is based on the renewable energy programs contributing to growth in renewable energy in Oregon. RECs are one of the many valuable results of investing in renewable energy resources. SB 1149 does not mention RECs because there was no REC market at the time the law was passed. As the REC market emerged, Energy Trust began asking for a portion of REC ownership when supporting a project because ratepayers were paying for all or a portion of the above-market costs of the project. Ratepayers are entitled to benefits of that investment, including RECs. In 2004, following discussions with the Renewable Energy Advisory Council, OPUC and board, the board established a REC policy. The policy sets principles on viewing RECs, ownership of RECs, calculating RECs and determining when we need to own them.

The REC policy came up for review 18 months ago. At that time, staff talked with the Policy Committee about doing a robust study since the REC market had evolved significantly since the policy was first written. Energy Trust worked with Bonneville Environmental Foundation, BEF, on the report. It provides an overview of REC markets, Energy Trust REC holdings and how Energy Trust participates in the compliance and voluntary markets. The report also reviewed pain points and the goals of implementing the policy. The main goal is to get RECs into the Western Renewable Energy Generation Information System, WREGIS, so utilities can use them for RPS compliance. Staff brought proposals to the board, Renewable Energy Advisory Council and utilities based on the report findings.

Jed reviewed the amendments to the REC policy. He noted it was rewritten for clarity with two substantive changes to bring rationality and process to the way staff implements the policy.

The board discussed the proposed policy changes. It was noted the WREGIS registration process is far too complex and expensive for small residential solar systems, and it would be a large financial loss for Energy Trust to follow the WREGIS process on those small systems. The board agreed the reason for the registry is to ensure validation of the REC and to avoid double counting or potential abuses to the system. It was noted if a REC isn't registered in WREGIS, it can't be used toward utility RPS compliance.

Staff clarified the WREGIS registration issues are for small net-metered solar projects only, not large renewable energy systems.

Staff said prior to these proposed policy changes, Energy Trust did not have a way to look at the REC market and incorporate current market conditions and knowledge into what the program is doing. The annual board review gives Energy Trust this chance to review and incorporate any market changes.

The board asked what the opportunities are for Energy Trust to have RECs on the open market. Jed said the current policy prohibits Energy Trust from selling RECs. If the policy changed, and Energy Trust sold RECs on the voluntary market, the current value of a REC ranges from less than one dollar to maybe a few dollars. Energy Trust's annual portfolio right now is about 125,000 RECs. In WREGIS, the RECs would not be sold, they would be registered, like a bank, allowing the transaction to happen for utility RPS compliance.

Public comment

John Charles, Cascade Policy Institute, provided public comment to present an alternative path forward for consideration by the board. He suggested Energy Trust exit the REC market, liquidate the existing portfolio of RECs over a period of years, and deliver the renewable energy programs as specifically written in statute. He noted RECs are not mentioned in Energy Trust's enabling legislation, SB 1149. Energy Trust is authorized to promote renewable energy and a REC is an intangible commodity that does not generate power. He said REC buying has been a mission creep for Energy Trust. He said SB 1149 does not authorize Energy Trust to work on greenhouse gas reduction, and RECs are directly related to minimizing carbon dioxide emissions. He said if greenhouse gas reduction is not a part of the statutory mission, Energy Trust should not be involved in REC markets. He noted that according to the BEF report completed last spring, key criteria for a renewable energy source to have a REC is the electricity production should not result in any other negative environmental impacts. He said Energy Trust is supporting renewable energy resources, solar and wind mostly, that have low capacity factors, meaning the grid needs spinning reserve. Depending on what's in the spinning reserve mix, it would equal or exceed the environmental impacts of the renewable energy resource. He said that RECs from intermittent sources are fake and fraudulent. Lastly, he said the independent auditors of Energy Trust's financial statements in 2012 noted all current and future RECs have a value of zero dollars as of December 31, 2011, and from then on, audits do not reflect any value of RECs.

Debbie Menashe noted a change to be made to Resolution 759, under the second "Whereas" clause. The language starting at section c is a remnant of the previous policy and should be removed.

AMENDED RESOLUTION 759
AMEND ENERGY TRUST RENEWABLE ENERGY CERTIFICATE POLICY

WHEREAS:

1. **RECs represent renewable energy values that should be protected for ratepayers in Energy Trust programs.**
2. **In protecting this value, Energy Trust recognizes that: (a) there may be circumstances in which the cost of registering RECs in WREGIS is prohibitive; and (b) Energy Trust's REC share should be coordinated with utility green-power programs and rate processes~~; and (c) owners of custom projects may keep RECs to meet environmental or "green" goals if the owner provides substitute RECs meeting certain requirements aimed at protecting ratepayers represented by Energy Trust~~.**
3. **These principles should be incorporated in Energy Trust policy.**
4. **This policy, up for its regular three year review, was reviewed by the Policy Committee and is recommended for approval by the full Energy Trust board through the consent agenda at its next fully board meeting.**

It is therefore RESOLVED that the Board of Directors hereby amends the Energy Trust REC policy as shown in Attachment 1, to:

1. **Allow Energy Trust not to register RECs in the Western Renewable Energy Generation Information System (WREGIS) where the board concludes the effort and expense are disproportionate to the REC market value;**

2. **Coordinate policy with utility green-power programs and rate processes by reducing Energy Trust's share of RECs to the extent that a utility retains RECs for the benefit of its ratepayers via a green power granting program or power purchase agreement; and,**
3. **Adopt minor changes, primarily in section 2 "Ownership," clarifying policy mechanics.**

ATTACHMENT 1

4.15.000-P Renewable Energy Certificate (REC) Policy

History			
Source	Date	Action/Notes	Next Review Date
Board Decision	March 3, 2004	Approved (R256)	February 2005
Board Decision	February 16, 2005 (residential tags)	Amended (R313)	
Board Decision	April 6, 2005	Rescind R313	February 2008
Board Decision	March 28, 2007	Amended R433	February 2010
Policy Committee	October 12, 2010	Reviewed, no changes	October 2013
Board Decision	May 4, 2011	Amended R584	May 2014

PRINCIPLES

The following principles should guide Energy Trust's ownership of renewable energy certificates (RECs) generated by renewable resources:

- **RECs generated by renewable energy are one of the multiple values for Oregonians provided through investing in renewable resources.**
- **Energy Trust RECs should be used for the long-term benefit of customers of Pacific Power and Portland General Electric, as long as the effort and expense associated with registering them is not disproportionate to their value.**
- **The disposition (retention, transfer) of RECs will coordinate with and further the goals of Energy Trust, state policies and regulatory requirements.**
- **Where Energy Trust takes ownership of RECs, its ownership should reflect both the REC value and the support provided by Energy Trust.**
- **Energy Trust should coordinate its REC policy with utility green power programs and rate processes.**
- **Energy Trust ownership of RECs and the mode of delivery of RECs to Energy Trust should be flexible over time, while reinforcing incentives for long-term project performance.**

POLICY

1. **Annual Board Review**
   - **Energy Trust will ascertain market values and forward price curves for relevant types of RECs and update them periodically.**
   - **In order to ascertain market values and forward prices curves for relevant types of RECs, Energy Trust will consult with PGE, Pacific Power and the OPUC staff and will give consideration to federal and state policies that may affect such values and forward price curves.**
   - **Energy Trust will track the cost and effort involved in registering RECs and report it to the RAC and the board at least annually, and where the market value of any given REC category is less than the cost of registering them, recommend whether to continue to register them in WREGIS.**
   - **Where the board determines, after RAC review, that the cost and effort entailed in registering RECs of a given type is disproportionate to the market and other values associated with RECs, the board may authorize staff to take title to the RECs without registering them in WREGIS and shall effectuate such authority by board resolution.**

2. **Ownership**
   - **Where the board determines that Energy Trust should secure RECs for the benefit of ratepayers, the quantity of RECs for which Energy Trust will take ownership rights will be based on the ratio between Energy Trust's incentive and above-market cost, with an adjustment in cases where the REC market value exceeds the per-REC value of the incentive, determined as follows:**
     - **Step 1: Multiply the number of RECs that would be generated by a project over the term of the funding agreement with Energy Trust by the percentage of the above-market cost represented by Energy Trust's incentive.**
     - **Step 2: Divide the incentive amount by the quantity of RECs calculated in Step 1.**
     - **Step 3: Compare the per-REC value of Energy Trust's incentive to the REC market value ascertained in Section 1 of this policy.**
     - **Step 4: If the per-REC value of the incentive exceeds the per-REC market value, Energy Trust will take the full amount of RECs calculated in Step 1. If, however, the per-REC market value exceeds the per-REC incentive value, Energy Trust will reduce its REC ownership so that the per-REC incentive value is equivalent to the per-REC market value.**
   - **Energy Trust will reduce its ownership of RECs to the extent that a utility retains RECs for the benefit of its ratepayers pursuant to the utility's green power program or power purchase agreements.**

3. **Delivery of RECs**
   - **Unless the Energy Trust board determines under Section 1 that a type of REC need not be registered in WREGIS, RECs should be delivered to a utility WREGIS account specified by Energy Trust.**
   - **Energy Trust may agree to up-front retention of RECs by a developer or project owner if there are contractual assurances that future RECs will revert to Energy Trust.**

Vote on amending resolution language to remove 2.c. from "Whereas" section

Moved by: John Reynolds — Seconded by: Anne Root
Vote: In favor: 9 — Abstained: 1, Dan Enloe, no explanation provided
Opposed: 0

Vote on resolution, as amended

Moved by: John Reynolds — Seconded by: Roger Hamilton
Vote: In favor: 9 — Abstained: 1, Dan Enloe, no explanation provided
Opposed: 0

Now that the board has approved the policy changes, staff will move into policy implementation. Implementation strategies will start with a staff and Policy Committee discussion on REC value and registration costs. The value of a REC on the voluntary market is currently low, and both PGE and Pacific Power are in compliance with the RPS through 2020 and 2022, respectively. Jed noted that as the percentage of renewable energy needed for compliance grows in the out-years, Energy Trust's portion of the overall RECs will get smaller.

Jed described the administrative cost and effort to register a REC with WREGIS for compliance purposes. All systems need to be metered and metered generation reported electronically. Energy Trust must also have an account with WREGIS to assign the metered generation to the account. Because of this process, REC registration costs for the standard Solar program are high while it varies for Other Renewables and custom solar projects. Also, for small, net-metered systems, each system currently has a generation meter, but it cannot be read remotely. It would be cost prohibitive to manually read the

meters, and the cost to retrofit them is too expensive. For the 8,000 systems Energy Trust has supported, it would cost more than $7 million to install digital meters.

In response, staff proposes to require REC registration in WREGIS for Other Renewables and custom solar systems except where neither the utility nor the customer wants to register them. This is largely small wind and ranch-scale hydropower systems, about 125,000 RECs annually. Also, for standard solar systems, staff proposes not registering the RECs until a cost-effective methodology is created. This is about 30,000 RECs annually or 25 percent of the annual portfolio. In addition, the Solar program will stop requiring separate generation meters for standard solar systems as inverter technology has evolved to also include generation meter capability. Staff will draft these proposals into a report for the Policy Committee's review.

The board discussed whether the decision on the generation meter is a board-level decision. Staff clarified it was provided as information that will be included in the annual board review of the REC policy moving forward. Metering is key to allowing a project to be registered in WREGIS, intersecting with the REC policy.

The board supported the next steps.

Strategic Planning Committee, Debbie Menashe
Debbie Menashe provided an update in Mark Kendall's absence. At the most recent committee meeting, the committee started planning topics for the board's May 2016 strategic planning workshop and reviewed staff proposals related to measuring progress for certain strategies in the 2015-2019 Strategic Plan. Staff provided an update about a paper that will guide a report back to the board in May on establishing metrics for key internal process areas at Energy Trust. The committee also reviewed a revised staff proposal for Emerging Tech metrics for electric technologies. It was noted the label Emerging Tech was replaced with Emerging Efficiency Resource to more clearly describe all the options available to Energy Trust to replenish the energy efficiency resource. Lastly, the committee received an update on establishing a baseline for the Expand Participation strategy.

Staff Report

Highlights, Margie Harris
Margie provided highlights from two recent ribbon-cutting events unveiling new hydroelectric turbines, acknowledging long-term irrigation district modernization improvements completed at Three Sisters Irrigation District in Bend and Farmers Irrigation District in Hood River.

Margie noted the American Council for an Energy-Efficient Economy, ACEEE, released its annual state rankings of the most energy-efficient states. Oregon was ranked fourth in the nation.

Margie also provided an update on a recent Northwest Energy Efficiency Leadership Summit she attended earlier in the week.

Adjourn

The meeting adjourned at 3:47 p.m.

The next regular meeting of the Energy Trust Board of Directors will be held Friday, December 11, 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
Suspend WREGIS Registration Requirements for Certain Classes of Renewable Energy Certificates

December 11, 2015

RESOLUTION 762
SUSPEND WREGIS REGISTRATION REQUIREMENTS FOR CERTAIN CLASSES OF RENEWABLE ENERGY CERTIFICATES

WHEREAS:

1. **At its meeting on November 4, 2015, the board of directors of Energy Trust approved a set of changes to Energy Trust's Renewable Energy Certificate (REC) Policy.**
2. **Among the policy changes approved was the addition of an annual board and Renewable Advisory Council (RAC) review of the market and other value of RECs as compared to the cost and effort of WREGIS registration.**
3. **WREGIS is the Western Renewable Energy Generation Information System (WREGIS). WREGIS tracks renewable energy generation through registering RECs representing such generation. Only WREGIS-registered RECs are eligible to count towards Oregon's Renewable Portfolio Standard requirements.**
4. **Under the revised policy, if the relative cost and effort of registering RECs is prohibitive for certain categories of RECs, the board may authorize staff to take contractual title to RECs, but suspend efforts to register such RECs in WREGIS until such time as WREGIS registration is cost effective.**
5. **The revised REC policy also calls for Energy Trust staff to confer with Portland General Electric, Pacific Power, and the Oregon Public Utility Commission (OPUC) to determine the market and other values of RECs in order to make a determination of value relative to the cost and effort of WREGIS registration.**
6. **Energy Trust staff has conferred with utilities and OPUC staff regarding market value of RECs. Based on these discussions and market research undertaken by Bonneville Environmental Foundation in early 2015, Energy Trust staff has concluded that the market value of RECs is small relative to the cost and effort of WREGIS registration for two classes of RECs: (1) RECs generated through Energy Trust's standard solar program projects and (2) RECs generated through Energy Trust's Other Renewables program custom projects where neither the project owner nor the relevant utility are willing to take responsibility for registering RECs in WREGIS. For both of these categories of RECs, WREGIS registration costs far outweigh the market and other value of the RECs involved.**

It is therefore RESOLVED that the board of directors of Energy Trust of Oregon:

1. **Suspends requirements for WREGIS registration of RECs generated in the following categories of renewable energy projects for which Energy Trust incentives are paid:**
   a. **RECs generated through Energy Trust's standard solar program projects; and**
   b. **RECs generated through Other Renewables program custom projects where neither the project owner nor the relevant utility are willing to take responsibility for registering RECs in WREGIS.**

2. **Requires Energy Trust staff to continue to take contractual title to the categories of RECs identified in this resolution and to review the relative market and other value of such RECs in not more than one year from the date of this resolution to determine whether the cost and effort of WREGIS registration continues to be prohibitive and to provide an annual update on such values to the board consistent with Energy Trust's board-adopted REC policy.**

Moved by: Seconded by:
Vote: In favor: Abstained:
Opposed:

Tab 2

Board Decision
Adopt 2016 Budget, 2017 Projection and 2016-2017 Action Plan

December 11, 2015

Summary

To adopt the Energy Trust 2016 Annual Budget, 2017 Annual Budget Projection, and 2016-2017 Action Plan.

Background

- The Energy Trust grant agreement with the Oregon Public Utility Commission requires Energy Trust to update its two-year Action Plan annually and describe the activities the organization will undertake to accomplish over the coming two years.
- This updating occurs each year in connection with the preparation and finalization of the following year's budget.
- The 2016-2017 Action Plan outlines activities Energy Trust will undertake in 2016 and 2017 to achieve its strategic goals.

Discussion

- The Draft 2016 Annual Budget and 2017 Projections (the draft budget) and the Draft 2016-2017 Action Plan (the action plan) were presented to and discussed by the board at its meeting on November 4, 2015.
- The draft budget and action plan were posted on the Energy Trust website on October 29, 2015.
- The Conservation and Renewable Energy Advisory Councils were presented highlights from the draft budget and action plan at their respective meetings on October 21, 2015, and provided updates on November 20, 2015.
- The Finance Committee reviewed the draft budget and the action plan on October 22, 2015.
- The Oregon Public Utility Commission was briefed on the draft budget and action plan on October 30, 2015 and heard public comment on both the draft budget and action plan on November 17, 2015.
- Portland General Electric, Pacific Power, NW Natural, and Cascade Nature Gas were engaged by Energy Trust in budget concept development starting in July. Utility representatives reviewed and discussed draft budget and action plan information through subsequent individual coordination meetings in late summer and fall, and via Conservation and Renewable Energy Advisory Council presentations on October 21 and November 20, 2015.
- A live public webinar was conducted on November 16, 2015.
- Public comments were due November 20, 2015.
- The board will hear public comment and discuss the final proposed budget and action plan at its meeting on December 11, 2015.

Recommendation

Staff recommends adoption of the Energy Trust 2016 Budget, 2017 Projection and 2016-2017 Action Plan.

RESOLUTION 761
ADOPT 2016 BUDGET, 2017 PROJECTION AND 2016-2017 ACTION PLAN

BE IT RESOLVED That Energy Trust of Oregon, Inc. Board of Directors approves the Energy Trust 2016 Budget, 2017 Projection and 2016-2017 Action Plan as presented in the board packet.

Moved by: Seconded by:
Vote: In favor: Abstained:
Opposed:

Tab 3

Board Decision
Farmers Conservation Alliance Proposed Contract Amendment to Take Irrigation Stakeholder Engagement Services Contract above $500,000

December 11, 2015

Summary

Authorize amendment of a contract for irrigation stakeholder engagement services with Farmers Conservation Alliance (FCA) to authorize contract expenditures in excess of $500,000.

Background

As market supports for renewable energy have waned over the past five years, Energy Trust has had to find new ways to build and maintain a pipeline of projects to meet renewable energy generation goals from a broad technology portfolio.

Energy Trust has long recognized that hydroelectric projects utilizing irrigation infrastructure upgrades represent a significant opportunity for the Other Renewables program and such projects have been a programmatic focus since 2009. Despite generally poor renewable energy market conditions these types of projects remain viable to develop due to the wide range of additional benefits they can provide beyond energy generation. Benefits can include water savings (the most important financially) as well as other environmental and operations and maintenance improvements to districts and irrigators.

To continue to grow the portfolio Energy Trust has had to develop tools to enable additional districts to move forward with project identification and development. Our work with Farmers Conservation Alliance (FCA) is a significant step down that path.

FCA is a not-for-profit corporation based in Hood River whose mission is to develop resource solutions for rural communities. FCA was established in 2005 with funding provided to support Farmers Irrigation District of Hood River, Oregon in that district's licensing of its developed Farmers Screen™ technology, a fish screen technology used in irrigation canals. FCA was established to take the Farmers Screen™ technology to market, address institutional barriers to fish screens, and invest profits into other technologies and solutions that benefit both the environment and agriculture. FCA has done exactly this over the years, and has an excellent reputation within the agriculture community and its existing relationships with irrigation districts makes them an ideal provider for the stakeholder engagement services for which Energy Trust established the existing FCA contract.

Energy Trust and FCA worked together on two related projects in the past, starting in 2013. FCA researched and prepared a report documenting the long term impacts, both positive and negative, of irrigation hydropower projects in the Hood River Basin. Following that successful report, which was well received by irrigation districts and other environmental and agency stakeholders, Energy Trust engaged FCA to investigate the hydroelectric potential at a number of Oregon irrigation districts. That report corroborated Energy Trust's previous assessments of the potential for additional hydro and created a ranked list of potential projects to work on.

In 2014 Energy Trust posted a Request for Qualifications (RFQ) seeking consultants to help us design and implement a collaborative stakeholder engagement framework to support and complete new irrigation hydropower projects. Importantly, this RFQ described Energy Trust's interest in supporting irrigation hydropower projects to focus not only on energy generation, but on comprehensive project improvement efforts, acknowledging that hydropower generation may not

be the key driver for irrigation districts or the other entities involved. The RFQ was issued in recognition that focused leadership and resources are needed to identify and promote the irrigation modernization upgrades that will enable hydropower and energy efficiency savings, among other benefits. Based on the strength of its proposal, and its demonstrated stakeholder engagement experience, FCA was selected from the respondents to undertake this work with Energy Trust project development funding. Energy Trust entered into a stakeholder engagement services contract with FCA effective January 2, 2015.

Discussion

Staff has been working closely with FCA to ensure the successful launch and delivery of its collaboration and engagement efforts. In addition to the contract under discussion in this briefing, the board should note that there are other coordinated efforts and contracts between FCA and Energy Trust:

- Joint website and video development to promote the initiative; and
- An umbrella agreement that enables Energy Trust to assign work orders to FCA for Project Development Assistance related to specific irrigation districts moving forward with Irrigation Modernization efforts. Twelve districts have already received project development assistance with another expected to sign up within the month. Current committed project development assistance incentives for these pipeline projects is approximately $1.36 million.

FCA's stakeholder engagements services performance has been exemplary. Planning, networking, and outreach efforts have exceeded expectations. Energy Trust staff has received positive feedback from around the state about these efforts from irrigation districts, environmental non-profits, and federal and state natural resource agencies. This program is being viewed as game changing for the many entities that work on the interrelated issues around irrigated agricultural, water conservation, and environmental restoration. Much of the work has been completed at a pace faster than originally anticipated, and interest has been higher than anticipated for the first year.

In part, Energy Trust attributes current success of this work, with regard to outreach and irrigation district uptake, to launching this effort in the midst of the worst drought in nearly 40 years. The drought conditions have focused a tremendous amount of attention at the local, state, and federal levels on efforts that can address water conservation in this time of need. Energy Trust's engagement with FCA is the perfect fit as it drives water conservation for environmental purposes and also helps irrigation districts become more drought resilient. Energy efficiency and new hydro generation are the by-products of these efforts, along with a host of other benefits.

At present, this contract has a budget cap of $421,000. Staff proposes to amend this contract, adding additional deliverables and budget. FCA and Energy Trust staff want to keep up this work while so much attention is focused on achieving these benefits. To that end, staff proposes to amend FCA's stakeholder engagement services contract to add $104,000 in additional funding associated with a number of new deliverables and to seek authority to add additional budget over the course of 2016 consistent with the board approved budget. Additional deliverables proposed for addition to the contract include:

- Expand outreach efforts to state agency, federal agency, and political representatives to support streamlining of programs and funding to support project implementation
- Develop a guide for irrigation districts for developing hydroelectric capacity within an irrigation system
- Draft a process for evaluating district organizational capacity
- Draft a process for evaluating the economic benefits associated with irrigation modernization

- Draft a process for evaluating the environmental and agricultural benefits associated with irrigation modernization
- Develop a guide to forming an irrigation district for irrigators
- Draft a process for Geographic Information System (GIS) mapping and integration for irrigation districts
- Develop a low cost alternative water management model using open source software and readily available data
- Develop methodology for creating and communicating agricultural, environmental, and economic return on investment

Recommendation

Authorize the executive director or her designee to sign a contract amendment to the irrigation stakeholder engagement services contract between Energy Trust and FCA authorizing contract expenditures consistent with the board-approved budget.

RESOLUTION 763
AMEND FARMERS CONSERVATION ALLIANCE CONTRACT

WHEREAS:

1. **In January 2015, Energy Trust chose Farmers Conservation Alliance ("FCA") to perform stakeholder engagement services for irrigation system optimization projects following a competitive process.**
2. **The contract awarded to FCA authorized funding for less than $500,000, thereby within the Energy Trust executive director's signing authority. The term of the contract extends through December 31, 2016.**
3. **FCA's stakeholder engagement efforts have been successful in interest and pipeline development. Results have exceeded expectation. Energy Trust wishes to expand the scope of the FCA agreement to provide funding for continuation of these stakeholder engagement and pipeline development efforts.**
4. **To accomplish these efforts, Energy Trust proposes to authorize additional funding for the contract for amounts consistent with the board-approved 2016 budget and action plan, an amount above the $500,000 limit of the executive director's signing authority.**
5. **If approved by the board, staff would expect to enter into a contract amendment to add $104,000 to the FCA stakeholder engagement contract for additional outreach services and development of more guides and process tools, bringing the total amount authorized under the contract to $525,000. If necessary and substantiated for continued successful pipeline development, staff would enter into further possible amendments later in 2016 to provide for additional contract funding in amounts consistent with the 2016 board approved budget and action plan.**

It is therefore RESOLVED:
That the Board of Directors of Energy Trust of Oregon, Inc., hereby authorizes the executive director or her designee to sign amendments to the current FCA contract for stakeholder engagement services to authorize expenditures above $500,000 and in amounts consistent with the board's annual 2016 budget and action plan.

Moved by: Seconded by:
Vote: In favor: Abstained:
Opposed:

Tab 4

Final Report

Existing Home Prescriptive Air Sealing Pilot Evaluation

July 17, 2015

Final Report

Existing Home Prescriptive Air Sealing Pilot Evaluation

July 17, 2015

Funded By:

Energy Trust of Oregon

Prepared By:

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Executive Summary

This report describes the results of the evaluation of Energy Trust of Oregon's Existing Homes Prescriptive Air Sealing pilot. The primary pilot goal was to determine whether prescriptive attic air sealing in combination with attic insulation is a viable strategy for Energy Trust to achieve cost-effective gas savings in existing gas-heated homes.

The secondary goals of this evaluation were to:

- Validate the savings of the prescriptive air sealing measures installed through the pilot.
- Determine how well the air sealing strategy works for the participating contractors.
- Identify what the incremental costs for air sealing are when installed concurrently with attic insulation.

Energy Trust will use the findings from this evaluation to decide if the Existing Homes program should incentivize this combination measure.

To complete our research, we conducted the following four data collection activities:

1. Program/implementation staff interviews (n=6)
   a. Energy Trust staff (n=2)
   b. CLEAResult implementation staff (n=4)
2. Trade ally interviews (n=5)
3. Pilot summary data review
4. Blower door analysis

Below we first present the key findings for each research question. Next, we present our overall conclusion and recommendations.

Key Findings

What are the savings associated with prescriptive attic air sealing?

Measure savings vary based on heating zone. We found that attic insulation saved participants between 60 and 93 therms annually depending on heating zone, and attic air sealing saved participants between 11 and 12 therms annually. In addition, insulation installed through the pilot reduced the air leakage by an average of 0.024 air changes per hour (ACH) after the reduction of 0.079 ACH due to air sealing. The combined savings from the two measures varied from 71 to 105 therms, depending on heating zone.

What are the incremental costs associated with prescriptive attic air sealing?

Incremental costs vary based on house size and project demands. The incremental cost of prescriptive attic air sealing is tied to the time necessary to complete the job. Four of the five interviewed trade allies estimated that prescriptive attic air sealing takes from two to eight hours and costs between $400 and $1,000 per job depending on the size of house and work demands, that is, the ease and complexity of job.[1]

What are the most cost-effective areas and methods to air seal an attic?

An uninterrupted workflow and clear access in the attic are the primary elements to cost effectively air sealing an attic. All five of the interviewed trade allies noted that their preferred method of working is to start in one corner and work in a linear fashion across the attic until the job is complete. They explained that working in this linear method enabled them to move quickly through the project while doing a thorough job. Since many trade allies are paid by the job, completing as many projects per day is the most profitable approach for the contractor and cost effective for Energy Trust. However, the pilot requirements (to seal the sheetrock penetrations, chases, and top plates, in that order, as well as pausing for periodic blower door testing between sealing) resulted in allies completing fewer projects per day.

Does prescriptive attic air sealing cost less than air sealing guided by blower door testing?

Use of a blower door to guide air sealing adds time and cost to attic air sealing projects, and is a disincentive to implementing the measure. All five of the interviewed trade allies reported that the required blower door testing added additional time to each project. These trade allies suggested the additional time ran between 30 minutes and one hour. The second most active trade ally noted that this extra time limited the number of projects an installation crew could complete in a day. The trade allies reported that for their crews who receive payment by the project, not being able to complete additional projects was a disincentive to participate in the pilot.

Could a cost-effective air sealing measure be designed for gas-heated homes?

The savings in gas-heated homes are likely too small to offer a cost-effective air sealing measure. Trade allies reported that the pilot incentive ($400) did not cover the full costs of implementing the measure while adhering to all the pilot requirements. These costs may have limited pilot participation, lengthened the pilot period and led to lukewarm acceptance of the measure by trade allies. When trade allies provided their thoughts on the viability of the measure on a larger scale, it was difficult to know whether they could make that assessment based on their experience in the pilot.

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[1] The most active ally representative was unable to provide feedback on incremental costs.

Overall, they reported that the $400 incentive was necessary and that being able to implement the measure with minimal work stoppage was critical. While the later point can be addressed, the former will require additional research as the limited savings available for the measures is too small to warrant a $400 incentive.

Could a measure and incentive structure be designed that ensures accurate reporting of project details?

A flat rate incentive minimizes the reportable data and caps the incentive amount. While the pilot flat rate incentive design ensured accurate reporting of project details, adequate quality assurance was difficult and costly to implement, as air sealing is difficult to verify post installation.

Could quality control be easily performed on this type of measure?

Staff will need to carefully consider how to incorporate oversight protocols that will achieve a high level of confidence in savings and can be easily implemented by trade allies. All staff that participated in the pilot expressed concern about how to easily verify air sealing as a combined measure with attic insulation. Air sealing is not visible and is hard to verify once the attic insulation is installed. In addition, staff noted concerns about the potential time and expense required to ensure trade allies complete the air sealing appropriately. One method mentioned by four staff was for trade allies to provide geo-stamped and time-stamped photo evidence of air sealing as verification of appropriate installation. One of these staff members also mentioned the possibility of combining photo evidence with a required checklist as a way to provide additional evidence of proper installation.

Three trade allies suggested that requiring pictures and a checklist to ensure quality would be possible in a standard offering.[2] However, two of the three noted it would change their current procedures and one expressed some concern with purchasing cameras or smartphones for staff. The remaining trade ally noted that he already used a checklist and pictures as part of quality control in a low-income program. This ally reported it would be easy to adopt this procedure for the Energy Trust Existing Homes program.

Could a prescriptive attic air sealing measure expand the number of homes that receive air sealing?

Trade allies believe there remains a large market of eligible customers for a combined attic air sealing and insulation measure. However, trade allies need further convincing that the measure can be profitable to promote the measure. Four of the five interviewed allies estimated conducting between 100 and 1,500 attic insulation jobs per year with about half of the jobs (50 to 750 per trade ally) being

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[2] The two most active ally trade allies did not provide feedback on future quality assurance.

eligible for the Energy Trust combined measure. They estimated that between one-third and one-half of the jobs would qualify for prescriptive attic air sealing.

According to pilot staff and trade allies, some eligible customers may not have been offered the opportunity. Specifically, three trade allies assessed eligibility after recruitment and two assessed it before. Three allies also reported that they did not do much staff training, due to concerns the measure would not be available in the future.

Would a prescriptive attic air sealing measure achieve market acceptance?

It is uncertain if a prescriptive attic air sealing measure would achieve market acceptance. The majority (5) of the interviewed program staff expressed uncertainty regarding market acceptance of a perspective attic air sealing measure. However, their reasoning was not uniform. Specifically, two allies spoke of lack of interest from customers and contractors in the measure; one noted the general reduction in participation in energy efficiency from owners of gas-heated homes (he linked this to the lowering of natural gas prices); and the fourth staff member reported that air sealing produces less certain savings when compared to other energy efficiency upgrades.

Conclusion and Recommendations

Conclusion

There were challenges in implementing the pilot and while the trade ally reception to the measure was lukewarm, the general response to the possibility of Energy Trust offering the combined measure was positive. However, the limited savings available from the measure will require establishing efficient, effective monitoring requirements and offering a minimal incentive, which may be insufficient to support trade ally engagement.

Recommendation #1

Determine the ideal incentive requirements. Our research indicates that, although trade allies are interested in promoting the combined measure, incentives remain critical. The only incentive trade allies have experienced is the $400 pilot incentive. A quick query with these trade allies should be conducted to explore what incentive amount might be acceptable if the measure could be implemented within the trade allies preferred installation workforce, which was not achieved in the pilot.

Recommendation #2

Re-engage trade allies to expand participation. Trade allies did not like the additional time and effort required to conduct the pilot. If moving forward with the measure, Energy Trust will need to engage with trade allies, informing them of the reduced requirements, and any other changes such as incentive amount.

MEMO

Date: September 2, 2015

To: Board of Directors

From: Marshall Johnson, Sr. Program Manager, Residential Sector

Dan Rubado, Evaluation Project Manager

Subject: Staff Response to Evaluation of the Existing Homes Prescriptive Air Sealing Pilot

In the face of low avoided costs for natural gas for the foreseeable future and gas weatherization measures that have had decreasing savings and increasing costs, Energy Trust's Existing Homes program designed a pilot to improve the cost-effectiveness of air sealing in gas-heated homes. The strategy was to lower installation costs and focus only on areas for air sealing with the highest energy savings potential. Contractors were paid an incentive to air seal the attic plane during attic insulation projects, thereby reducing the base cost by aggregating the two services. The attic plane has a higher savings potential for air sealing than other areas of a home; it is theoretically the most cost-effective area to do air sealing. In addition, contractors were instructed to focus on the areas within the attic that had the highest potential energy savings.

This evaluation report documents the results of the pilot. In short, the estimated gas savings of prescriptive air sealing activities conducted during attic insulation projects were lower than expected and the costs reported by the contractors were higher than expected. Given the low savings and high cost, the measure does not appear to be cost-effective, even using very optimistic assumptions. To be a cost-effective measure, the air sealing work would need to be completed for less than $70, given the estimated 11-12 therms of gas savings, not the roughly $400+ cost estimated by contractors. In addition, moving to a prescriptive approach would add some additional quality assurance requirements. Although, this would likely cost much less than conducting blower door testing, it would still be an additional cost borne by the program to ensure that work is performed according to specifications and that there are reliable energy savings.

Given these results, the Existing Homes program does not plan to move forward with an incentive for prescriptive attic air sealing.

EVERGREEN ECONOMICS

Energy Trust of Oregon Gas Hearth Market Transformation Study

Final Report

October 14, 2015

Prepared for: Energy Trust of Oregon

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Acknowledgements

Kevin Price was the Evergreen Economics project manager for this report. Other Evergreen Economics staff contributing to this report were John Cornwell and Joe Clark.

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Executive Summary

Introduction

Energy Trust of Oregon (Energy Trust) contracted with Evergreen Economics, Inc. (Evergreen) in January 2015 to conduct market research and develop a market transformation study for direct-vent gas fireplaces in Energy Trust's service territory.

Since 2009, Energy Trust has offered incentives for the installation of high-efficiency, direct-vent gas fireplaces in existing homes in Energy Trust's service territory. Recently, Energy Trust conducted several studies of the direct-vent gas fireplace market. These studies indicated that the baseline efficiency of direct-vent gas fireplaces in Energy Trust territory had increased from a fireplace efficiency (FE) of 60% to 68% and that sales of fireplaces with standing pilot lights declined significantly. [1] Energy Trust redesigned its gas fireplace offering for 2015, increasing the FE thresholds for the program incentive tiers. Going forward, Energy Trust aims to develop a market transformation case for the direct-vent gas fireplace market in terms of advancing the baseline FE and prevalence of intermittent pilot ignition (IPI) systems in products offered in the market.[2]

Research Goals

The purpose of this study is to provide Energy Trust with current information and data to develop a market transformation case for the gas hearth market, building upon data and information that has already been gathered. Specifically, the goals of this study are to:

- Characterize the gas fireplace market in Oregon and the Northwest.
- Develop a market transformation model for the gas fireplace market to inform Energy Trust's measurement of their influence on the market in terms of advancing the baseline average FE and prevalence of IPI.

Development of the market transformation model required collecting current and forecasted estimates of the distribution of FE levels and prevalence of IPI within Energy Trust's service territory and for a comparison region (the Northwest outside of Oregon and Western Washington).

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[1] Fireplace efficiency, FE, is a measure of a fireplace's energy efficiency performance over an entire heating season and is expressed as a percentage. The higher the rating, the more efficient the fireplace. For more information see http://www.enerchoice.org/fireplace-efficiency/csa-p4.

[2] There several types of electronic ignition systems, including intermittent pilot ignition (IPI) and on-demand. While each system is different, they all electronically ignite the pilot light, which then lights the main fireplace burner. On-demand is a proprietary technology used by a single manufacturer. In this report, we use IPI and electronic ignition interchangeably, and when we refer to IPI, we are including on-demand in this definition.

Data Collection and Analysis Methods

To inform the research goals, Evergreen conducted secondary research to inform the market characterization, as well as significant primary research with market actors (manufacturers, distributors, and vendors) to inform the market structure component of the characterization, and to develop the market transformation model (and to address numerous additional research questions identified during the course of the study). We also conducted a thorough review of program materials to develop a program logic model. We relied on significant input from experts at Energy Trust to refine the logic model for publication.

Summary of Results

This research led to the following key findings:

- **IPI systems were installed in the majority of fireplaces sold in 2013 and 2014, and are expected to increase in prevalence over the next five years.** Across interviewed manufacturers and distributors, on average, between 2013 and 2014:
    - Approximately 84 percent (2013) and 86 percent (2014) of fireplaces sold in Oregon had IPI systems
    - Approximately 74 percent (2013) and 76 percent (2014) of fireplaces sold in the comparison region had IPI systems

  However, in both regions, IPI prevalence is predicted to increase to more than 90 percent, with the difference between the two regions decreasing over time by 2020. Across market actor groups there is a perception that the gas hearth industry is naturally moving toward IPI systems and by 2020 the majority of models available will have IPI.

- **Distributors and manufacturers differ in their expectations of IPI prevalence in the comparison region.** Both groups report very high prevalence of IPI in Oregon. However, while manufacturers also report high prevalence of IPI in the comparison region, distributors report a significantly lower prevalence of IPI, with approximately half their sales in the comparison region having IPI currently. As noted above, both groups expect IPI prevalence to increase to nearly 100 percent between now and 2020 in Oregon, due in part to naturally occurring market trends. While manufacturers expect IPI prevalence to reach close to 100 percent in the comparison region by 2020, distributors expect IPI prevalence to reach 80 percent by 2020.

- **Manufacturers and distributors report that increased prevalence of IPI is driven by a general market trend toward IPI; however, there is more resistance to IPI in the comparison region.** The primary reasons for differences in IPI prevalence between Oregon and the comparison region are incremental cost differences between standing pilot lights and IPI, the existence of rebate programs in Oregon (and the absence of similar offerings in the comparison region), and the perception that IPI has performance and reliability problems that do not exist in standing pilot light systems.

- **The distribution of FE levels across fireplace sales in 2013 and 2014 is similar between Oregon and the comparison region, but over time market actors expect a greater shift toward higher efficiency products in Oregon.** The proportion of gas hearth products in the top three FE tiers (65%+ FE) is approximately five percentage points higher in Oregon in 2013 than in the comparison region. The difference between the two regions is predicted to grow steadily over the next five years, driven primarily by proportional increases in the 65%-69.9% and 70%-74.9% FE tiers over the next five years. The highest efficiency tier is predicted to remain approximately equal between the two regions.

- **The primary reasons for differences in the distribution of FE levels between Oregon and the comparison region were cost (in the comparison region) or rebates (in Oregon).** Of eight market actors who noted a difference between the two regions, seven stated that the primary reason for the difference was either high cost in the comparison region or the existence of rebate programs in Oregon that reduce the cost of more efficient units. These reasons are directly related and essentially uncover the same perceived difference: first cost is a barrier but incentives help, and account for some of the differences between regions.

- **Interviews confirmed that IPI systems can be disabled and made to function as a standing pilot light.** Three large manufacturers stated that all IPI systems on their products could be disabled and switched to standing pilot mode, and one stated that for about 20 percent of their products the user could disable the IPI. Three manufacturers stated that the IPI in their products could not be disabled. This finding raises some key questions including: How often are IPI systems disabled by end-users? Why do end-users choose to disable IPI systems? How will the potential DOE rulemaking address this (if at all)?

- **IPI systems that can be disabled may use more gas than traditional standing pilot ignitions.** One interviewee claimed that within the industry it is known that IPI systems, including those that can be disabled, have larger gas valves and hence consume more gas when lit than a traditional pilot light. We attempted to confirm this with online research but were unable to find enough information to do a valid comparison of products.

- **The biggest trade-off for increasing the efficiency of gas fireplaces is the impact on the aesthetic of the product.** All seven manufacturers noted that the trade-off for higher efficiency is a less appealing flame aesthetic. As fireplaces become more efficient, the flame color moves away from a "natural" flame color and size that consumers desire toward a blue flame that is less desirable.

- **Market actors report a correlation between energy efficiency and product price.** Interviews with market actors suggest that there is a correlation between high price and high efficiency, with four of seven manufacturers mentioning that efficiency is a

factor in higher pricing, however, the strength of this correlation is unclear (there are many factors that contribute to the prices of gas fireplaces, many related to aesthetic material choices).

- **Across the seven interviewed manufacturers, three distribution approaches emerged**. These approaches include the following:

    - **Direct to Dealer:** The manufacturer sells products directly to fireplace vendors (retailers) with no involvement from a third-party distributor. This approach is typically used for distribution to the replacement or retrofit market.
    - **One-Step (Installing Distributor):** The manufacturer sells products to a distributor who then sells directly to builders or contractors primarily serving the new construction market.
    - **Two-Step Distribution:** The manufacturer sells hearth products to a distributor, who then sells products to vendors (retailers) who retail the products to end-users. This approach is typically used for distribution to the replacement or retrofit market.

- **At least two distinct market segments exist in the overall gas hearth product market – the existing homes market and the new construction market.** The new construction market can be further divided into the production build ("spec") market and the custom homes market, which are significantly different in many ways. Manufacturers and distributors noted that the production build market is highly price driven, with builders searching for the least cost product that meets their minimum aesthetic and size requirements. This segment is least concerned with energy efficiency in their purchasing decisions. The custom home market is less price sensitive because the future homeowner often has a choice in selecting the type of gas hearth appliance installed in the home. While this market is still highly price sensitive, the involvement of the owner means they may be willing to pay a higher price for aesthetic features or efficiency. The existing home market is the least price sensitive of the three markets with homeowners most likely to be focused on aesthetics and other features including fireplace efficiency and IPI.

MEMO

Date: November 10, 2015
To: Energy Trust Board of Directors
From: Mark Wyman, Residential Program Manager
Marshall Johnson, Residential Program Manager
Erika Kociolek, Evaluation Project Manager
Adam Shick, Planning Project Manager
Subject: Staff Response to Gas Fireplace Market Transformation Study

Energy Trust has offered incentives for direct-vent gas fireplaces since 2009. Through surveys with fireplace vendors in 2009 and 2013, Energy Trust observed an increase in the share of direct-vent gas fireplaces with intermittent pilot ignition, or electronic ignition (as opposed to standing pilot lights) and an increase in the average fireplace efficiency of units. A market transformation study was undertaken to gather information from a more comprehensive set of market actors (including fireplace manufacturers and distributors) about Energy Trust's impact on the market and to obtain forecasts about fireplace efficiencies and prevalence of electronic ignition in the gas fireplace market over the next five years, which Energy Trust could then use to potentially claim savings.

The market transformation study results revealed that systems with electronic ignition are more prevalent in Energy Trust's service territory relative to a comparison region, and are expected to increase to nearly 100 percent market prevalence in Oregon by 2020. The study estimated that two-thirds of the difference in electronic ignition prevalence between the two regions was attributable to the availability of incentives in Oregon.

The average fireplace efficiency found through the market transformation study was lower than was found in a prior 2013 survey of vendors. This is likely due to differences in study design. The 2013 survey only interviewed vendors, and we believe that fireplaces sold by vendors are primarily going into existing homes. The market transformation study interviewed manufacturers and distributors, and we believe that fireplaces shipped and sold by these market actors are going into both new and existing homes. Additionally, while the market share of higher efficiency fireplaces is greater in Oregon relative to a comparison region, the average fireplace efficiency is not significantly different between regions and is not projected to increase over time. The study estimated that all of the difference in the distribution in fireplace efficiency between Oregon and the comparison region is attributable to the availability of incentives in Oregon.

The results of this study are being used in several ways. First, Planning staff have updated measure assumptions related to market fireplace efficiency and the prevalence of electronic ignition using the information obtained through this study.

Second, the New Homes and Existing Homes programs are moving upstream to work with distributors to incentivize electronic ignition, while maintaining a downstream, customer-facing incentive for fireplace efficiency. Because the study shows that the prevalence of electronic ignition is already quite high in Oregon, the program believes that an upstream incentive for distributors can help move the remaining portion of the market (including less efficient direct-vent gas fireplaces as well as other hearth products such as log sets) to electronic ignition. This strategy will allow the program to impact not just the existing homes market, but the new homes market as well, since distributors sell to a variety of customer types.

Finally, the Northwest Energy Efficiency Alliance (NEEA) has recently started work on five gas technologies, one of these is gas fireplaces. This study provided important information for NEEA. Staff at NEEA are currently planning to conduct several follow-up studies to investigate questions raised by the study and those left unanswered, which will inform their activities in the gas fireplace market in the future.

ESP Training Evaluation

Final Report

for

May 11, 2015

btan consulting

207 N. Allen Street | Madison, WI 53726

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Executive Summary

In February 2014, Energy Trust of Oregon (Energy Trust) sponsored the Efficiency Sales Professional™ (ESP) Certificate Program (Boot Camp). This five-day training course was offered at reduced cost to individuals who provide energy efficiency equipment or services to commercial customers of Portland General Electric (PGE) or Pacific Power.

Energy Trust hired Btan Consulting to conduct an independent evaluation of the ESP training. The evaluation objective was to assess the impact of the training on participants' sales of energy efficient equipment and services. The evaluation was conducted in three parts: 1) a paper survey on the final day of Boot Camp, 2) a follow-up web survey three months after course completion, and 3) in-depth interviews (IDIs) with contractors and program implementation staff one-year post training. Response rates to all data collection activities were high.

Class Survey

Participants expressed enthusiasm and excitement about the training. They gave the training high ratings on most aspects and were especially impressed with trainer Mark Jewell's presentation style and the wealth of information provided. The training exceeded expectations for the majority of participants. Some participants found the pace too fast and many would have liked more in-class exercises to enhance their learning. The great majority of participants left the training with the intent to make changes to their sales practices.

Three Month Follow-Up Web Survey

Three months after the workshop, participants continued to be enthusiastic about the training and were engaged in on-going learning. All participants had accessed training resources post-training, and 93 percent were subscribed to on-going content delivered electronically from the training organization.

Participants identified multiple changes made to their sales approach since the ESP training. A majority reported adopting one-page proposals, asking customers more questions, revising or developing "elevator" speeches, and included non-energy benefits in discussions or written materials. About one-third intended to make additional changes.

Most respondents (~ 70%) reported positive effects on customers' willingness to adopt energy efficiency products or services. Many respondents found that their focus on customer wants, combined with new sales approaches, translated into longer discussions and seemingly greater acceptance of energy efficiency. Four contractors provided convincing evidence of impacts.

One Year Follow-Up IDIs

One year post training most contractors (trade allies) interviewed remained enthusiastic about the training.

All respondents engaged in sales had made changes in work habits or sales approaches as a result of the training. The most commonly reported were the adoption of one-page proposals and the use of financial calculations other than simple payback. Many made several substantial changes and some could document the impact on sales.

The training has had impacts beyond the participants, with several participants sharing their knowledge, tools, and new approaches within their organizations. Respondents retained a lot of what they learned, in part, because they continue to get reinforcement of the training messages through the on-going content delivery.

The impacts of the training were not (and likely cannot be) quantified in terms of kWh savings. Many reported increases in sales since Boot Camp, although few were comfortable tying them directly to the training. The impact on some participants is dramatic, and the number of attendees adopting changes is high. The changes appear to be lasting; some attendees changed their work habits soon after the training, and have maintained them since. These are now new habits. Individuals, and some organizations, have integrated into their sales practices new forms and calculations developed directly from the training.

Recommendation: Energy Trust should continue to support sales training similar to that offered by Efficiency Sales Professional Institute. Energy Trust's focus on achieving energy savings with a larger number of smaller projects requires a greater reliance on vendors. This sales training motivated participants and provided them with tools to more effectively and efficiently sell energy efficiency to commercial customers. This supports Energy Trust's current strategies to broaden program reach through vendors.

The key components that make this training effective are:

- The "selling energy efficiency" content
- A motivational presenter
- Specific and concrete suggestions, often with tools to implement them
- Real and convincing examples
- On-going reinforcement of training content

Recommendation: Energy Trust should consider the following recommendations to better achieve their goals.

- Offering shorter trainings. Participants
- Offering more focused trainings. Participants serving the residential and industrial sectors found that much of the training did not apply to them. Some very experienced sales professionals found the general sales content unnecessary.
- Aligning Energy Trust program operations and templates with best practices identified in Boot Camp. Participants conducting technical studies for Energy Trust programs pointed out that the Energy Trust templates do not include the financial calculations recommended in the training. A few others noted that the programs are not set up to reach decision makers.
- Developing local resources to deliver effective sales training, rather than bringing trainers from outside the area.
- Working with trainers in advance of classes to assure that the curriculum will meet participant needs, and that the content is not overwhelming.

MEMO

Date: September 22, 2015
To: Energy Trust Board of Directors
From: Sam Walker, Sr. Project Manager - Commercial
Erika Kociolek, Evaluation Project Manager
Phil Degens, Evaluation Manager
Subject: Staff Response to Efficiency Sales Training Evaluation

The purpose of this evaluation was to assess the impact of an Energy Trust-sponsored efficiency sales training course on participants' sales of energy efficiency equipment and services. Held in February 2014, there were 64 participants from a wide variety of organizations (Energy Trust, PMCs, utilities, contractors). Through surveys and interviews conducted at various intervals – immediately after the course, three months after the course, and one year after the course – the evaluator found that course participants retained the insights from the course, and the training motivated participants to make significant changes.

The evaluator recommended that Energy Trust continue to support similar trainings (with some modifications) and align Energy Trust templates (for technical studies, etc.) with one-page proposals, which were recommended by the trainer.

Although there are no plans currently to hold a similar training, the commercial program may decide to hold the training again in the future, especially as the program anticipates it will rely on more contractors delivering savings from smaller projects.

The evaluation had specific feedback for how to improve the training, including length (shortening it) and content (spending more time on financial calculations and tailoring the content to the audience). These suggestions will be useful should this training be offered again.

The recommendation to align Energy Trust templates with one-page proposals was somewhat unclear as multiple templates were referenced. Energy Trust has a wide variety of customer-facing documents, including technical studies, incentive applications, incentive offers, etc. Each one of these documents serves multiple purposes.

The commercial program is currently working on developing a strategy to educate customers and contractors on project financials, which will, in part, help businesses evaluate energy efficiency investments as they do other investments. This strategy will be informed by the recommendations from this evaluation.

Tab 5

Finance Committee Meeting

October 27, 2015

The Finance Committee met on Tuesday, October 27 2015 from 1:15 to 2:45. Present during the meeting were Dan Enloe, Finance Committee chair, and Susan Brodahl board members. Staff present were Margie Harris, Executive Director; Courtney Wilton, CFO; Pati Presnail, Controller and Amber Cole, Director of Communications and Customer Service.

Review of August meeting notes

Approved as submitted.

Review and discussion of year to date financial results

Overall revenue is at budget and significantly less than last year as planned.

- Revenue is almost dead on budget, over by less than one percent—0.06%—variances are due to weather. Electrics are over due to hot summer / AC load. Gas is under due to warm winter.
- We are 11.7% under prior year (down 15.0m) actuals due to planned and implemented utility rate adjustments.
- Investment revenue is still way over-performing budget though small dollars in scheme of things and will start to trend the other way as rates rise.

Incentives are way above last year—and slightly above YTD budget.

- As in 29% over last year to date and 1% over budget overall.
- Some of this likely due to contract changes which reward program management contractors (PMCs) for mid-year vs. end of year benchmarks, which in turn may flatten second year expenditures and hockey stick a bit. Warmer winter also helped kick start construction season. Some of increase is also due to a very healthy economy, lots of activity. Time will tell to what extent current rate continues; my guess is it will tail off but still be up significantly at year end; September and August numbers were both under budget somewhat.
- Solar, New Buildings and Production Efficiency sectors are all over budget by double digits. Existing, New Homes, Washington and Other Renewables are lagging budget YTD, though all above prior year numbers. Note our change in budgeting practices (i.e., budgeting tighter) also has contributed to smaller variances.

All other operating costs up moderately—up 2.6m, or 5.2%

- This is almost all due to delivery costs increases: up 6% (2.3m), though in line with budget.
- All other operating costs including staffing are relatively flat, up around 2.1%.

Reserves are down as planned

- Down 19.7m to date
- Forecasting annual decline of around $21m

Forecasting +$20m drop in reserves as planned

Discussion of 2016 proposed budget / reserve forecast

Margie presented a brief synopsis of upcoming budget, to be presented to the full board at the upcoming November 4 board meeting. A brief summary of key points follows:

Recap of current year forecast

- Forecasting to exceed savings goals for Pacific Power, NW Natural, and Cascade Natural Gas; approaching savings goal for PGE
- Low levelized costs projected
- Solar programs expected to significantly exceed generation goals
- Growth in project demand driving incentive expenditure increases
- Revenue closely matched to budget—reduced by $14 million (9%), as planned
- Expect to draw down reserves by $22 million—slightly more than planned

Summary of 2016 proposed budget

- Invest $187.7 million to acquire 58.5 aMW and 5.7 MMth of clean energy efficiency and renewable generation
- Electric savings up; gas savings down
- Delivering highly cost-effective energy at 2.9 cents/kWh and 34.1 cents/therm
- Overall spending up 10.5% due to increased project demand, different project mix and corresponding incentive growth
    - Incentives up 14% and represent ~58% of total planned expenditures
    - Renewables dominated by solar projects and future investments
- Program reserves decline
- Staffing costs well below new OPUC performance measure at 6.5%
- Low administrative and program support costs at 6.3%

Budget drivers

- Capture all cost-effective energy efficiency
    - Maximize new construction opportunities
    - Accelerate LED adoption
- Serve high solar volume; invest in future other renewable projects
- Continue to draw down reserves through 2016
- Use process improvements and metrics to manage costs
- Be ready for new opportunities and transitions
- Prepare for the future
- Meet/exceed OPUC Performance Measures

Next Meeting Reminder (TBD)

Next meeting likely in February 2016 to review 2015 closing and results. Ana to follow up with specific date.

Notes on October 2015 Financial Statements

November 19, 2015

Revenue

Year-to-Date revenue remains close to budgeted amounts.

Oct-15	YTD Actual	YTD Budget	YTD Var	YTD %	PY
PGE	67,254,439	65,569,605	1,684,834	2.6%	73,657,368
PAC	40,823,471	40,106,744	716,727	1.8%	45,125,599
NWN	15,929,362	16,395,850	(466,488)	-2.8%	19,999,540
CNG	1,044,427	1,416,144	(371,717)	-26.2%	2,201,176
Investment Income	534,610	240,000	294,610	122.8%	202,129
Total	125,586,310	123,728,343	1,857,966	1.5%	141,185,812

Reserves

Program reserves continue to drop. We are now 19% lower than where we were at this time last year (vs 17% last month). We expect continued decline for the last two months of the year.

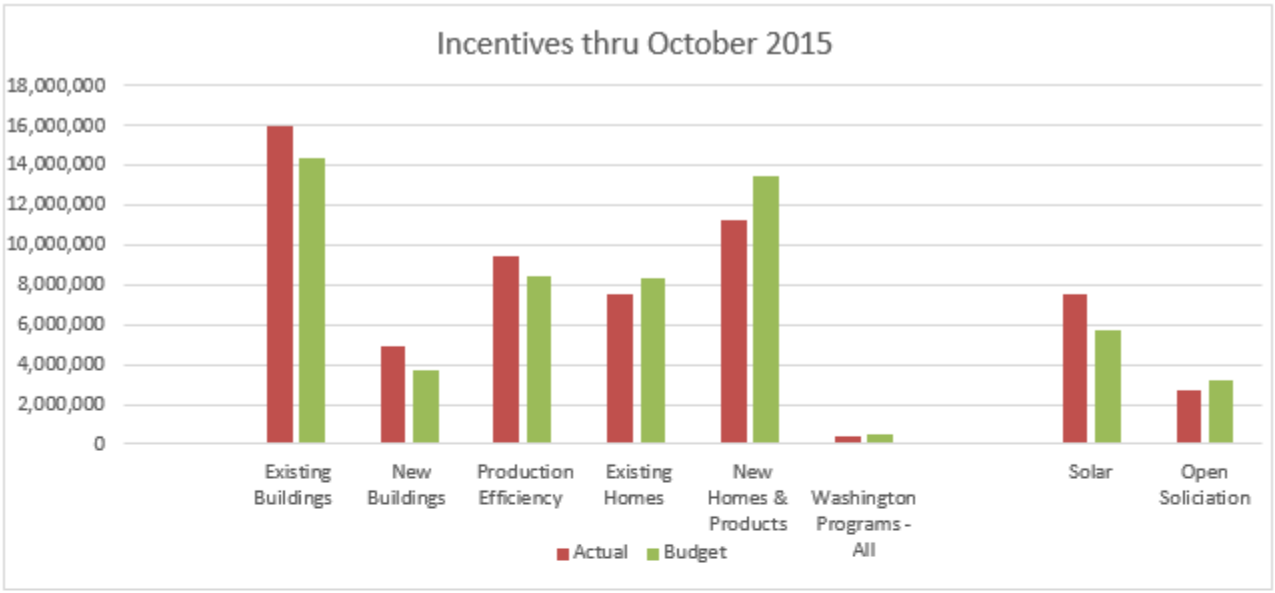
Reserves

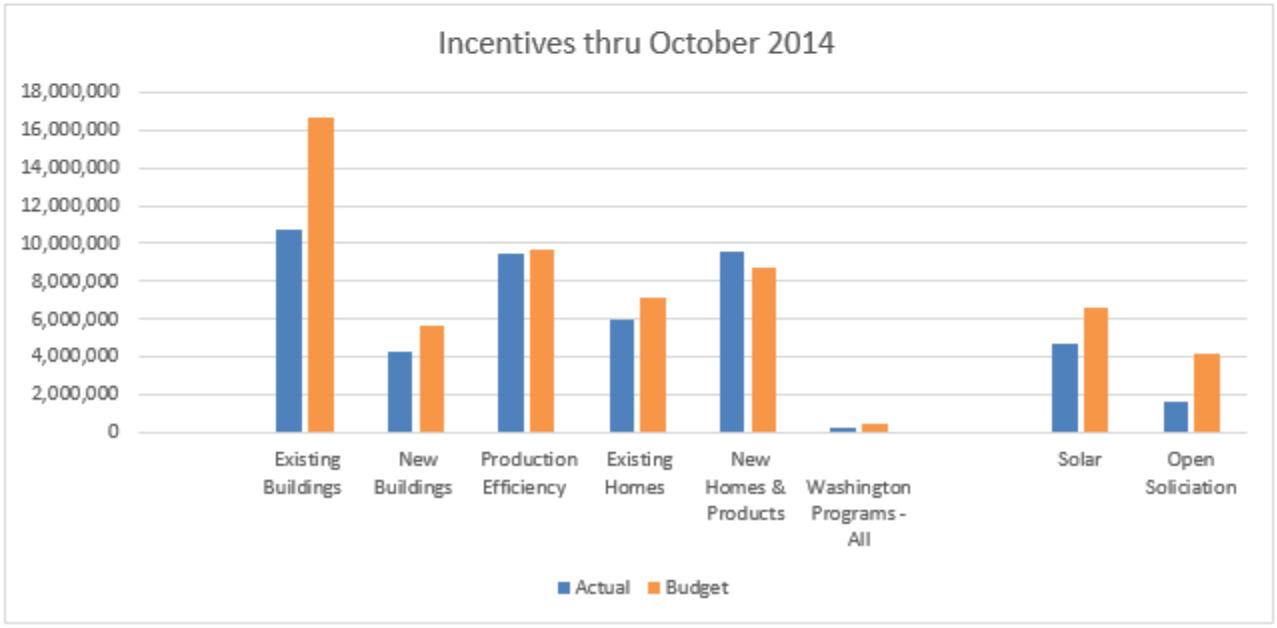
	Actual 10/31/15 Amount	Actual 12/31/14 Amount	YTD % Change	Actual 10/31/14 Amount	12 month % Change
PGE	33,283,715	27,816,061	20%	41,639,253	-20%
PacifiCorp	15,707,128	15,090,308	4%	23,170,627	-32%
NW Natural	9,212,735	9,503,289	-3%	11,800,917	-22%
Cascade	882,481	1,156,900	-24%	1,405,861	-37%
NWN Industrial	2,364,281	580,920	307%	1,897,213	25%
NWN Washington	689,691	217,848	217%	701,069	-2%
PGE Renewables	12,297,548	13,736,997	-10%	14,714,088	-16%
PAC Renewables	11,466,754	10,937,994	5%	12,768,881	-10%
Program Reserves	85,904,333	79,040,317	9%	108,097,909	-21%
Contingency Reserve	5,000,000	5,000,000	0%	5,000,000	0%
Contingency Available	3,722,964	3,186,804	17%	3,209,239	16%
Total	94,627,291	87,227,121	8%	116,307,149	-19%

Incentive Expenses

Total expenses for October were almost $1 million above budget, largely due to incentive spending. Spending for the year is now only $1.5 million below budget - a 1% variance. Spending vs. last year is $15.6 million higher (11%).

Incentives for the month came in 18% above budget ($1.2 million). Results by program are comparable to last month. A comparison with last year's incentive status is below. It shows the dramatic increase in incentive spending for all programs. We have now spent $12.9 million more on incentives this year than last year.





Total Incentives
Year-to-Date 2015

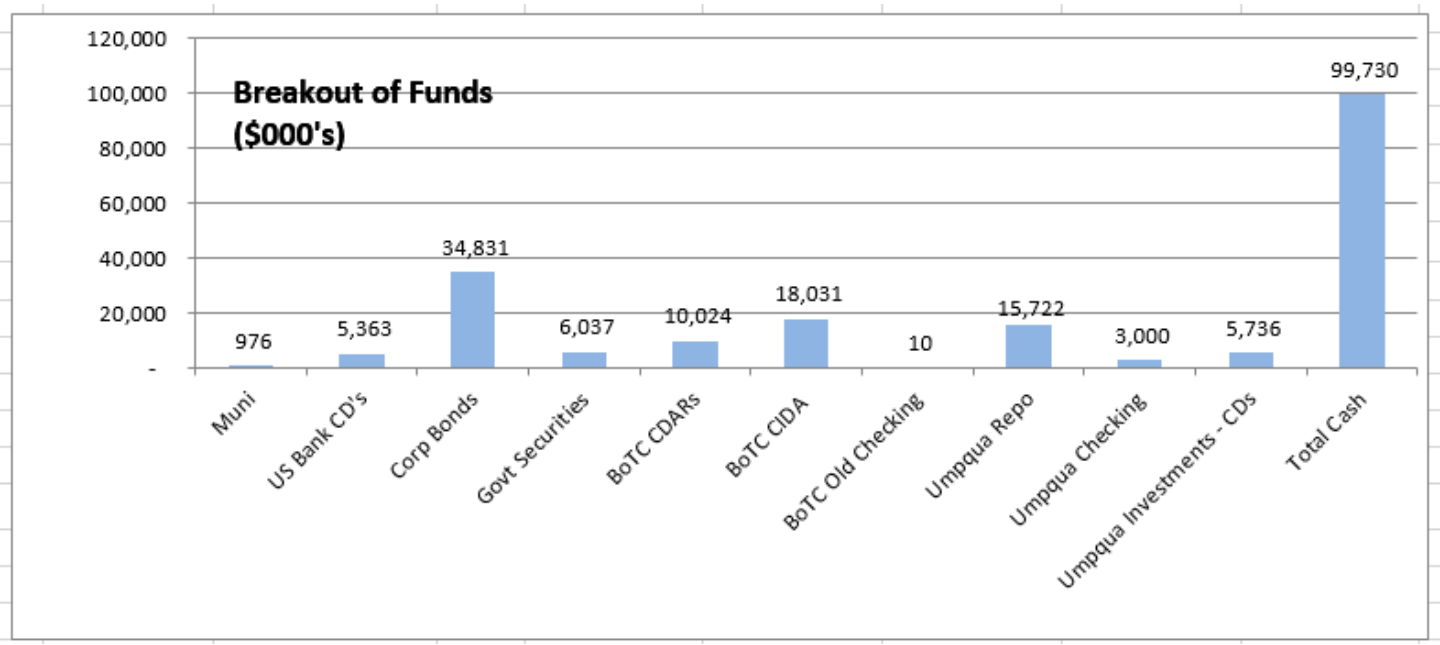
Incentives thru October 2015	Actual	Budget	Variance	Var %
Existing Buildings	15,962,921	14,385,385	(1,577,536)	-11%
New Buildings	4,959,933	3,665,422	(1,294,511)	-35%
Production Efficiency	9,424,010	8,428,903	(995,107)	-12%
Existing Homes	7,482,653	8,294,404	811,751	10%
New Homes & Products	11,206,137	13,495,935	2,289,798	17%
Washington Programs - All	373,655	454,444	80,789	18%
Solar	7,531,906	5,757,533	(1,774,372)	-31%
Open Soliciation	2,676,328	3,227,939	551,611	17%
Total Incentives	59,617,543	57,709,965	(1,907,578)	-3%
Energy Efficiency Only	**49,409,310**	**48,724,493**	**(684,817)**	**-1%**
Act Incent to Annual Budget	**52%**	**94,486,648**		

Total Incentives
Year-to-Year Comparison

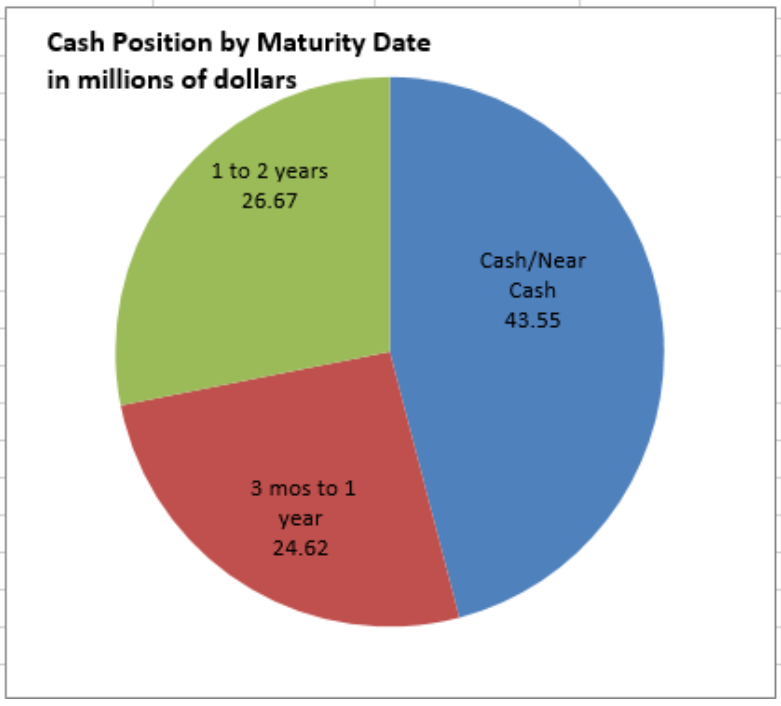
Oct 2015 vs. Oct 2014	Current Year	Prior Year	Variance	Var %
Existing Buildings	15,962,921	10,736,871	(5,226,050)	-49%
New Buildings	4,959,933	4,270,403	(689,530)	-16%
Production Efficiency	9,424,010	9,419,911	(4,099)	0%
Existing Homes	7,482,653	6,017,795	(1,464,858)	-24%
New Homes & Products	11,206,137	9,577,975	(1,628,162)	-17%
Washington Programs - All	373,655	282,394	(91,261)	-32%
Solar	7,531,906	4,747,082	(2,784,824)	-59%
Open Solicitation	2,676,328	1,659,528	(1,016,800)	-61%
Total Incentives	59,617,543	46,711,959	(12,905,588)	-28%
Energy Efficiency Only	**49,409,310**	**40,305,349**	**(9,103,961)**	-23%

Investment Status

The graphs below show the type of investments we hold and the locations where our funds are held at the end of September (including cash). The average liquidity for all assets held at 10/31/15 was 178 days. Because of year end cash demands and next year's planned budget, we are planning to maintain relatively short term liquidity going forward.



Average Days to Maturity:	178
Average Portfolio Yield:	0.49%



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

	October 2015	September 2015	Dec 2014	October 2014	Change from one month ago	Change from Beg. of Year	Change from one year ago
Current Assets							
Cash & Cash Equivalents	36,763,122	34,300,080	51,411,367	63,313,945	2,463,042	(14,648,245)	(26,550,823)
Investments	63,074,649	67,132,386	64,490,244	59,551,723	(4,057,737)	(1,415,595)	3,522,927
Receivables	314,752	269,258	323,531	240,318	45,494	(8,779)	74,434
Prepaid Expenses	522,558	494,000	405,430	488,183	28,558	117,128	34,375
Advances to Vendors	1,700,028	2,164,517	1,482,149	1,870,351	(464,489)	217,879	(170,322)
Total Current Assets	**102,375,110**	**104,360,241**	**118,112,720**	**125,464,520**	**(1,985,131)**	**(15,737,611)**	**(23,089,410)**
Fixed Assets							
Computer Hardware and Software	3,487,578	3,481,079	1,653,762	1,634,233	6,499	1,833,815	1,853,344
Software Development in Progress	124,618	133,154	1025908.62	704911.34	(8,536)	(901,290)	(580,293)
Leasehold Improvements	318,964	318,964	318,964	313,333	-	-	5,631
Office Equipment and Furniture	698,874	698,874	679,343	600,662	-	19,530.75	98,212
Total Fixed Assets	**4,630,034**	**4,632,071**	**3,677,978**	**3,253,140**	**(2,037)**	**952,056**	**1,376,894**
Less Depreciation	(2,519,404)	(2,443,554)	(1,831,551)	(1,752,118)	(75,851)	(687,854)	(767,286)
Net Fixed Assets	**2,110,630**	**2,188,518**	**1,846,428**	**1,501,022**	**(77,888)**	**264,202**	**609,608**
Other Assets							
Deposits	132,340	132,340	135,340	64,461	0	(3,000)	67,879
Deferred Compensation Asset	710,257	707,711	630,176	577,003	2,546	80,081	133,254
Note Receivable, net of allowance	86,789	86,789	86,789	100000	-	-	(13,211)
Total Other Assets	**929,386**	**926,840**	**852,305**	**741,464**	**2,546**	**77,081**	**187,922**
Total Assets	**105,415,126**	**107,475,599**	**120,811,454**	**127,707,006**	**(2,060,473)**	**(15,396,328)**	**(22,291,880)**
Current Liabilities							
Accounts Payable and Accruals	9,009,638	8,517,590	31,924,631	9,768,496	492,049	(22,914,992)	(758,858)
Salaries, Taxes, & Benefits Payable	739,235	753,231	671,849	695,780	(13,996)	67,386	43,455
Total Current Liabilities	**9,748,874**	**9,270,820**	**32,596,480**	**10,464,276**	**478,053**	**(22,847,606)**	**(715,403)**
Long Term Liabilities							
Deferred Rent	321,908	324,686	349,692	353,540	(2,778)	(27,784)	(31,633)
Deferred Compensation Payable	713,057	707,711	632,976	577,003	5,346	80,081	136,054
Other Long-Term Liabilities	3,990	6,630	5,185	5,035	(2,640.00)	(1,195)	(1,045)
Total Long-Term Liabilities	**1,038,954**	**1,039,027**	**987,852**	**935,578**	**(73)**	**51,102**	**103,376**
Total Liabilities	**10,787,828**	**10,309,847**	**33,584,332**	**11,399,854**	**477,980**	**(22,796,504)**	**(612,026)**
Net Assets							
Unrestricted Net Assets	94,627,298	97,165,752	87,227,121	116,307,151	(2,538,454)	7,400,176	(21,679,854)
Total Net Assets	**94,627,298**	**97,165,752**	**87,227,121**	**116,307,151**	**(2,538,454)**	**7,400,176**	**(21,679,854)**
Total Liabilities and Net Assets	**105,415,126**	**107,475,599**	**120,811,454**	**127,707,006**	**(2,060,473)**	**(15,396,328)**	**(22,291,880)**

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

	January	February	March	April	May	June	July	August	September	October	Year to Date
Operating Activities:											
Revenue less Expenses	8,620,993	6,726,499	1,531,158	715,318	(2,736,736)	(4,113,196)	(1,391,665)	949,161	(362,902)	(2,538,454)	$ 7,400,174
Non-cash items:											
Depreciation	40,242	41,284	64,566	71,460	73,396	75,252	81,000	81,976	82,826	75,851	687,853
Change in Reserve on Long Term Note	-	-	-								-
Loss on disposal of assets											
Receivables	5,800	11,583	-	(7,684)	-	(10,698)	5,001		20,580	(1,300)	23,282
Interest Receivable	4,268	(50,180)	58,204	8,452	(43,458)	9,862	8,932	(34,926)	68,538	(44,194)	(14,502)
Advances to Vendors	543,337	465,160	(1,177,147)	228,917	594,462	(1,000,894)	451,715	529,587	(1,317,505)	464,489	(217,879)
Prepaid expenses and other costs	14,982	47,842	(254,416)	68,730	7,275	95,511	(101,812)	79,428	(46,110)	(28,558)	(117,128)
Accounts payable	(20,265,729)	(2,448,214)	(352,009)	212,675	(972,984)	457,462	(90,250)	8,713	43,295	492,048	(22,914,993)
Payroll and related accruals	17,794	52,944	96,210	(24,170)	24,831	10,229	(25,607)	(35,898)	39,784	(8,650)	147,467
Deferred rent and other	(11,515)	(11,028)	(10,673)	(8,029)	(13,988)	(11,029)	(10,948)	(11,068)	(9,819)	(7,964)	(106,061)
Cash rec'd from / (used in) Operating Activities	(11,029,828)	4,835,890	(44,107)	1,265,669	(3,067,202)	(4,487,501)	(1,073,634)	1,566,973	(1,481,313)	(1,596,732)	$ (15,111,785)
Investing Activities:											
Investment Activity (1)	(2,475,092)	(5,431,428)	(1,217,888)	2,835,537	3,803,928	(2,582,238)	(1,185,464)	4,589,524	(979,021)	4,057,737	1,415,595
(Acquisition)/Disposal of Capital Assets	(132,268)	(142,396)	(143,192)	(151,901)	(98,053)	(128,592)	(100,776)	(47,053)	(9,862)	2,037	(952,056)
Cash rec'd from / (used in) Investing Activities	(2,607,360)	(5,573,824)	(1,361,080)	2,683,636	3,705,875	(2,710,830)	(1,286,240)	4,542,471	(988,883)	4,059,774	$ 463,539
Cash at beginning of Period	51,411,367	37,774,180	37,036,243	35,631,058	39,580,364	40,219,037	33,020,705	30,660,832	36,770,273	34,300,080	51,411,367
Increase/(Decrease) in Cash	(13,637,187)	(737,934)	(1,405,187)	3,949,305	638,673	(7,198,331)	(2,359,874)	6,109,444	(2,470,195)	2,463,042	(14,648,245)
Cash at end of period	$ 37,774,180	$ 37,036,243	$ 35,631,058	$ 39,580,364	$ 40,219,037	$ 33,020,705	$ 30,660,832	$ 36,770,275	$ 34,300,080	$ 36,763,122	$ 36,763,122

(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

	Actual										2015 R3 Forecast	
	January	**February**	**March**	**April**	**May**	**June**	**July**	**August**	**September**	**October**	**November**	**December**
Cash In:												
Public purpose and Incr funding	15,740,912	15,125,779	12,539,730	13,204,663	10,891,616	10,343,345	11,275,486	11,838,796	11,505,033	12,586,340	10,893,051	13,192,155
From other sources	5,800	11,583	-	(7,684)	700	(10,698)	5,351	-	20,581	(799)	-	-
Investment Income	110,630	(27,478)	123,371	70,057	8,631	12,301	48,465	(14,203)	161,730	26,605	-	-
Total cash in	15,857,342	15,109,884	12,663,101	13,267,036	10,900,947	10,344,948	11,329,302	11,824,593	11,687,344	12,612,146	10,893,051	13,192,155
Cash Out:	29,494,530	15,847,819	14,068,288	9,317,730	10,262,273	17,543,282	13,689,174	5,715,147	14,157,540	10,149,102	11,050,704	20,004,942
Net cash flow for the month	(13,637,188)	(737,935)	(1,405,187)	3,949,306	638,674	(7,198,334)	(2,359,872)	6,109,446	(2,470,196)	2,463,044	(157,653)	(6,812,787)
Beginning Balance: Cash & MM	51,411,367	37,774,180	37,036,248	35,631,058	39,580,364	40,219,037	33,020,705	30,660,832	36,770,275	34,300,080	36,763,122	36,605,469
Ending cash & MM	**37,774,180**	**37,036,243**	**35,631,058**	**39,580,364**	**40,219,037**	**33,020,705**	**30,660,832**	**36,770,275**	**34,300,080**	**36,763,122**	**36,605,469**	**29,792,682**
Future Commitments												
Renewable Incentives	17,600,000	17,500,000	17,000,000	16,900,000	16,600,000	14,600,000	14,400,000	14,200,000	16,000,000	15,600,000	14,500,000	12,300,000
Efficiency Incentives	48,400,000	47,100,000	63,000,000	60,400,000	58,500,000	62,200,000	58,900,000	58,800,000	70,700,000	70,800,000	85,100,000	76,700,000
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	85,000,000	82,300,000	80,100,000	81,800,000	78,300,000	78,000,000	91,700,000	91,400,000	104,600,000	94,000,000

(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 R2 Budgeted Amounts											
	January	**February**	**March**	**April**	**May**	**June**	**July**	**August**	**September**	**October**	**November**	**December**
Cash In:												
Public purpose and Incr funding	16,400,000	15,700,000	13,000,000	13,800,000	11,200,000	10,600,000	11,600,000	12,100,000	11,600,000	11,800,000	11,400,000	13,800,000
From other sources												
Investment Income	25,000	25,000	25,000	25,000	25,000	25,000	25,000	25,000	25,000	25,000	25,000	25,000
Total cash in	16,425,000	15,725,000	13,025,000	13,825,000	11,225,000	10,625,000	11,625,000	12,125,000	11,625,000	11,825,000	11,425,000	13,825,000
Cash Out:	33,000,000	10,700,000	12,400,000	12,000,000	13,900,000	15,400,000	12,400,000	13,000,000	15,100,000	14,200,000	17,000,000	18,000,000
Net cash flow for the month	(16,575,000)	5,025,000	625,000	1,825,000	(2,675,000)	(4,775,000)	(775,000)	(875,000)	(3,475,000)	(2,375,000)	(5,575,000)	(4,175,000)
Beginning Balance: Cash & MM	29,792,682	13,217,682	18,242,682	18,867,682	20,692,682	18,017,682	13,242,682	12,467,682	11,592,682	8,117,682	5,742,682	167,682
Ending cash & MM	**13,217,682**	**18,242,682**	**18,867,682**	**20,692,682**	**18,017,682**	**13,242,682**	**12,467,682**	**11,592,682**	**8,117,682**	**5,742,682**	**167,682**	**(4,007,318)**
Future Commitments												
Renewable Incentives	11,900,000	13,000,000	13,900,000	16,300,000	16,100,000	16,400,000	16,900,000	17,500,000	17,500,000	17,500,000	17,500,000	17,500,000
Efficiency Incentives	74,000,000	74,400,000	71,800,000	71,300,000	73,500,000	72,800,000	73,600,000	75,900,000	75,900,000	75,900,000	75,900,000	75,900,000
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	90,900,000	92,400,000	90,700,000	92,600,000	94,600,000	94,200,000	95,500,000	98,400,000	98,400,000	98,400,000	98,400,000	98,400,000

(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 October 31, 2015
(Unaudited)

	October				YTD			
	Actual	Actual Prior Year	Prior Year Variance	Variance %	Actual	Actual Prior Year	Prior Year Variance	Variance %
REVENUES								
Public Purpose Funds-PGE	3,077,586	3,118,237	(40,651)	-1%	31,384,261	31,528,820	(144,559)	0%
Public Purpose Funds-PacifiCorp	2,193,912	2,188,668	5,244	0%	22,898,500	23,113,455	(214,955)	-1%
Public Purpose Funds-NW Natural	446,208	570,122	(123,914)	-22%	11,415,415	15,872,133	(4,456,718)	-28%
Public Purpose Funds-Cascade	48,969	48,362	607	1%	1,044,427	2,201,176	(1,156,749)	-53%
Total Public Purpose Funds	**5,766,674**	**5,925,388**	**(158,714)**	**-3%**	**66,742,603**	**72,715,584**	**(5,972,981)**	**-8%**
Incremental Funds - PGE	3,390,237	3,841,397	(451,160)	-12%	35,870,178	42,128,548	(6,258,370)	-15%
Incremental Funds - PacifiCorp	1,646,161	1,965,269	(319,108)	-16%	17,924,971	22,012,144	(4,087,173)	-19%
NW Natural - Industrial DSM	1,026,144	1,024,350	1,794		3,078,432	3,073,052	5,380	0%
NW Natural - Washington	757,123	527178	229,945		1,435,515	1,054,355	381,160	36%
Contributions	500		500		1,550	13,400	(11,850)	-88%
Revenue from Investments	70,798	28,254	42,545	151%	534,611	202,129	332,481	164%
TOTAL REVENUE	**12,657,638**	**13,311,835**	**(654,198)**	**-5%**	**125,587,860**	**141,199,212**	**(15,611,352)**	**-11%**
EXPENSES								
Program Subcontracts	4,460,287	4,670,255	209,968	4%	42,053,392	39,971,758	(2,081,635)	-5%
Incentives	9,020,549	7,621,805	(1,398,744)	-18%	59,617,543	46,711,958	(12,905,584)	-28%
Salaries and Related Expenses	904,737	917,085	12,348	1%	8,906,811	8,738,116	(168,694)	-2%
Professional Services	580,106	482,755	(97,351)	-20%	5,358,418	5,451,568	93,150	2%
Supplies	1,973	3,325	1,352	41%	27,779	29,682	1,903	6%
Telephone	4,888	4,817	(71)	-1%	48,856	46,383	(2,473)	-5%
Postage and Shipping Expenses	653	1,011	359	35%	10,309	10,727	419	4%
Occupancy Expenses	54,939	52,643	(2,296)	-4%	537,285	537,833	548	0%
Noncapitalized Equip. & Depr.	97,784	70,598	(27,186)	-39%	1,001,116	584,861	(416,255)	-71%
Call Center	14,290	12,886	(1,404)	-11%	127,145	124,833	(2,312)	-2%
Printing and Publications	2,483	11,310	8,827	78%	54,989	104,828	49,839	48%
Travel	10,260	17,846	7,587	43%	125,556	127,701	2,146	2%
Conference, Training & Mtng Exp	5,493	7,164	1,671	23%	119,692	163,619	43,927	27%
Interest Expense and Bank Fees			0		1,774	2,000	226	11%
Insurance	8,486	8,630	144	2%	86,890	84,813	(2,077)	-2%
Miscellaneous Expenses	22211.9		(22,212)		22665.06	3,316	(19,349)	
Dues, Licenses and Fees	6,952	15,002	8,051	54%	87,465	128,636	41,170	32%
TOTAL EXPENSES	**15,196,092**	**13,897,134**	**(1,298,958)**	**-9%**	**118,187,684**	**102,822,633**	**(15,365,051)**	**-15%**
TOTAL REVENUE LESS EXPENSES	**(2,538,454)**	**(585,298)**	**(1,953,156)**	**-334%**	**7,400,176**	**38,376,579**	**(30,976,403)**	**-81%**

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

	October				YTD			
	Actual	**Budget**	**Budget Variance**	**Variance %**	**Actual**	**Budget**	**Budget Variance**	**Variance %**
REVENUES								
Public Purpose Funds-PGE	3,077,586	3,035,918	41,668	1%	31,384,261	31,310,493	73,768	0%
Public Purpose Funds-PacifiCorp	2,193,912	2,187,877	6,035	0%	22,898,500	23,118,494	(219,994)	-1%
Public Purpose Funds-NW Natural	446,208	428,613	17,596	4%	11,415,415	11,987,079	(571,664)	-5%
Public Purpose Funds-Cascade	48,969	95,685	(46,717)	-49%	1,044,427	1,416,145	(371,718)	-26%
Total Public Purpose Funds	**5,766,674**	**5,748,093**	**18,582**	**0%**	**66,742,603**	**67,832,211**	**(1,089,608)**	**-2%**
Incremental Funds - PGE	3,390,237	3,123,840	266,397	9%	35,870,178	34,259,112	1,611,067	5%
Incremental Funds - PacifiCorp	1,646,161	1,582,059	64,102	4%	17,924,971	16,988,250	936,721	6%
NW Natural - Industrial DSM	1,026,144	999,138	27,006		3,078,432	2,997,419	81,013	3%
NW Natural - Washington	757,123		757,123		1,435,515	1,411,352	24,163	2%
Contributions	500		500		1,550		1,550	
Revenue from Investments	70,798	24,000	46,798	195%	534,611	240,000	294,611	123%
TOTAL REVENUE	**12,657,638**	**11,477,130**	**1,180,508**	**10%**	**125,587,860**	**123,728,343**	**1,859,517**	**2%**
EXPENSES								
Program Subcontracts	4,460,287	4,609,623	149,336	3%	42,053,392	42,742,074	688,682	2%
Incentives	9,020,549	7,804,549	(1,216,000)	-16%	59,617,543	57,709,965	(1,907,578)	-3%
Salaries and Related Expenses	904,737	970,406	65,668	7%	8,906,811	9,807,375	900,564	9%
Professional Services	580,106	653,349	73,243	11%	5,358,418	6,945,109	1,586,691	23%
Supplies	1,973	3,650	1,677	46%	27,779	36,500	8,721	24%
Telephone	4,888	5,458	570	10%	48,856	54,958	6,102	11%
Postage and Shipping Expenses	653	1,100	447	41%	10,309	11,000	691	6%
Occupancy Expenses	54,939	61,519	6,580	11%	537,285	615,188	77,903	13%
Noncapitalized Equip. & Depr.	97,784	108,609	10,825	10%	1,001,116	964,465	(36,651)	-4%
Call Center	14,290	13,000	(1,290)	-10%	127,145	130,000	2,855	2%
Printing and Publications	2,483	10,946	8,463	77%	54,989	109,459	54,470	50%
Travel	10,260	14,508	4,248	29%	125,556	169,083	43,528	26%
Conference, Training & Mtng Exp	5,493	25,962	20,468	79%	119,692	270,966	151,274	56%
Interest Expense and Bank Fees		208	208	100%	1,774	2,083	309	15%
Insurance	8,486	9,167	680	7%	86,890	91,667	4,777	5%
Miscellaneous Expenses	22,212		(22,212)		22,665		(22,665)	
Dues, Licenses and Fees	6,952	18,510	11,558	62%	87,465	121,329	33,863	28%
TOTAL EXPENSES	**15,196,092**	**14,310,563**	**(885,529)**	**-6%**	**118,187,684**	**119,781,221**	**1,593,537**	**1%**
TOTAL REVENUE LESS EXPENSES	**(2,538,454)**	**(2,833,433)**	**294,979**	**10%**	**7,400,176**	**3,947,122**	**3,453,054**	**87%**

Energy Trust of Oregon
Statement of Functional Expenses
For the Ten Months Ending October 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 & Deliver	$91,134,855	$10,536,080	$101,670,935				$ 101,670,935	$100,452,039	$(1,218,896)	-1%
Payroll and Related Expenses	2,502,183	763,402	3,265,585	1,692,530	1,002,201	2,694,732	5,960,317	6,488,320	528,003	8%
Outsourced Services	3,388,638	725,734	4,114,372	188,441	851,867	1,040,308	5,154,681	6,485,026	1,330,345	21%
Planning and Evaluation	1,641,928	54,577	1,696,505	1,213		1,213	1,697,718	1,983,217	285,499	14%
Customer Service Management	481,450	34,799	516,249				516,249	452,045	(64,204)	-14%
Trade Allies Network	256,163	17,435	273,598				273,598	334,612	61,014	18%
Total Program Expenses	**99,405,218**	**12,132,027**	**111,537,244**	**1,882,184**	**1,854,069**	**3,736,253**	**115,273,497**	**116,195,258**	**921,761**	**1%**
Program Support Costs										
Supplies	6,940	2,810	9,750	7,212	3,368	10,580	20,331	25,959	5,628	22%
Postage and Shipping Expenses	1,839	2,523	4,362	2,632	771	3,403	7,765	6,755	(1,010)	-15%
Telephone	2,156	715	2,871	1,302	1,024	2,325	5,197	8,270	3,073	37%
Printing and Publications	42,989	1,596	44,585	4,584	4,202	8,787	53,372	105,974	52,602	50%
Occupancy Expenses	154,387	51,184	205,571	93,189	64,697	157,887	363,457	408,775	45,318	11%
Insurance	24,968	8,278	33,245	15,071	10,463	25,534	58,779	60,910	2,131	3%
Equipment	6,400	57,989	64,389	3,863	2,682	6,545	70,935	112,319	41,384	37%
Travel	23,284	12,991	36,276	20,891	38,454	59,345	95,620	133,000	37,380	28%
Meetings, Trainings & Conferences	22,454	10,639	33,093	40,622	11,945	52,567	85,660	220,157	134,497	61%
Interest Expense and Bank Fees				1,774		1,774	1,774	2,083	309	15%
Depreciation & Amortization	41,747	13,840	55,588	25,199	17,495	42,693	98,281	86,297	(11,984)	-14%
Dues, Licenses and Fees	46,206	7,170	53,376	(5,760)	16,373	10,613	63,989	88,041	24,052	
Miscellaneous Expenses	22,587	10	22,598	19	13	32	22,630		(22,630)	
IT Services	1,300,752	171,590	1,472,342	292,630	201,427	494,057	1,966,399	2,327,423	361,024	16%
Total Program Support Costs	**1,696,710**	**341,335**	**2,038,045**	**503,228**	**372,914**	**876,142**	**2,914,187**	**3,585,964**	**671,777**	**19%**
TOTAL EXPENSES	**101,101,925**	**12,473,362**	**113,575,287**	**2,385,412**	**2,226,982**	**4,612,394**	**118,187,684**	**119,781,221**	**1,593,537**	**1%**

OPUC Measure vs. 8% **5.3%**

ENERGY TRUST OF OREGON
Year to Date by Program/Service Territory
For the Ten Months Ending October 31, 2015
Unaudited

	ENERGY EFFICIENCY								
	PGE	PacifiCorp	Total	NWN Industrial	NW Natural	Cascade	Oregon Total	NWN WA	ETO Total
REVENUES									
Public Purpose Funding	$24,329,861	$17,883,675	$42,213,536	$0	$11,415,415	$1,044,427	$54,673,377	$0	$54,673,377
Incremental Funding	35,870,178	17,924,971	53,795,150	3,078,432			56,873,582	1,435,515	58,309,097
Contributions									
Revenue from Investments									
TOTAL PROGRAM REVENUE	**41,890,353**	**25,042,110**	**66,932,463**	**2,052,288**	**10,139,415**	**927,925**	**80,052,092**	**678,392**	**80,730,484**
EXPENSES									
Program Management (Note 3)	2,348,151	1,516,572	3,864,723	110,487	583,453	88,291	4,646,955	100,279	4,747,234
Program Delivery	18,868,483	12,771,445	31,639,929	638,283	3,451,511	482,953	36,212,675	293,214	36,505,889
Incentives	26,215,097	16,095,167	42,310,263	417,944	5,740,487	566,961	49,035,654	373,655	49,409,309
Program Eval & Planning Svcs.	1,639,901	1,079,917	2,719,818	27,789	336,837	33,313	3,117,756	35,152	3,152,908
Program Marketing/Outreach	1,999,006	1,329,728	3,328,734	20,469	662,872	53,235	4,065,310	46,940	4,112,250
Program Quality Assurance	19,248	12,661	31,909	0	9,466	716	42,091	0	42,091
Outsourced Services	359,123	232,611	591,733	11,042	83,170	9,029	694,975	2,900	697,875
Trade Allies & Cust. Svc. Mgmt.	323,768	233,708	557,475	2,668	141,686	10,430	712,259	25,354	737,613
IT Services	624,285	420,640	1,044,927	9,964	198,423	17,553	1,270,867	29,885	1,300,752
Other Program Expenses - all	199,337	125,981	325,319	5,883	41,226	4,894	377,320	18,684	396,004
TOTAL PROGRAM EXPENSES	**52,596,399**	**33,818,430**	**86,414,830**	**1,244,529**	**11,249,131**	**1,267,375**	**100,175,862**	**926,063**	**101,101,925**
ADMINISTRATIVE COSTS									
Management & General (Notes 1&2)	1,104,678	710,285	1,814,963	26,140	236,265	26,619	2,103,985	19,451	2,123,435
Communications & Customer Svc (Notes 1&2)	1,031,309	663,111	1,694,421	24,402	220,573	24,852	1,964,247	18,158	1,982,405
Total Administrative Costs	**2,135,987**	**1,373,396**	**3,509,384**	**50,542**	**456,838**	**51,471**	**4,068,232**	**37,609**	**4,105,840**
TOTAL PROG & ADMIN EXPENSES	**54,732,386**	**35,191,826**	**89,924,214**	**1,295,071**	**11,705,969**	**1,318,846**	**104,244,094**	**963,672**	**105,207,765**
TOTAL REVENUE LESS EXPENSES	**5,467,654**	**616,820**	**6,084,471**	**1,783,361**	**(290,554)**	**(274,419)**	**7,302,865**	**471,843**	**7,774,709**
NET ASSETS - RESERVES									
Cumulative Carryover at 12/31/14	27,816,061	15,090,308	42,906,369	580,920	9,503,289	1,156,900	54,147,478	217,848	54,365,326
Change in net assets this year	5,467,654	616,820	6,084,471	1,783,361	(290,554)	(274,419)	7,302,865	471,843	7,774,709
Ending Net Assets - Reserves	**33,283,715**	**15,707,128**	**48,990,840**	**2,364,281**	**9,212,735**	**882,481**	**61,450,343**	**689,691**	**62,140,035**
Ending Reserve by Category									
Program Reserves (Efficiency and Renewables)	33,283,715	15,707,128	48,990,840	2,364,281	9,212,735	882,481	61,450,343	689,691	62,140,035
Operational Contingency Pool									
Emergency Contingency Pool									
TOTAL NET ASSETS CUMULATIVE	33,283,715	15,707,128	48,990,840	2,364,281	9,212,735	882,481	61,450,343	689,691	62,140,035

Note 1) Management & General and Communications & Customer Service Expenses (Admin) have been allocated based on total 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 Ten Months Ending October 31, 2015
Unaudited

	RENEWABLE ENERGY				TOTAL			
	PGE	PacifiCorp	Total	Other	All Programs	Approved budget	Change	% Change
REVENUES								
Public Purpose Funding	$7,054,400	$5,014,826	$12,069,225	0	$66,742,603	$67,832,210	($1,089,607)	-2%
Incremental Funding					58,309,097	55,656,133	2,652,964	5%
Contributions				1,550	1,550		1,550	
Revenue from Investments				534,610	534,610	240,000	294,610	123%
TOTAL PROGRAM REVENUE	**4,894,062**	**3,496,985**	**8,391,047**	**536,160**	**125,587,860**	**123,728,343**	**1,859,517**	**2%**
EXPENSES								
Program Management (Note 3)	490,808	289,245	780,053		5,527,287	6,017,475	490,188	8%
Program Delivery	192,327	118,853	311,180		36,817,069	37,237,040	419,971	1%
Incentives	6,902,908	3,305,325	10,208,234		59,617,543	57,709,965	(1,907,578)	-3%
Program Eval & Planning Svcs.	34,325	21,331	55,656		3,208,564	4,067,642	859,078	21%
Program Marketing/Outreach	116,641	90,709	207,350		4,319,600	4,623,553	303,953	7%
Program Quality Assurance	0	0	0		42,091	75,000	32,909	44%
Outsourced Services	171,743	345,562	517,305		1,215,180	1,582,297	367,117	23%
Trade Allies & Cust. Svc. Mgmt.	36,442	15,792	52,233		789,846	786,657	(3,189)	0%
IT Services	107,819	63,770	171,590		1,472,342	1,742,659	270,317	16%
Other Program Expenses - all	109,355	60,407	169,761		565,765	789,312	223,547	28%
TOTAL PROGRAM EXPENSES	**8,162,368**	**4,310,994**	**12,473,362**	**-**	**113,575,287**	**114,631,600**	**1,056,313**	**1%**
ADMINISTRATIVE COSTS								
Management & General (Notes 1&2)	171,433	90,543	261,977		2,385,412	2,766,510	381,098	14%
Communications & Customer Svc (Notes 1&2)	160,048	84,529	244,577		2,226,982	2,383,110	156,128	7%
Total Administrative Costs	**331,481**	**175,072**	**506,554**		**4,612,394**	**5,149,620**	**537,226**	**10%**
TOTAL PROG & ADMIN EXPENSES	**8,493,849**	**4,486,066**	**12,979,916**		**118,187,684**	**119,781,221**	**1,593,537**	**1%**
TOTAL REVENUE LESS EXPENSES	**(1,439,449)**	**528,760**	**(910,691)**	**536,160**	**7,400,176**	**3,947,122**	**3,453,055**	**87%**
NET ASSETS - RESERVES								
Cumulative Carryover at 12/31/14	13,736,997	10,937,994	24,674,991	8,186,804	87,227,121	88,912,387	(1,685,266)	-2%
Change in net assets this year	(1,439,449)	528,760	(910,691)	536,160	7,400,176	3,947,122	3,453,055	87%
Ending Net Assets - Reserves	**12,297,548**	**11,466,754**	**23,764,300**	**8,722,964**	**94,627,298**	**92,859,509**	**1,767,789**	**2%**
Ending Reserve by Category								
Program Reserves (Efficiency and Renewables)	12,297,548	11,466,754	23,764,300		89,627,298			
Operational Contingency Pool				3,722,964				
Emergency Contingency Pool				5,000,000	5,000,000			
TOTAL NET ASSETS CUMULATIVE	12,297,548	11,466,754	23,764,300	8,722,964	94,627,298	92,859,509	1,767,789	2%

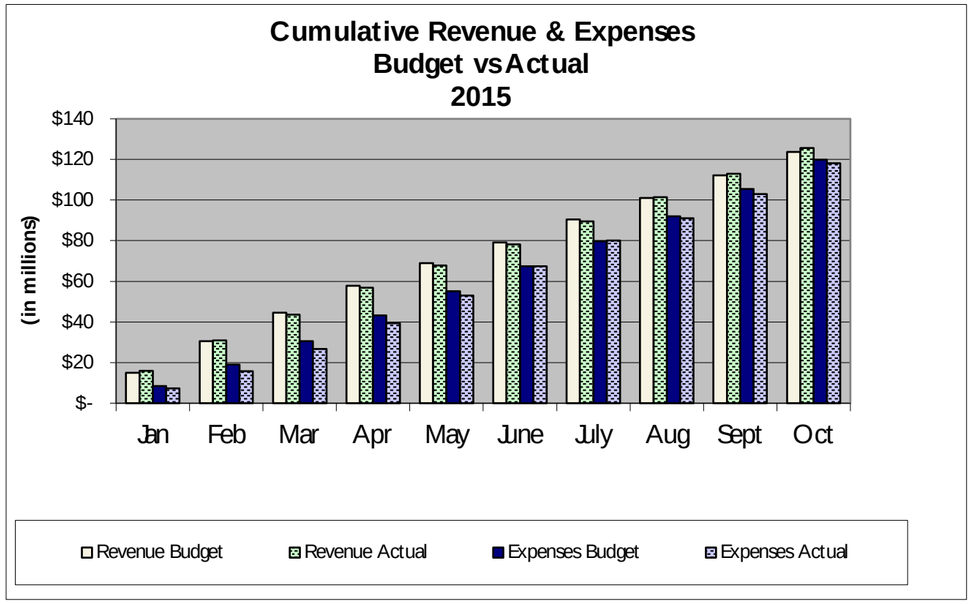
Energy Trust of Oregon
Program Expense by Service Territory
For the Ten Months Ending October 31, 2015
(Unaudited)

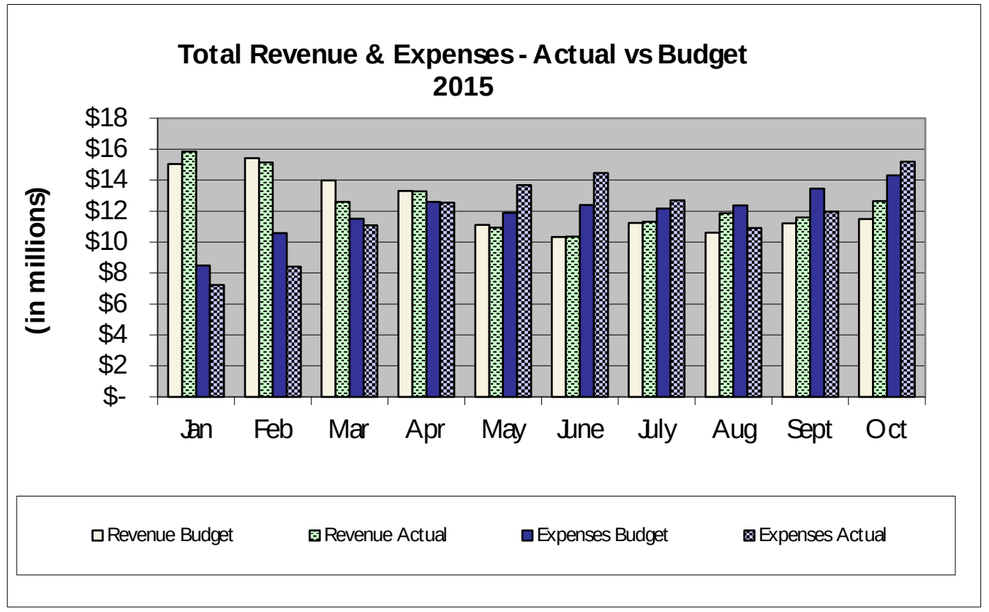
	PGE	Pacific Power	Subtotal Elec.	NWN Industrial	NW Natural Gas	Cascade	Subtotal Gas	Oregon Total	NWN WA	ETO Total	YTD Budget	Variance	% Var
Energy Efficiency													
Commercial													
Existing Buildings	$ 16,944,512	$ 12,207,319	$ 29,151,831	$ 586,502	$ 2,295,445	$ 323,075	$ 3,205,022	$ 32,356,853	$ 278,517	$ 32,635,370	$ 31,875,342	$ (760,028)	-2%
New Buildings	6,325,815	2,994,586	9,320,401	26,335	771,708	165,078	963,122	10,283,523		10,283,523	9,375,988	(907,535)	-10%
NEEA	1,050,702	744,164	1,794,866		52,915	5,336	58,251	1,853,117	4,123	1,857,240	2,403,384	546,144	23%
Total Commercial	**24,321,029**	**15,946,069**	**40,267,098**	**612,837**	**3,120,068**	**493,490**	**4,226,395**	**44,493,493**	**282,640**	**44,776,133**	**43,654,714**	**(1,121,419)**	**-3%**
Industrial													
Production Efficiency	12,126,957	7,148,991	19,275,949	682,234	555,634	213,682	1,451,549	20,727,498		20,727,498	20,009,075	(718,423)	-4%
NEEA	166,732	119,404	286,136					286,136		286,136	135,346	(150,790)	-111%
Total Industrial	**12,293,690**	**7,268,395**	**19,562,085**	**682,234**	**555,634**	**213,682**	**1,451,549**	**21,013,634**	**-**	**21,013,634**	**20,144,421**	**(869,213)**	**-4%**
Residential													
Existing Homes	6,156,729	5,781,959	11,938,688	-	4,129,728	212,424	4,342,152	16,280,840	345,346	16,626,186	18,078,570	1,452,384	8%
New Homes/Products	10,028,288	4,831,950	14,860,238	-	3,799,581	388,762	4,188,343	19,048,581	326,391	19,374,972	22,472,215	3,097,243	14%
NEEA	1,932,649	1,363,458	3,296,107		100,957	10,488	111,445	3,407,552	9,294	3,416,846	3,655,436	238,590	7%
Total Residential	**18,117,667**	**11,977,367**	**30,095,034**	**-**	**8,030,266**	**611,674**	**8,641,940**	**38,736,973**	**681,031**	**39,418,004**	**44,206,221**	**4,788,217**	**11%**
Energy Efficiency Costs	**54,732,386**	**35,191,826**	**89,924,214**	**1,295,071**	**11,705,969**	**1,318,846**	**14,319,884**	**104,244,094**	**963,672**	**105,207,765**	**108,005,356**	**2,797,585**	**3%**
Renewables													
Solar Electric (Photovoltaic)	6,501,898	2,765,274	9,267,172					9,267,172		9,267,172	7,552,397	(1,714,775)	-23%
Other Renewable	1,991,950	1,720,794	3,712,744					3,712,744		3,712,744	4,223,469	510,725	12%
Renewables Costs	**8,493,849**	**4,486,066**	**12,979,916**	**-**	**-**	**-**	**-**	**12,979,916**	**-**	**12,979,916**	**11,775,866**	**(1,204,050)**	**-10%**
Cost Grand Total	**63,226,235**	**39,677,892**	**102,904,130**	**1,295,071**	**11,705,969**	**1,318,846**	**14,319,884**	**117,224,010**	**963,672**	**118,187,684**	**119,781,221**	**1,593,537**	**1%**

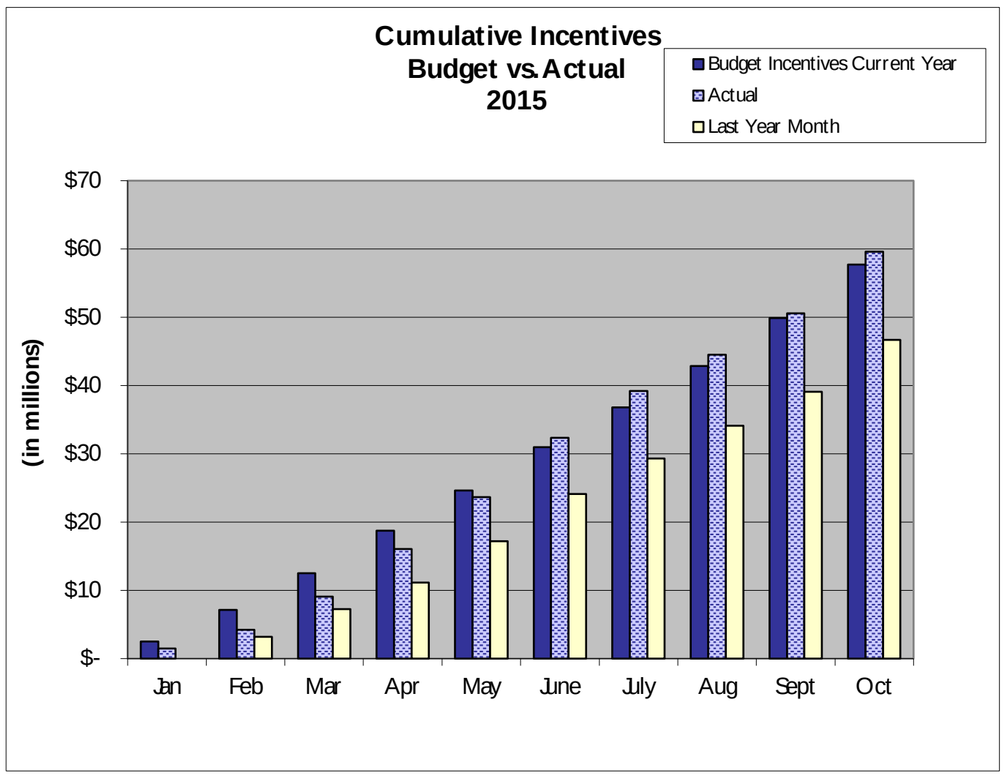
Energy Trust of Oregon
Administrative Expenses
For the 3rd Quarter and Ten Months Ending October 31, 2015
(Unaudited)

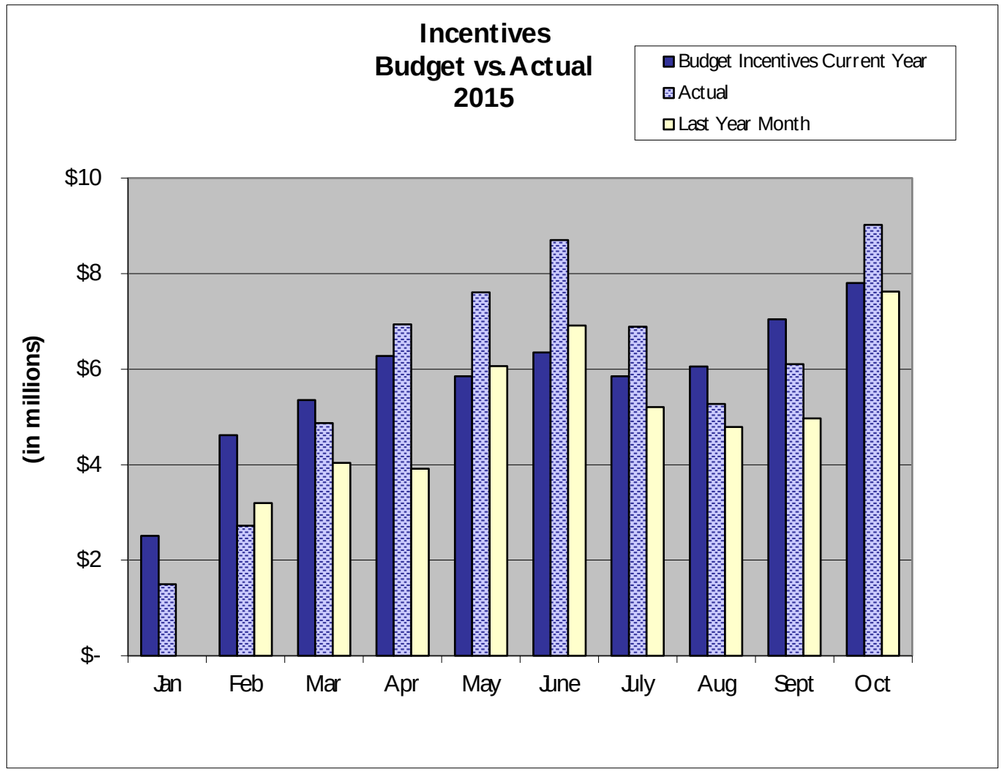
	MANAGEMENT & GENERAL						COMMUNICATIONS & CUSTOMER SERVICE					
	QUARTER			YTD			QUARTER			YTD		
	ACTUAL	BUDGET	REMAINING	ACTUAL	BUDGET	VARIANCE	ACTUAL	BUDGET	REMAINING	ACTUAL	BUDGET	VARIANCE
EXPENSES												
Outsourced Services	$12,082	$85,922	$73,840	$173,427	$328,740	$155,313	$114,835	$251,400	$136,565	$851,867	$884,900	$33,033
Legal Services		6,750	6,750	15,013	22,500	7,487						
Salaries and Related Expenses	156,524	528,459	371,935	1,692,502	1,748,450	55,948	100,004	332,886	232,882	1,002,181	1,109,619	107,438
Supplies		1,075	1,075	3,220	3,583	363		250	250	597	833	236
Telephone										120		(120)
Postage and Shipping Expenses				1,522		(1,522)						
Printing and Publications	1,297	87	(1,210)	3,977	292	(3,685)		1,250	1,250	3,780	4,167	386
Travel	1,903	12,388	10,484	20,891	41,292	20,401	4,918	6,250	1,332	38,454	20,833	(17,620)
Conference, Training & Mtngs	689	44,423	43,733	40,405	113,425	73,020	879	3,500	2,621	11,795	11,667	(128)
Interest Expense and Bank Fees		625	625	1,774	2,083	309						
Dues, Licenses and Fees	274	1,419	1,145	(5,760)	4,959	10,719	2,142	2,125	(17)	16,373	7,083	(9,290)
Shared Allocation (Note 1)	13,528	45,959	32,431	144,597	153,413	8,816	10,578	31,635	21,057	100,388	105,599	5,212
IT Service Allocation (Note 2)	34,060	103,893	69,833	292,630	346,356	53,726	23,444	71,513	48,068	201,427	238,408	36,981
Planning & Eval	124	417	293	1,213	1,417	204						
TOTAL EXPENSES	**220,481**	**831,417**	**610,934**	**2,385,412**	**2,766,510**	**381,098**	**256,800**	**700,809**	**444,008**	**2,226,982**	**2,383,110**	**156,128**

Note 1) Represents allocation of Shared (General Office Management) Costs
Note 2) Represents allocation of Shared IT Costs


Cumulative Revenue & Expenses
Budget vs Actual
2015
(in millions)
$140
$120
$100
$80
$60
$40
$20
$-
Jan
Feb
Mar
Apr
May
June
July
Aug
Sept
Oct
Revenue Budget
Revenue Actual
Expenses Budget
Expenses Actual


Total Revenue & Expenses - Actual vs Budget
2015
(in millions)
$18
$16
$14
$12
$10
$8
$6
$4
$2
$-
Jan
Feb
Mar
Apr
May
June
July
Aug
Sept
Oct
Revenue Budget
Revenue Actual
Expenses Budget
Expenses Actual


Cumulative Incentives
Budget vs. Actual
2015
Budget Incentives Current Year
Actual
Last Year Month
(in millions)
$70
$60
$50
$40
$30
$20
$10
$-
Jan
Feb
Mar
Apr
May
June
July
Aug
Sept
Oct


Incentives
Budget vs. Actual
2015
Budget Incentives Current Year
Actual
Last Year Month
(in millions)
$10
$8
$6
$4
$2
$-
Jan
Feb
Mar
Apr
May
June
July
Aug
Sept
Oct

CONTRACTOR	Description	City	EST COST	Actual TTD	Remaining	Start	End
Administration							
		Administration Total:	**6,689,274**	**3,430,706**	**3,258,568**		
Communications							
		Communications Total:	**3,972,517**	**3,270,992**	**701,526**		
Energy Efficiency							
Northwest Energy Efficiency Alliance	Regional EE Initiative Agmt	Portland	33,662,505	6,559,500	27,103,005	1/1/2015	7/1/2020
ICF Resources, LLC	2015 BE PMC	Fairfax	9,361,147	7,995,835	1,365,312	1/1/2015	12/31/2015
CLEAResult Consulting Inc	2015 HES PMC	Austin	6,831,251	5,382,362	1,448,889	1/1/2015	12/31/2015
Northwest Energy Efficiency Alliance	Regional Gas EE Initiative	Portland	6,200,354	305,667	5,894,687	1/1/2015	7/1/2020
CLEAResult Consulting Inc	2015 NBE PMC	Austin	4,986,181	3,627,138	1,359,043	1/1/2015	12/31/2015
Lockheed Martin Services, Inc.	2015 MF PMC	Cherry Hill	4,158,899	3,304,925	853,974	1/1/2015	12/31/2015
Ecova Inc	2015 Products PMC	Spokane	3,601,890	2,846,385	755,505	1/1/2015	1/31/2016
CLEAResult Consulting Inc	2015 NH PMC	Austin	2,807,252	2,215,411	591,841	1/1/2015	12/31/2015
Energy 350 Inc	PDC - PE 2015	Portland	2,451,150	1,879,831	571,319	1/1/2015	12/31/2015
Portland General Electric	PDC - PE 2015	Portland	2,211,000	1,816,957	394,043	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
Northwest Power & Conservation Council	RTF Funding Agreement		1,825,000	321,766	1,503,234	2/25/2015	12/31/2019
Cascade Energy, Inc.	PDC - PE 2015 Small Industrial	Walla Walla	1,497,000	1,245,104	251,896	1/1/2015	12/31/2015
NEXANT, INC.	PDC - PE 2015	San Francisco	1,344,550	1,271,663	72,887	1/1/2015	12/31/2015
Evergreen Consulting Group, LLC	PE Lighting PDC 2015	Tigard	1,296,000	1,030,475	265,525	1/1/2015	12/31/2015
RHT Energy Inc.	PDC - PE 2015	Medford	1,161,440	879,479	281,961	1/1/2015	12/31/2015
HST&V, LLC	PDC - SEM 2015	Portland	1,041,740	775,495	266,245	1/1/2015	12/31/2015
CLEAResult Consulting Inc	PDC - SEM 2015	Austin	695,500	444,590	250,910	1/1/2015	12/31/2015
EnergySavvy Inc.	EnergySavvy Online Audit Tool	Seattle	587,500	538,469	49,031	1/1/2012	12/31/2015
Clean Energy Works, Inc.	EE Incentive & Services Agmt	Portland	497,340	366,620	130,720	7/1/2014	12/31/2015
Cascade Energy, Inc.	SEM Curriculum	Walla Walla	404,080	404,080	0	5/1/2014	4/30/2016
The Cadmus Group Inc.	PE Impact Eval 2012	Watertown	345,000	273,815	71,185	4/15/2014	2/29/2016
Energy Market Innovations, Inc.	Lighting Controls Savings Est	Seattle	315,000	314,962	38	10/1/2014	1/31/2016
Craft3	SWR Loan Origination/Loss Fund	Portland	305,000	9,750	295,250	6/1/2014	12/31/2016
EnerNoc, Inc.	Commercial SEM curriculum	Boston	300,915	264,110	36,805	6/27/2014	5/30/2016
Craft3	Loan Agreement	Portland	300,000	100,000	200,000	6/1/2014	6/20/2025
CLEAResult Consulting Inc	2015 HES WA PMC	Austin	277,600	218,993	58,607	1/1/2015	12/31/2015
Home Performance Contractors Guild of Oregon	Existing Homes Program Support	Portland	248,750	222,734	26,016	1/1/2012	12/31/2015

KEMA Incorporated	Commercial SEM Impact Eval	Oakland	205,000	0	205,000	9/1/2015	6/30/2016
ICF Resources, LLC	2015 BE NWN WA PMC	Fairfax	196,984	145,549	51,435	1/1/2015	12/31/2015
The Cadmus Group Inc.	PE SEM Impact Evaluation	Watertown	177,000	84,396	92,604	5/1/2015	12/31/2015
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	140,000	0	9/1/2012	12/31/2015
ICF Resources, LLC	2015 BE DSM PMC	Fairfax	119,627	71,731	47,896	1/1/2015	12/31/2015
Abt SRBI Inc.	Fast Feedback Surveys	New York	118,000	102,985	15,015	1/31/2014	2/29/2016
ICF Resources, LLC	OSU CHP Performance Monitoring	Fairfax	100,000	54,458	45,543	7/1/2013	6/30/2016
1000 Broadway Building L.P.	Pay-for-Performance Pilot	Portland	88,125	0	88,125	10/17/2014	11/1/2018
Alliance For Sustainable Energy, LLC	Technical Services Agreement	Lakewood	74,215	0	74,215	10/30/2015	3/30/2016
Research Into Action, Inc.	SWR OnBill Repmt Pilot Eval	Portland	73,000	51,240	21,761	11/1/2014	6/30/2016
KEMA Incorporated	Impact Evaluation NBE '11 -'14	Oakland	70,000	40,676	29,324	3/2/2015	12/31/2015
SBW Consulting, Inc.	Path to Net Zero Impact Eval	Bellevue	70,000	31,897	38,103	3/19/2015	3/31/2016
Pivotal Energy Solutions LLC	EPS New Home dbase construct	Gilbert	68,750	34,000	34,750	7/1/2014	6/30/2016
Pivotal Energy Solutions LLC	License Agreement	Gilbert	64,500	46,732	17,768	3/1/2014	12/31/2015
Earth Advantage, Inc.	New Homes Code Change Analysis	Portland	54,110	32,516	21,594	1/1/2015	11/30/2015
Balanced Energy Solutions LLC	New Homes QA Inspections	Portland	54,000	24,342	29,658	4/27/2015	12/31/2015
The Cadmus Group Inc.	Solar PV Impact Evalution	Watertown	53,135	0	53,135	10/26/2015	3/31/2016
Evergreen Economics	New Homes Process Evaluation	Portland	50,000	19,895	30,105	6/1/2015	3/31/2016
PWP, Inc.	EB SBES Process Evaluation	Gaithersburg	50,000	13,170	36,830	9/14/2015	5/31/2016
MetaResource Group	Intel DX1 Mod 1&2 Megaproject	Portland	45,000	3,093	41,907	4/1/2015	5/1/2017
Evergreen Economics	Gas Hearth Mrkt Transformation	Portland	42,840	42,830	10	1/1/2015	11/30/2015
Research Into Action, Inc.	LED Street Lighting Assessment	Portland	39,000	38,999	1	5/1/2015	10/31/2015
KEMA Incorporated	Billing Analysis Review	Oakland	35,000	0	35,000	3/15/2015	12/31/2016
Apex Analytics LLC	Gas Thermostat	Boulder	30,000	29,080	920	10/20/2014	3/31/2016
Research Into Action, Inc.	MPower Pilot Evaluation	Portland	30,000	24,820	5,180	2/1/2015	6/30/2016
WegoWise Inc	benchmarking license 2015	Boston	30,000	12,828	17,172	6/15/2014	12/31/2016
Energy Center of Wisconsin	Billing Analysis Review	Madison	25,000	0	25,000	3/15/2015	12/31/2016
Evergreen Economics	Air Sealing Pilot Evaluation	Portland	25,000	1,155	23,845	10/15/2014	4/30/2016
Northwest Food Processors Association	NW Industrial EE Summit 2015	Portland	25,000	17,965	7,035	11/30/2014	12/31/2015
Portland General Electric	2015 Workshop Sponsorship	Portland	25,000	25,000	0	1/1/2015	12/31/2015
Cascade Energy, Inc.	Tablet Site Scoping Tool	Walla Walla	24,999	0	24,999	10/26/2015	1/10/2016
Sustainable Northwest	Klamath PAC Ag Program Aware	Portland	24,992	0	24,992	11/1/2015	8/10/2016
CLEAResult Consulting Inc	Professional Services/Trans	Austin	22,588	19,539	3,049	10/15/2014	10/15/2016

MetaResource Group	Pay-for-Performance Pilot Eval	Portland	20,000	7,288	12,712	7/1/2015	5/30/2016
MetaResource Group	Paper Plant Impact Evaluation	Portland	20,000	0	20,000	10/30/2015	5/30/2016
MetaResource Group	Pay-for-Performance Pilot Eval	Portland	20,000	2,250	17,750	8/5/2014	12/31/2015
Consortium for Energy Efficiency	Membership Dues - 2015		18,736	18,736	0	1/1/2015	12/31/2015
Energy 350 Inc	Professional Services	Portland	14,920	14,920	0	12/10/2014	12/10/2016
MetaResource Group	Mosier Well Energy Eff Study	Portland	13,500	4,523	8,977	7/1/2015	12/15/2015
American Council for and Energy Efficient Economy	Low-Income HH Sponsorship		10,000	10,000	0	7/22/2015	12/31/2015
American Council for and Energy Efficient Economy	Intelligent Effncy Sponsorship		10,000	10,000	0	7/22/2015	12/31/2015
American Council for and Energy Efficient Economy	EE Measures Sponsorship		10,000	10,000	0	7/22/2015	12/31/2015
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	Sponsorship - 2016	Portland	8,000	0	8,000	1/1/2016	12/31/2016
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	7,900	6,000	1,900	1/1/2015	12/31/2015
Northwest Environmental Business Council	Future Energy Conference 2015	Portland	7,650	7,650	0	3/25/2015	12/31/2015
Earth Advantage, Inc.	2015 Functional Sponsorship	Portland	7,500	7,500	0	3/1/2015	2/29/2016
LightTracker, Inc.	CREED Data	Boulder	7,300	7,300	0	8/5/2015	8/4/2016
Apose Pty Ltd	Aspose.NET Words Software Lice	Lane Cove	5,045	5,040	5	12/3/2014	12/3/2015
Social Enterprises Inc.	GoGreen Sponsorship - 2015	Portland	5,000	5,000	0	5/12/2015	12/31/2015
Sustainable Northwest	2015 Sponsorship	Portland	5,000	5,000	0	9/1/2015	9/1/2016
	Energy Efficiency Total:		**93,378,680**	**48,027,837**	**45,350,844**		

Joint Programs

Portland State University	Technology Forecasting		153,808	99,493	54,315	11/7/2011	12/31/2016
E Source Companies LLC	E Source Service Agreement	Boulder	74,900	74,900	0	2/1/2014	1/31/2016
The Cadmus Group Inc.	Evaluation Consultant	Watertown	63,305	38,960	24,345	6/20/2013	2/28/2016
Navigant Consulting Inc	P&E Consultant Services	Boulder	37,530	22,530	15,000	1/15/2014	12/30/2015
CoStar Realty Information Inc	Property Data	Baltimore	33,620	27,850	5,771	6/1/2011	5/31/2016
Research Into Action, Inc.	EH Attic Air Sealing Pilot Eva	Portland	30,000	30,000	0	10/8/2014	9/30/2016
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	7,000	0	7,000	11/15/2015	4/30/2016
	Joint Programs Total:		**412,663**	**306,232**	**106,431**		

Renewable Energy

Clean Water Services	Project Funding Agreement		3,000,000	1,013,106	1,986,894	11/25/2014	11/25/2039
JC-Biomethane LLC	Biogas Plant Project Funding	Eugene	2,000,000	1,325,000	675,000	10/18/2012	10/18/2032

Steel Bridge Solar, LLC	Project Funding Agreement	Seattle	2,000,000	0	2,000,000	3/27/2015	12/15/2040
Oregon Institute of Technology	Geothermal Resource Funding	Klamath Falls	1,550,000	1,550,000	0	9/11/2012	9/11/2032
Farm Power Misty Meadows LLC	Misty Meadows Biogas Facility	Mount Vernon	1,000,000	750,000	250,000	10/25/2012	10/25/2027
Three Sisters Irrigation District	TSID Hydro	Sisters	1,000,000	800,000	200,000	4/25/2012	9/30/2032
Farmers Irrigation District	FID - Plant 2 Hydro	Hood River	900,000	450,000	450,000	4/1/2014	4/1/2034
Old Mill Solar, LLC	Project Funding Agmt Bly, OR	Lake Oswego	490,000	0	490,000	5/29/2015	5/28/2030
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	217,830	223,830	10/27/2010	10/27/2025
Farmers Conservation Alliance	Irrigation Collaboration Initi	Hood River	421,000	245,258	175,742	1/2/2015	12/31/2016
SunE Solar XVI Lessor, LLC	BVT Sexton Mtn PV	Bethesda	355,412	355,412	0	5/15/2014	12/31/2034
CIty of Gresham	City of Gresham Cogen 2		330,000	165,000	165,000	4/9/2014	7/9/2034
Clean Power Research, LLC	PowerClerk License	Napa	231,253	228,583	2,670	7/1/2014	6/30/2016
K2A Properties, LLC	Doerfler Wind Farm Project	Aumsville	230,000	230,000	0	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	43,683	106,318	4/10/2014	12/31/2015
City of Astoria	Bear Creek Funding Agreement	Astoria	143,000	143,000	0	3/24/2014	3/24/2034
Klamath Basin Geopower Inc	Poe Valley Proj Dev Assistance	Reno	112,874	63,000	49,874	4/10/2014	12/31/2015
Gary Higbee DBA WindStream Solar	Solar Verifier Services	Eugene	100,000	59,222	40,778	8/1/2014	7/31/2016
Wallowa Resources Community Solutions, Inc.	Upfront Hydroelectric Project		100,000	29,788	70,213	10/1/2011	10/1/2016
Mapdwell LLC	Mapdwell Account	Boston	64,595	64,595	0	3/17/2014	4/30/2016
SPS of Oregon Inc	Project Funding Agreement	Wallowa	60,000	0	60,000	10/15/2015	10/31/2036
Solar Oregon	2015 Outreach Agreement	Portland	43,800	27,200	16,600	1/1/2015	2/29/2016
State of Oregon Dept of Geology & Mineral Industries	Lidar Data	Portland	40,000	16,000	24,000	11/7/2014	12/1/2015
Clean Energy States Alliance	CESA Membership		39,500	39,500	0	7/1/2015	6/30/2016
Glenna R Wiseman	Solar Marketing Curriculum	Redlands	32,000	0	32,000	10/20/2015	6/30/2016
Kendrick Business Services LLC	Solar TA Business Consulting	Albany	30,000	0	30,000	10/8/2015	3/31/2016
University of Oregon	UO SRML Contribution - 2015	Eugene	24,999	24,999	0	2/11/2015	3/8/2016
Robert Migliori	42kW wind energy system	Newberg	24,125	21,673	2,452	4/11/2007	1/31/2024
Solar Oregon	Website Upgrade Grant	Portland	20,000	8,000	12,000	12/8/2014	12/31/2015
Oregon Clean Power Cooperative	Grant Agreement	Corvallis	17,000	17,000	0	6/15/2015	6/30/2016
Warren Griffin	Griffin Wind Project	Salem	13,150	9,255	3,895	10/1/2005	10/1/2020
Future Resource Stragtegies, LLC	Brewery Biopower Anaerobic Dig	Salem	8,000	8,000	0	8/11/2015	11/30/2015

Oregon Solar Energy Industries Association	Sponsorship 2016	Portland	7,500	0	7,500	1/1/2016	12/31/2016
OSEIA-Oregon Solar Energy Industries Assoc	OSEIA 2015 Conf Sponsorship		7,500	7,500	0	1/1/2015	12/31/2015
Clean Energy States Alliance	CESA ITAC Sponsorship		5,000	5,000	0	1/1/2015	12/31/2015
		Renewable Energy Total:	**16,505,020**	**9,130,253**	**7,374,767**		
		Grand Total:	**120,958,155**	**64,166,019**	**56,792,136**		

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 6

Policy Committee Meeting

November 18, 2015, 3:30–5:00 pm

Attending by teleconference

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

Attending at Energy Trust offices

Amber Cole, Kim Crossman, Chris Dearth, Fred Gordon, Margie Harris, Jed Jorgensen, Betsy Kauffman, Steve Lacey, Debbie Menashe, Peter West

Policy for Review

Waiving Program Caps Policy

The Waiving Program Caps Policy is up for its regular three year review. Staff reported that it reviewed the policy internally and proposed no changes. The committee reviewed the policy and accepted staff's recommendation. The Waiving Program Caps Policy will continue unchanged and be reviewed again in three years.

Self Direct Policy for Review at Next Policy Committee Meeting

Staff also reported that although the Self Direct Policy is also up for its regular three year review, staff is continuing to review the policy and analyze data regarding implementation of the policy in its current form. Staff advised the committee that it will provide a proposal for possible revisions to the Self Direct Policy at the committee's next meeting.

Preview of Board Meeting Presentations

Farmers Conservation Association Amendment

Staff presented information regarding a proposal to amend a contract with Farmers Conservation Association to add budget to the contract which would authorize funding in excess of $500,000 and consistent with the board approved budget. The Farmers Conservation Association contract under discussion is a contract for services related to stakeholder engagement for the promotion and implementation of irrigation system optimization projects. These projects coordinate several irrigation system optimization strategies including energy efficiency, water conservation, fish passage improvement, as well as hydroelectric renewable energy generation. Staff reported that these projects represent a significant potential and pipeline for the Other Renewables program. Amounts paid to Farmers Conservation Association, an experienced irrigation system operator, are to support project development activities which are already resulting in a pipeline of potential hydro projects for the program. Jed Jorgensen presented information on the efforts to date and the project development results, which are better than expected.

Committee members expressed support for the efforts, but asked whether funding for project development efforts, as compared to funding for the construction and operation of new renewable resource projects, is permitted under Energy Trust's statutorily granted authority. Debbie Menashe reported that she had contacted the OPUC to get confirmation on such expenditures, and was provided assurance based on the portions of Energy Trust's funding statute that also permit use of public purpose funds for administration and market development. Betsy Kauffman also explained that the OPUC has been fully informed about Energy Trust's work with Farmers Conservation Association and supports the efforts as consistent with Energy Trust's OPUC performance metrics for renewable program project development. Committee members also suggested some corrections to the presentation slides, and staff will incorporate the corrections and present the proposed contract amendment to the full board at the next full board meeting.

REC Policy Implementation Proposal

Following the approval of, and in accordance with, revisions to the Renewable Energy Certificate (REC) policy, staff presented information to the board regarding the relative cost and effort of registering certain classes of project RECs in Western Renewable Energy Generation Information

System (WREGIS). Staff previewed its recommendation that the cost and effort of such registration for standard solar projects and certain custom Other Renewables projects exceed the market value of the RECs themselves and will recommend that Energy Trust suspend efforts to register such RECs at this time. Pursuant to the revised REC policy, the Energy Trust board must authorize such suspension in a formal board resolution. The committee suggested that the resolution on this matter be included in the meeting's consent agenda, but asked that staff contact Director Dan Enloe to discuss any concerns he might have. Staff will contact Director Enloe.

Waste Heat to Power Project Proposal

Staff also presented information regarding a potential energy efficiency waste-to-energy project that would require board approval to waive program incentive caps and authorize the executive director to execute a contract for incentive funding in excess of $500,000. The project would provide funding for a heat recovery system to generate power at a planned biomass-to-liquids refinery to produce synthetic fuel. The refinery would be the first of its kind and would capture waste heat from the liquification of wood waste biomass to power the plant's process, thereby conserving generation for the plant. Although the process proposed for this plant and waste-heat-to-power project is not new, the end product is the first of its kind. Committee members had a number of questions regarding the project owner, the business plan, contractual supply, and sales commitments. Staff will provide further information to the committee and the full board. Staff will advise members of the committee about future information. If possible to gather more information in time for the next board meeting, staff will present a recommendation for project funding. If enough information cannot be made available for the next meeting, staff will come back to the Policy Committee in January with a report and review the possibility of bringing this to the board at its meeting in February 2016 with a recommendation.

Consent to Appointment of Member to the Renewable Advisory Committee (RAC)

In accordance with RAC and board rules, Policy Committee consent is required for formal membership on Energy Trust's advisory committees. Policy Committee consent was requested for appointment of Kendra Hubbard of the Oregon Solar Energy Industry Association and Rikki Seguin, State Director of Environment Oregon to the RAC. Both individuals bring experience in renewable energy and environmental policy.

The committee unanimously supported the appointment of Kendra Hubbard and Rikki Sequin to the RAC.

Brief Updates

UM 1713, the "Large Customer Docket," has been held in abeyance by the administrative law judge assigned to the docket while stakeholders discuss possible legislative changes to ensure that all cost effective energy efficiency can be funded. Staff provided a brief update on the continuing discussions among stakeholders. Based on recent meetings, some consensus is emerging around a legislative concept on revisions to SB 1149 and SB 838 to address the large customer issue. A legislative concept is expected to be provided to legislative counsel before Thanksgiving. Further discussions and refinement can occur after that date, and staff will continue to keep the board informed.
Staff will present information about the state and Energy Trust efforts and research on the EPA's Clean Power Plan at the next Policy Committee meeting.

Adjourn

The meeting adjourned just after 5:00 pm. The next meeting of the Policy Committee is scheduled for January 28, 2016.

Tab 7

Renewable Energy Advisory Council Meeting Notes

October 21, 2015

Attending from the council:
Diane Broad, Oregon Department of Energy
Shaun Foster, Portland General Electric
Robert Grott, Northwest Environmental Business Council
Michael O'Brien, Renewable Northwest
Elaine Prause, Oregon Public Utility Commission
Frank Vignola, Solar Monitoring, University of Oregon
Dick Wanderscheid, Bonneville Environmental Foundation
Peter Weisberg, The Climate Trust

Attending from Energy Trust:
Amber Cole
Hannah Cruz
Chris Dearth
Sue Fletcher
Matt Getchell
Jeni Hall
Margie Harris
Mia Hart
Jed Jorgensen
Betsy Kauffman
Debbie Menashe
Dave Moldal
Lizzie Rubado
Julianne Thacher
Peter West
Courtney Wilton

Others attending:
Wendy Brownell, 3Degrees
Kendra Hubbard, Oregon Solar Energy Industries Association
Wendy Koelfgen, Enhabit
Alan Meyer, Energy Trust board
John Reynolds, Energy Trust board
Rikki Seguin, Environment Oregon
Ann Siqveland, OneEnergy Renewables

1. Welcome and introductions

Betsy Kauffman convened the meeting at 9:00 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. Energy Trust budgeting 101

Betsy presented Energy Trust's budgeting process for the renewable energy sector. There are two renewable energy sector budgets: the Activity Budget and Profit and Loss, P&L, or Accounting Budget. The two budgets do not add together. They are two different ways of looking at the renewable sector budget.

> The Activity Budget is where we make commitments or reservations of funds, and the P&L or Accounting Budget is where we actually spend money. We make reservations for funds well in advance of payment. For a hydropower or biopower project, construction timelines are long and we may not pay an incentive for two years after reservation. To provide an analogy, the Activity Budget is like an engagement to be married, and the P&L Budget is like a wedding. For example, funds may be committed for a project and show up in the Activity Budget in year one. These funds may not show up in the P&L Budget until year three.

Generation is booked when an incentive is paid. We don't claim generation when money is committed in the Activity Budget, so we could have a big year for committing funds but a low year for generation. Sometimes budgeted generation is delayed when projects take longer than expected to complete. This is what happened in 2014.

Payments may be broken out into multiple years, but 100 percent of generation is claimed in year one when the first payment is made. Generation is claimed in average megawatts.

Alan Meyer suggested making this presentation to the board.

Robert Grott: Do you have clawback provisions in your contracts?
Betsy: Yes.
Jed Jorgensen: All contracts have performance milestones that customers must meet.

Betsy: We budget like this because we often have long construction timelines and multiple payments. This way we make sure that money will be reserved and available for committed projects. Energy Trust's efficiency programs budget very differently.

Alan: If a new project can be committed and paid in one year, can we use funds that have been allocated for another project?
Betsy: Generally not, unless a project has cancelled. If an opportunity dropped into our lap, we would try to fund it with our Activity Budget, not the P&L Budget.

3. Draft 2016 annual budget and 2016-2017 action plan

Peter West presented Energy Trust's overall 2016-2017 draft budget. Energy Trust's budgeting process starts in July and wraps up in December. In September, we presented the budget themes to Renewable Energy Advisory Council.

There are four building blocks to the budget and action plan: 2015-2019 Strategic Plan goals, utility Integrated Resource Plans and renewable resource assessments, market knowledge and context, and areas of emphasis.

Kendra Hubbard asked about renewable resource assessments.
Peter: This is how we determine how much resource is available and how much is possible and practical to achieve.

Peter West: For 2016, the expiration of the federal Investment Tax Credit is a big part of the market context, as is economic recovery.

In 2016, we plan to invest $187.7 million to acquire 55.7 aMW and 5.7 million therms of clean energy efficiency. We plan to delivery highly cost-effective energy at 3.0 cents per kWh and 34 cents/therm. We need to spend more money due to increased project demand, different project mix and corresponding incentive growth.

We will continue to reduce budget reserves through tighter budgeting and use reserves when spending exceeds forecast. In 2015, we have successfully drawn down reserves, as planned. Our staffing and administrative costs will remain flat in 2016.

Peter Weisberg asked about the fee structure that covers costs.
Peter West: We build costs into the entire budget. We are funded by four utilities, and under SB 1149 a portion of the utilities' revenue is dedicated to support energy efficiency and renewable

energy. Those percentages are based on utility revenue requirements. Beyond the energy we can acquire through SB 1149, we plan what additional energy efficiency will cost and pitch that to the gas utilities.

Dick Wanderscheid: Why is the 2016 budget up 10.5 percent from the 2015 budget?
Peter West: We plan to achieve slightly more electric efficiency. We're also getting deeper energy efficiency, which is more expensive. The budget is going up because of near-term opportunities from economic recovery. There are more opportunities for new construction, and existing businesses can afford more capital expenditures. The budget also includes an additional $5 million to meet increased demand for solar incentives. On the efficiency side, we are considering lost opportunities—if we don't build efficiency into new construction, we will lose efficiency opportunities for decades. It's important that we invest in the most efficient new buildings. We may pay more upfront, but it will reduce the utility load for years.

John Reynolds: Of the 10 percent increase, how much is from reserves and how much is from utility revenue?
Peter West: Most of the increase for efficiency savings is from reserves. For renewables, it's cash carry-over from prior years and reserves.

Robert: Are utilities obligated to pay beyond what's collected through the public purpose charge?
Peter West: There were two bills. First, SB 1149 provides 3 percent of electric utility revenues. Then SB 838 created the Renewable Portfolio Standard, limited the size of renewable energy projects Energy Trust can fund to 20 MW and less, and said that the Oregon Public Utility Commission is obligated to fund all cost-effective efficiency. So if we find more efficiency opportunities, we talk with the OPUC and the utilities to fund that additional efficiency. This brings our funding up to about 4.5 percent.

Robert: With warmer winter weather, utility sales will go down. Is that a risk to Energy Trust funding?
Peter West: We provide the utilities a "grossed up" number, which includes a risk factor of 2 to 10 percent, meaning we can add another 2 to 10 percent if revenues are decreased. These are our reserves.
Courtney Wilton: Our revenue does fluctuate. Utility estimates are fairly accurate. In 2015, electric revenues are actually up from the hot summer.

Michael O'Brien: For SB 838, is the industrial sector included?
Peter West: The industrial sector is included, but sites larger than 1 aMW are not subject to the additional charge. These are not just industrial sites, but also commercial sites.

4. **Renewable energy draft budget presentation**
Betsy: The renewable sector strategic plan has three main focus areas: support all five eligible technologies, use a competitive approach to funding, and emphasize market and project development.

> In 2016, we will have a much larger focus on solar energy due to the expiration of the Investment Tax Credit in the end of 2016. We see this as a one-time opportunity to capture increased demand. The challenge will be meeting high solar demand with limited funding.
>
> We will continue to build a pipeline for Other Renewables projects, with a focus on hydropower and biopower projects. We have one non-solar project scheduled to

complete in 2016. We will also be ready to adjust course midyear due to market changes, including Pacific Power's docket UM 1734 that could drastically impact our work.

Betsy presented Energy Trust's expected and achieved generation in 2015. Two-thirds of 2015 generation through the end of Q3 is from Other Renewables and about one-third is from solar projects. We expect to greatly exceed our 2015 generation goal. Two large solar projects are expected to complete in Q4.

Kendra: Are you so far above goal because these projects were delayed from last year?
Betsy: No, we had budgeted for those projects to complete in 2016. This year, projects expected to complete in 2017 were completed early in 2016.
Dave McClelland: As we shift dollars from Other Renewables to Solar, we spend those dollars faster. We will be well above goal for the Solar program in 2015.

Betsy: In 2015, we were able to allocate some Other Renewables budget to Solar to meet very high demand. In 2016, we will not have the flexibility to transfer Other Renewables funds.

In 2016 in PGE territory, about 75 percent of renewable energy Activity Budget is dedicated to solar. It's unlikely we'll have funding for large custom solar projects in 2016, as demand for standard solar will be very strong.

Alan: Are we starting with a lower incentive in 2016, given increased demand?
Dave: We don't reset incentives at the beginning of the year, so recent incentive reductions will stay in place. Incentives in Portland General Electric will continue to go down. We are about to make our fourth incentive reduction in PGE territory in 2015.

Diane: How would you treat an opportunity for solar and battery storage project?
Dave: We don't provide additional incentives for storage.
Betsy: That said, this is an area we will start thinking about.
Dave: We would like to collaborate with other organizations who are working on storage and resiliency.

Dick: What's a large custom solar project?
Dave: Our standard program is targeted at net-metered projects capped at 750 kilowatts in Pacific Power and 250 kW in PGE territory.

In Pacific Power territory, we have increased standard solar incentives slightly. Our budget for 2016 in PP territory includes about $1 million for a large custom solar project that is still being evaluated. For Other in 2016 in Pacific Power territory, a large project cancelled this year. Most of our money was spent on project development assessment work. Some of the 2015 uncommitted Other funds were moved to the solar program, and the rest of this budget was moved to 2016. There is a big pipeline of Other projects expected to apply for incentives in 2016 and beyond.

Rikki: What's the process for transferring budget from Other Renewables to Solar?
Betsy: Sector staff has authority to transfer funds between Other Renewables and Solar. Because of this, our budget changes throughout the course of a year.
Jed: In the past, we've allocated more for Other Renewables and then shifted funds later. In 2016, we're allocating tightly for Other Renewables and anticipating strong demand for solar projects.

Betsy: In 2016, the Pacific Power budget is about 60 percent Solar and 40 percent Other Renewables. Other Renewables is about 32 percent of the entire renewable energy sector's budget, and Solar is about 68 percent of the sector's budget. (These are Activity Budgets.)

> In early years of Energy Trust, we built up renewable sector budgets with reserves, and then we spend them over several years. Now that we've used most of these reserves, our annual renewable spending will go down slightly. The general trend line is going downward. (These are Activity Budgets.)
>
> In the overall Energy Trust budget, P&L Budgets are included. In 2016, the renewables sector expects to book 2.84 aMW, slightly less than in the 2015 budget (3.47 aMW).

Alan: Why are we planning to spend $5.8 million for Other Renewables in 2016 and only generate 0.01 aMW?
Betsy: That spending is for second year payments for several projects where generation has already been claimed in prior years. Large projects have second and third payments that don't correspond with generation claimed. It also includes project development assistance which doesn't have generation associated with it.

Shaun Foster: For 30 percent more solar dollars in 2016, you're getting double the solar generation.

Betsy presented the stages of the current pipeline of projects. The pipeline starts with education and relationship building, then project development assistance, then application, then a contract and project construction. Based on rough analysis, projects receiving project development assistance take about three years to complete.
Jed: We saw two projects complete in 2015 without Energy Trust incentives but that did receive Energy Trust project development assistance several years ago.
Diane: The outcome of the OPUC docket will have a big impact on your pipeline.

Jed presented on strategies and activities for the Other Renewables program. The focus will be on hydropower and biopower projects and we will be open to other new opportunities. We will continue to develop irrigation modernization projects that also capture other benefits like drought resilience and water conservation. We will also focus on developing projects with wastewater treatment plants and food and beverage processes. There are opportunities for management of regional waste streams. In 2015, we invested heavily in project development assistance in Pacific Power territory, and we expect that to continue next year. We will also continue efforts to convene project owners to exchange information and support.

Elaine: In the pipeline graphic, what are the two biopower projects?
Jed: One would be at a wastewater treatment plant and the other at a food processor. Both are net-metered for onsite use.
Elaine: The geothermal project is a qualifying facility?
Jed: Yes.

Dave presented strategies and activities for the Solar program. We plan to reduce our incentives as demand goes up and begin planning strategically for a different market in 2017 without the Investment Tax Credit, which may include higher incentives. However, we won't be able to fill a 30 percent gap. We aim to help small business contractors prepare for 2017, including through the soft cost reduction initiative and road map.

Betsy presented benefits from 2016 investments, and encouraged Renewable Energy Advisory Council members to attend Conservation Advisory Council this afternoon for more information about the efficiency budget. A draft budget outline will be available in late October and public comments are due Nov 20.

Peter West: The most useful time to receive your input is prior to November 6. If you have input or questions now, please share.

Frank Vignola: How does your generation offset the needs of the utilities?
Betsy: Utilities are already on track to meet 2020 Renewable Portfolio Standard goals through large projects. We meet the needs of citizens and communities interested in renewable energy.
Peter West: Utility load growth is flat or increasing at one percent, so we're keeping load growth minimal.
Robert: Energy Trust reflects the market for small projects better than any other organization.

Kendra: Do you have a projection for the number of projects to be engaged in 2016?
Dave: In 2015, we have 50 percent more projects than in 2014. We expect 1,600 to 1,700 solar projects this year. We expect about 40 percent more next year, probably more than 2,000 projects.

Kendra: Is there an average incentive package in terms of dollars per watt?
Dave: PGE incentives will probably go down to the range of 40 to 50 cents per watt, about half of where we started this year.

5. **Project presentation**

Dave McClelland presented the Ewauna 2 solar project, a custom project selected through a competitive solicitation for Pacific Power projects. Early in 2015, Other Renewables conducted a competitive solicitation for projects, however no projects were selected. Funds were reallocated to the Solar program and used for a competitive solicitation. The Solar program received 16 applications that went through readiness screening and above-market cost screening. The remaining projects were scored based on Energy Trust published criteria. Project details can be found in the Renewable Energy Advisory Council slides.

Ann Siqveland: All of the key project milestones have been completed, including long-term lease agreement and zoning. A number of different issues have gone through land owner review. This is one of the best commercial/industrial installation we've seen in regards to property management because there will still be room for grazing on the property after the installation is completed.

Robert: Is the method of modeling the renewable qualifying facility rates standard or did you develop it specifically for this project?
Dave: This is the first time we're reviewed a qualifying facility project with a rate schedule, which includes a transfer of RECs to the utility. We worked with OPUC staff on our methodology.

Kendra: Is there any concern about SolarCity overvaluing projects? Does this affect Energy Trust as a partner?
Dave: SolarCity has been a good partner thus far for Energy Trust. They've installed quality projects throughout the state. The project valuations are more of a concern at the federal level and doesn't directly impact our incentive. OneEnergy Renewables has been great to work with on the selected project, and provided detailed cost information, so we're confident about our incentive offer.

Elaine Prause: Are you planning on a lump sum payment or multiple payments?
Dave: A performance payment is the norm, though our plan for this project has not yet been negotiated.

Robert: What happens if a new building is developed on an adjacent property that blocks the arrays?
Ann: There's very low likelihood of that issue with the land owner we're working with. It would have to be extremely close to the system.

Michael: Is that the project cost before the incentive?
Dave: Yes, it's the capital cost of the project.

Peter Weisberg: Does the above market cost calculation take debt market rates into account?
Dave: In our model, we put in as much debt service coverage ratio that the project could potentially support.

Dick: Will the projects with the lower rates go forward?
Dave: Yes.

Kendra: If the two remaining projects you reviewed were submitted at the same level of readiness, would they both have been funded?
Dave: We chose the one we did because it was clearly ready to go. If both were ready, we could have potentially funded each one based on funding availability.

6. **Renewable Energy Certificate policy change follow-up**

Jed Jorgensen presented a summary of the Renewable Energy Certificate, REC, policy changes. The REC policy review took 18 months. This included a robust review of the existing policy by Renewable Energy Advisory Council members and Energy Trust staff. In addition, a study was completed with the aid of Bonneville Environmental Foundation to determine where the current REC market is and how Energy Trust fits into it.

> We've reviewed feedback on our proposals and have made adjustments. If the changes are approved by the board, we'll be implementing an annual REC policy review process which will include Energy Trust board members, the utilities and the OPUC. This will be a review of current REC values to ensure the policy is up to date in regards to market trends.
>
> We propose not entering RECs into Western Renewable Energy Generation Information System, WREGIS, for Other Renewables projects where neither the project owner nor the utility have an interest in registering RECs in WREGIS. This includes small wind projects and ranch-scale small hydropower. For standard solar projects, we propose not registering RECs in WREGIS until it makes sense to do so in regards to the cost of additional meter installations and the ability to obtain readings.

Alan Meyer: The most important thing is maintaining flexibility in the policy.
Betsy: We're trying to look at things where they stand today, and the point of the updates we're making is to allow continuous review of the policy. We're hoping to do cost-benefit analysis where part of the cost includes staff time. While we could do more extensive analysis of REC values, the staff time involved does not balance the minimal additional understanding that would be gained.

Diane Broad: RECs are hard to quantify, but they have some impact on viability of projects or their ability to move forward. An example is trading RECs. Do you think you will lose projects by not allowing REC substitution?
Jed: Yes, we will lose some projects as a result of not allowing projects to provide substitute RECs, but it's something we've accepted. With both utilities opposing the addition of trading to our REC policy, it wasn't the right move at this time.

Peter Weisberg: In a solar project, do utilities hold the RECs to see if they can be banked in the future, or sell them? Are they just holding the RECs and seeing no value?
Jed: There are different ways they can use them, but it has to benefit the ratepayers. The RECs are eligible for banking and can be used for RPS compliance. Utilities would be able to sell the RECs, but only if it was benefiting ratepayers.

7. Public comment
There was no additional public comment.

8. Meeting adjournment
The meeting adjourned at 12:00 p.m. The next Renewable Energy Advisory Council meeting is scheduled on November 20, 2015, from 9:30 a.m. to 12 p.m..

Conservation Advisory Council Meeting Notes

October 21, 2015

Attending from the council:
Brent Barclay, Bonneville Power Administration
Warren Cook, Oregon Department of Energy
Wendy Gerlitz, NW Energy Coalition
Charlie Grist, Northwest Power and Conservation Council
Jeffrey Mitchell (for Julia Harper), Northwest Energy Efficiency Alliance
Garrett Harris, Portland General Electric
Scott Inman, Oregon Remodelers Association
Andria Jacob, City of Portland
Don Jones, Jr., Pacific Power
Don MacOdrum, Home Performance Guild of Oregon
Holly Meyer, NW Natural
Tyler Pepple, Industrial Customers of Northwest Utilities
Elaine Prause, Oregon Public Utility Commission

Attending from Energy Trust:
Mike Bailey
Tom Beverly
Amber Cole
Kim Crossman
Hannah Cruz
Sue Fletcher
Fred Gordon
Susan Jamison
Marshall Johnson
Steve Lacey
Ted Light
Thad Roth
Erin Rowland
Kate Scott
Julianne Thacher
Katie Wallace
Peter West
Mark Wyman

Others attending:
Susan Brodahl, Energy Trust board
Mike Christianson, Energy 350
Scot Davidson Enhabit
Mark Duly, Rogers Machinery
Carolyn Farrar, NW Natural
Sara Fredrickson, CLEAResult
Mitt Jones
Keith Kueny, Community Action Partnership of Oregon
Brian Lynch, AESC
Jen Maffei, CLEAResult
Alan Meyer, Energy Trust board
John Molnar, Rogers Machinery
Whitney Rideout, Evergreen Consulting
Becky Walker, CLEAResult

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. Old business

Kim: Tyler Pepple joins us from Industrial Customers of Northwest Utilities, or ICNU. He is an attorney and works on legal matters for ICNU.

September Conservation Advisory Council minutes were approved.

3. Draft 2016 annual budget and 2016-2017 action plan

Peter West presented Energy Trust's overall 2016-2017 draft budget.

Peter: Forecasted numbers are unofficial and our best guess at the moment. We expect to achieve 40 percent of savings between now and the end of the year, which means the final results will likely differ.

> We are forecasting 102 percent of goal for NW Natural, 104 percent for Pacific Power, and 107 percent of goal for Cascade Natural Gas. We are forecasting to reach 94 percent of goal for Portland General Electric. The electric savings are benefiting from the economic recovery and strong Northwest Energy Efficiency Alliance results. NEEA has started gas-saving efforts but we will not see gas savings in 2015.
>
> The economic rebound is most evident in New Buildings and New Homes for all utilities, and customers are installing LEDs.
>
> PGE is a little off due to Production Efficiency. We do heavy recruitment for Strategic Energy Management, or SEM, in PGE territory. We forecasted much more savings from SEM, but the cohorts and companies involved were smaller than those in the past. The rate of savings are good but the overall load for these customers is smaller, with consequent lower overall savings.
>
> NW Natural has been strong in New Buildings, Production Efficiency and New Homes. There is an underlying issue in Existing Buildings with a need to reset incentive levels, which will be flagged in the 2016 budget discussions. Existing Buildings has been lagging significantly on the gas side. The incentive price point and value proposition seems to be wanting. Paybacks are pushing closer to 6 years. They have to come in at 5 years as a cutoff point.
>
> For Pacific Power, Production Efficiency remains strong but some projects will shift to 2016. That puts pressure on the 2016 budget.
>
> In Cascade Natural Gas territory, like NW Natural, there are significant savings from New Homes and New Buildings. Eighty-five percent of new homes are gas connected. There is an underlying issue with commercial. The actual Existing Buildings numbers in 2015 will look good based on three large projects. However, savings are deteriorating based on incentive level. It's still cost-effective to raise incentives.

Don Jones: Are you assessing this with new avoided costs?
Kim Crossman: New avoided costs go into effect in January 2016.

4. Draft 2016 annual budget and 2016-2017 action plans by sector

Peter: Comments on the 2016 budget are accepted through November 20, but they are most useful if received by November 6.

> Our 2016 areas of emphasis are continued use of reserves that we are trying to bring down, sustained rate of energy efficiency and renewable energy generation, and maximizing opportunities in new construction. We will continue to support LEDs. We will continue to serve high solar demand with tax credits scheduled to go away in 2017, and will lower our incentives to manage the budget. We will break into less served markets. We will always focus on internal processes, looking for areas to improve. And we will keep our own costs flat.

We will see a slight decline in gas savings. As we move deeper into the market, this is what happens. Electric savings will increase slightly. NEEA's work on battery charger standards has been part of that large increase in savings.

Delivery costs shown include helping fill forms out, awareness building, hand-holding and encouraging customers through the process. We have to convince and sell customers on the value of energy efficiency. External costs include program delivery through external contractors. We have internal delivery for Production Efficiency and renewable energy programs.

Elaine Prause: How much of Energy Trust's electric savings is attributed to LEDs?
Peter: I will follow up and get that number to you.

Thad Roth presented the residential sector action plan. We are looking at a modest budget increase from 2015. Much of our 2016 electric savings will come from products, especially lighting. We are continuing the effort to reduce reliance on Energy Saver Kits and shifting to core measures like water heater savings and space heating savings. New Homes will be the primary contributor to gas savings due to high new construction activity. Existing Homes will see a 10 percent decline in saving, due to conclusion of the Opower pilot. All programs will focus on increasing cross-program collaboration. We need to develop around technologies rather than program boundaries.

Elaine: Do you expect savings from behavioral initiatives in 2016?
Thad: We are interested in pursuing behavioral savings but don't have a lot of detail yet.
Marshall Johnson: There aren't behavioral savings in the budget. We are exploring some ideas. Controls may be a better strategy.

Alan Meyer: Is the advanced controls incentive just for heat pumps?
Thad: It will be for all forced-air furnace heating systems. We will launch a control opportunity for all retail and contractors.

Don MacOdrum: Water heating seems like an opportunity. Heat pump water heaters are oversized compared what they are replacing, and won't fit in the same locations. Are there efforts to give manufacturers feedback for optimal designs?
Marshall: The short answer is that we are a small market in Oregon. NEEA is the biggest drive for sending that feedback. They work on both sides.
Jeffrey Mitchell: We are looking into locations of water heaters in the region and what level of communication would make them appropriate. That will feed into how and when we can inform a new standard. It will depend on how these meet the needs of the local market. We will have a lot more by end of 2016.

Wendy Gerlitz: How does Savings Within Reach fit within this context?
Thad: It fits in best in the effort to expand savings that we haven't been effective in reaching.
Marshall: We made some changes with Community Action Partnership of Oregon to expand income qualifications. We expect more Savings Within Reach projects next year.
Thad: The key thing is that we think there's a resource opportunity there, but we need to figure out how to get to it.
Wendy: Budget projections in that area would give a sense of how that will work.

Warren Cook: We appreciated the cooperation with Energy Trust on Residential Energy Tax Credit rulemaking. We've been kicking around cross-promotion of Residential Energy Tax Credit

and incentives. The legislature wants to know who is spending what on savings, so data management is a huge opportunity.

Susan Brodahl: What percentage of new housing starts are you planning to reach?
Mark Wyman: About one-third. We also expect about a 10 percent increase in new homes built, so volume will be higher. Market saturation was about 25 percent last year and 20 percent before that.

Holly Meyer: Where can we see more detail budgets?
Kim: The action plans are more complete.
Holly: Will we take it offline in our utility budgeting process?
Peter: When this gets posted there are a lot of utility specific slides. You can drill down more deeply using those.

Thad: This isn't everything that we are doing. These are examples that cut across the programs.

Oliver Kesting presented the business sector action plan. Gas and electric savings goals in 2016 are slightly higher than goals in 2015. The goals are higher for Cascade, PGE and Pacific Power territories. The NW Natural goal has decreased due to lower potential in Existing Buildings due to market saturation, smaller projects and fewer custom opportunities. Pacific Power increased goals reflect large opportunities in in New Buildings.

> New Buildings electric savings goal is increased due to the economic rebound.
>
> There are changes to the way we're claiming savings in commercial SEM. We used to project commercial SEM savings based on regression modeling but it's difficult analysis and accuracy is not great without a full year of data. We got an evaluation back that suggested waiting until savings had proven and claim them at that point. We will be moving to this methodology in 2016.
>
> Existing Buildings makes up half of the sector's gas and electric savings, and goals are reduced due to market saturation, smaller projects and fewer opportunities for custom projects. The SEM goal is down by 50 percent. In 2016, Existing Buildings will maintain statewide program reach and work to develop opportunities in under-participating areas. We will adapt lighting to a changing market and to changing codes and standards. The program will expand work with trade allies, drive customers to the most cost-effective measures, and expand operations and maintenance offerings.
>
> Multifamily will diversify the measure mix so we are not as reliant on direct installation of energy-saving products for savings. Multifamily will also continue to build relationships with customers to help them implement longer-term energy-saving strategies.
>
> New Buildings incentives will likely remain the same. The goal is to transform practices and increase owners' ability to target and sustain deep energy savings. We are building on the momentum and interest in the Path to New Zero as well as the Architecture 2020 Challenge. We will continue to support small commercial building owners and businesses with our Market Solutions Packages, maintain and grow opportunities with new measures
>
> We will also launch several new initiatives in 2016. Existing Buildings will expand direct installation offerings, expand Pay for Performance, launch a retrocommissioning offer and add SEM tools and training materials. Multifamily plans to offer new measures,

which may include advanced power strips, heat pump clothes dryers, ventilation optimization, low-e storm windows and commissioning of building energy management and controls systems. New Buildings will update the market solutions offering to add new technologies and respond to HVAC code changes.

Don Jones: One comment says that we are trying to wean ourselves off direct installation of energy-saving products, but another comment says we will expand.
Oliver: We're trying to reduce reliance on direct installation of products in multifamily properties, but we will add direct installation offerings in the Existing Buildings program. It's about diversifying the portfolio.

Andria Jacob: Is there a focus on multifamily new construction? In Portland, 80 percent of new construction is expected to be multifamily.
Becky Walker: There is a market solutions offering for multifamily buildings, and our multifamily outreach staff person has been very busy.
Wendy: Is anyone targeting affordable housing?
Becky: We do a lot of affordable housing.

Brent: How do retrocommissioning and SEM fit together?
Oliver: Retrocommissioning is targeted to specific measures. Pay for Performance is more comprehensive. SEM focuses on multiple buildings and improving organizational energy practices.
Don Jones: Pacific Power does a system approach that's more comprehensive. Retro-commissioning is a gateway project to get customers comfortable.

Jeffrey: Are you going to target only multifamily properties with community blitzes or do you work with single-family properties as well?
Kate Scott: Our business development representatives do target multifamily properties, but we work with residential programs to hand off leads.

Kim presented the industrial and agricultural sector plan. There is a low forecast in Cascade Natural Gas territory in 2015 currently. We typically make our Cascade Natural Gas goals based on two to four projects a year. We have set our 2016 Cascade Natural Gas goal to match 2015.

In NW Natural territory, there is a high forecast for this year, but we don't see this level of savings sustained in 2016. But there is a robust 2016 pipeline.

We will come in under goal for PGE territory in 2015, driven by things that will also matter in 2016. We don't have a megaproject in PGE in 2015 or 2016.

In Pacific Power territory, we have the largest project pipeline we've ever had going into 2016 in Pacific Power. We recut the territories for Program Delivery Contractors in 2014.

In 2016, we expect a slight decrease in electric and gas savings, but our budget won't decrease. There is a change in our electric free ridership rate of 8 percent, which means we need 8 percent more working savings to reach our goal. In addition, custom projects have high initial costs but low levelized costs because of long measure lives. A custom kilowatt hour is about twice as expensive in first-year costs.

The volume of trade ally-driven streamlined track projects are expected to increase in 2016, and projects are expected to decrease in size. This is due to PDC promotion strategies and growth in LEDs. More small projects will help us reach our goals more

consistently and smooth out some of the lumpiness that comes from relying on a small number of large projects to meet goals.

We've intentionally targeted medium-sized industries with SEM, which results in fewer savings per site. After having provided SEM for seven years in PGE territory, we are finding that we have hit the best candidates. The sites we are recruiting now may not be ready yet, but it's our job to move them along. We are developing continuous SEM in 2016. Planned development of a scoping walk through tool will help custom PDCs serve small to medium customers. We need to automate high quality reporting and expand services without raising costs. We are gathering other markets' baseline data regarding cannabis as a new industry.

We are not proposing major incentive increases. We are looking at better lighting control incentives, but most Production Efficiency incentives will stay the same in 2016.

The industrial lighting and streamlined industrial PDC contracts will be rebid in 2016.

Wendy: I'm on a panel at the Citizens' Utility Board conference that has cannabis as a topic. If you are going to spend 2016 learning, I'm concerned there will be lost opportunities as these production facilities get built. Have you assumed any savings from this market in your 2016 goal?
Kim: Working with these sites is one the ways we will learn. We can do custom analysis and provide incentives right now. That said, there is some caution about going big before we know more. We didn't include overt savings from this sector in our goals, as we don't build our goals that way anyway. We do them top down based on what we did in the past and guesses about what we can get. There is uncertainty about rulemaking and the second half of the year could bring a rush. We also hope to work with NEEA in 2016 to bring in information from Washington and Colorado.
Peter: We are in an emerging industry without fully written rules. Directionally it's clear, but not operationally. We have some products that can serve the industry today, which we know from work with the medical marijuana industry.
Don Jones: There could be a big bubble in the cannabis industry and things might change over time. Caution is not a bad thing.

Jim Abrahamson: Have you discovered natural gas applications in the cannabis field?
Kim: Not yet. So far it's mostly lighting and ventilation. If anything, we need to take heat out.

Tyler Pepple: What was the cause of the free ridership change?
Kim: It was largely driven by a single site's survey. They were deemed a 50 percent free rider. Since it was such a big project and large portion of the total surveyed, it had an 8 percent impact on our electric savings.
Fred Gordon: Social science is never precise. We use three years of history, and cumulatively it still had an impact. Since no method is precise, we use simple, transparent methods.
Brent Barclay: Is the gross savings still reported to the council? There's still value that should be recognized by quantifying the gross savings.

Ted Light presented the NEEA action plan. There has been a significant increase in NEEA savings due to battery charger standards, which impact devices from phones all the way up to golf carts. Savings will continue in 2016. The budget is under 5 percent of our budget but brings in 12 percent of savings. It's very cheap on levelized costs.

Jeffrey: We are trying to target how and where heat pump water heaters are appropriate so we can impact standards. We are trying to target the emergency replacement market and distributors, which comprise about 70 percent of the region's water heater replacement. There are new manufacturers with higher quality, tier two products. Ductless heat pumps have a little bit of cost-effectiveness risk. The price hasn't come down as much as we wanted, and we are looking at ways we can reduce it.

Alan: Can anyone tell me more about battery chargers?
Fred: There may be some smart features but it's more about transformers.
Peter: We'll bring that back with more information.

5. 2016 residential sector incentive changes

Marshall: There are three categories of changes. With gas water heaters, there have been federal standards changes. We have to shift how we analyze those measures. There have been reductions in ductless heat pump savings. Gas fireplaces have seen some changes, which were previewed at Conservation Advisory Council earlier this year. Savings are declining in lighting, which make it more difficult to do direct installation.

> We will discontinue the Existing Homes EPS™ incentive. It was created to support a transition when we removed the Home Performance with ENERGY STAR® assessment incentive. We were asked by the Conservation Advisory Council to come up with an approach to help home performance contractors, and the $75 EPS incentive was the result, along with the $100 multi-measure bonus.
>
> In the last 10 months, we have received 367 incentives for EPS, including 208 from one contractor and 114 from another contractor who provides few projects to the program and also leverages direct installation of products. We haven't seen core measures using these incentives. There isn't a robust market that depends on our incentive. There are other ways we can drive interest in EPS.

Holly: People who get an Existing Homes EPS might take a few months to move forward with projects. It seems kind of premature to decide it doesn't work. We need time to see what people might do. Why do you feel it failed?
Marshall: Maybe 25 to 30 percent of the time after a Home Performance assessment people participated. We applied that benefit to people who did multiple measures to bring more savings into the program. It provided a way to decrease the impact on contractors using that business model. We don't fully know the long-term strategy for EPS. There will be compliance with standards from Oregon Department of Energy and we can support that infrastructure. We think we can invest in other places that are more influential, such as marketing and possibly EPS connections to Regional Multiple Listing Service. The $75 incentive is not a scalable approach for driving awareness and adoption of EPS. In new construction, EPS has been effective, but not in the retrofit market. We are facing a cliff at some point where savings from instant savings measures will be reduced. Few dollars will be on the table to drive activity. We're trying to make investments in areas where there is a connection to energy savings.

Holly: The scalability doesn't have to be forever, just enough to get the market running on its own. It seems odd to pull out this early as we are trying to get it adopted. I hate to back out when something is getting momentum.
Peter: We are still going to promote EPS, but we are unsure how we will do it. There is a supply side and demand side. In supply, we agreed to it as a broad-based transition for contractors. It really is only being used by a narrow set of contractors. The supply side isn't working. It hasn't

attracted enough contractors. We have a lot of work to do, but don't want to throw out a bunch of demand side-advertising while we have a $75 per unit budget hole.

Don MacOdrum: There would be concern on the demand side if it was overly adopted. It negates the concern of too few contractors offering it. I heard from the contractors and all have plans to do more of these. It's a valuable incentive and the logic of it being underutilized and too expensive is a problem. What's most troubling is that the EPS market has seen a lot of change. There are two major initiatives underway that could tie in nicely with promotion to customers. HB 2801 and real estate information aggregator efforts are huge. I wish we could have a conversation about the strategy. This change seems out of the blue. Was the EPS concept map project only internal?
Marshall: There were stakeholders involved. It was more about how we promoted and provided value. It's not serving as a gateway into the program. EPS feels more like a validation of investments already made than a tool to drive new sales. It doesn't bring value in the way we planned.

Warren: To clarify, Oregon Department of Energy doesn't have a platform, but we have rules to establish one. There are some game changers out there nationally. If someone reaches a certain energy score with their home, they can receive an Federal Housing Administration interest adjustment, for example. Taking away the $75 incentive doesn't mean giving up on EPS.

Scott Davidson: What we would like to hear is that there will be an investment in creating demand.
Mark Wyman: We are investing in other areas, like training real estate professionals. It can be a tool for signaling the market at large.

Holly: It feels a bit jarring for those of us who have worked on EPS all this time to say it's over. Some coaching along the way would have been great in terms of honoring those efforts and time investments.

Kim: You can also email your comments to Marshall, Peter and Mark.

Marshall: When we looked at the multiple measure bonus, only eight trade allies were using it. It didn't appear to be a big driver of deep savings. We can reduce program costs by eliminating it.

Holly: Was it not cost-effective?
Marshall: Since we now calculate all insulation as a single measure and insulation is only continuing under an exception from the OPUC, we didn't see this as driving more cost-effective measures like it was designed to.

Don MacOdrum: In the action plans, it says "must be cost effective." Does that cover these measures that are available under the exception process?
Marshall: No, it doesn't include them.

Wendy: Why align the gas furnace incentives with Savings Within Reach?
Marshall: The incentive is for rentals. This will align the incentive level at $550 so furnace incentives will be consistent for moderate-income customers and rental homes. We anticipate these incentives being relevant to NW Naturals Clean Heat initiative.

Elaine: Will the change in ductless heat pumps bring more savings at the higher tier?
Marshall: We will see increased savings at the higher tier.

Warren: There is also a $1,200 tax credit at that higher tier that we can align on.

Garrett: PGE has a concern that we will drive people to invest in the wrong things. They will think that they should replace a standard, 5-gallon water heater with a 50-gallon heat pump water heater when that won't meet their needs. The structure may cause problems and we won't realize the savings.
Marshall: The issue is the federal baseline, and it will be a problem to drive against that baseline. We see it as 5 to 7 percent of our heat pump water heater volume. We'll work with NEEA on tier three heat pump water heaters.

Charlie: What was the advice behind the change?
Fred: Data was presented to the Regional Technical Forum indicating that incentives did not influence the size of water heaters purchased.
Garrett: If the customer is purchasing for themselves, they think it's a one-for-one replacement.
Charlie: The Regional Technical Forum struggled with that also.
Marshall: We could go either way.
Don Jones: Pacific Power went to small tanks to claim savings.
Peter: We are reacting to an evaluation and how we understand the data. We can meet separately to go through it. We can get the key people together to discuss.

Alan: Will we also do that for the EPS incentive change?
Marshall: What I heard from the group is that we should meet with Don MacOdrum and others who want to discuss EPS further.

Brent Barclay: I suggest you take the clothes washer recycling details to the Regional Technical Forum.
Don Jones: Are you keeping washers out of the rebuild market?
Brent: If someone has already done the work, we could leverage that work at Bonneville Power Administration.
Peter: We will share the data and schedule discussions to walk through it.

Marshall: I want to explain how we plan to simplify the heat pump water heater requirements. We plan to adjust this measure from a consumer-based incentive to a retail measure, which provides a lower savings assumption per unit. However, it allows for driving significantly more units.
Mark: Gas heated homes can't get heat pump water heaters, so we are adjusting for that.
Don Jones: But customers can purchase them at retail.
Mark: We are trying to move into retailer instant incentives. There are gaps in how we engage the market. We will devote marketing and field staff to promoting water heating at retail.

Kim: We will engage individuals to follow up on these concerns. In the meantime, you can reach out to Peter, Marshall or Mark with feedback.

6. Public comment
There were no additional public comments.

7. Meeting adjournment
8. The meeting adjourned at 4:30 p.m.

The next scheduled meeting of the Conservation Advisory Council will be on November 20, 2015, from 1:30 p.m. – 4:30 p.m.

Tab 8

Glossary of Terms Related to Energy Trust of Oregon's Work

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 current and comprehensive information. Last updated July 2015.

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 specifies the methodology for calculating above-market costs. *Reference the Board Cost-Effectiveness Policy and General Methodology*

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, efficient windows and weatherstripping, which reduce the amount of cold air entering or warm air escaping 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 (Btu)
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 and Power, 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. *Reference the Board Combined Heat and Power Policy*

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). 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. *Reference the Board Cost-Effectiveness Policy and General Methodology*

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 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. In Oregon, the pilot program was called the Volumetric Incentive Rate program and each investor-owned utility in the state ran separate programs. Solar systems receiving a feed-in tariff rate were not eligible for Energy Trust incentives or a state tax credit.

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 Certificates or RECs)
See the Renewable Energy Certificates entry.

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 reusing heat from the cold outdoors with an electrical system in the winter. Most systems use forced warm-air delivery systems to move heated air throughout the house.

Heating, Ventilation and Air Conditioning (HVAC)
Mechanical systems that provide thermal comfort and air quality in an indoor space. They 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 Btu. 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 a greenhouse gas.

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 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.

Oregon Public Utility Commission (OPUC)
Energy Trust operates under a grant agreement with the OPUC and reports quarterly and annually to the state agency. Reports include quarterly presentations to the commission and an annual update on progress to OPUC minimum annual performance measures.

Path to Net Zero (PTNZ)
The Path to Net Zero pilot was launched in 2009 by the 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. The offer 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.

Program Management Contractor (PMC)
Company Energy Trust contracts with to deliver and implement a program or major program track. PMCs keeps costs low for utility customers, draw from existing expertise and skills in the market, and allow Energy Trust to remain flexible and nimble as the market changes. PMC contracts are competitively selected, reviewed by a committee with internal staff and external representatives, and approved by the board.

Program Delivery Contractor (PDC)
Company Energy Trust contracts with to implement a specific program track. PDCs keeps costs low for utility customers, draw from existing expertise and skills in the market, and allow Energy Trust to remain flexible and nimble as the market changes. PDC contracts are competitively selected, reviewed by a committee with internal staff and external representatives, and approved by the board.

Public Purpose Charge
Established in SB 1149, the public purpose charge is a 3 percent charge from PGE and Pacific Power Oregon customers. Three fund administrators distribute the ratepayer dollars: Energy Trust of Oregon for energy efficiency, market transformation and renewable energy programs; the Oregon Department of Energy for energy efficiency in schools; and Oregon Housing and Community Services for low-income weatherization and housing assistance. Energy Trust is funded through the public purpose charge (SB 1149), supplemental funding (SB 838) and contracts with two gas utilities.

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 Certificates (RECs or Green Tags)
A Renewable Energy Certificate is a tradable commodity that represents the contractual rights to claim the environmental attributes of a certain quantity of renewable electricity. The environmental attributes include the reductions in emissions of pollutants and greenhouse gases that result from the delivery of the renewably-generated electricity to the grid.

Here's how emission reductions occur: When a renewable energy system 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, the renewable energy system causes them to generate fewer emissions of pollutants and greenhouse gases. These reductions in emissions are the primary component of RECs.

RECs 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. RECs 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.

RECs are bought and sold every day in the electricity market. They are measured in units, like electricity. Each kilowatt hour of electricity that a renewable energy system produces also creates a one-kilowatt hour REC. *Reference the Board Renewable Energy Certificate Policy*

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, including in Oregon, 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 for 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
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 through the Oregon Department of Energy and to low-income customers through Oregon Housing and Community Services. SB 1149 is one stream of funding for Energy Trust, which is also funded through SB 838 to deliver achievable energy efficiency above the 3 percent and identified in utility integrated resource planning processes, and individual contracts with NW Natural and Cascade Natural Gas to deliver natural gas efficiency programs.

SB 838
SB 838, enacted in 2007, augmented Energy Trust’s mission in many ways. It provided a vehicle for additional electric efficiency funding for customers under 1 aMW in load by allowing PGE and Pacific Power to fund cost-effective energy efficiency above the 3 percent, and restructured the renewable energy role to focus on renewable energy systems that are 20 MW or less in size. SB 838 is also the legislation creating the state’s Renewable Portfolio Standard and extended Energy Trust’s sunset year from 2012 to 2026.

SB 838 is often categorized as supplemental funding in Energy Trust budget documents.

Sectors
For energy planning purposes, the economy is divided into four sectors: residential, commercial, industrial and irrigation. At Energy Trust, programs are divided into four sectors: residential, commercial (including multifamily), industrial (including irrigation) and renewable energy.

Self-Directing Consumers
A retail electricity consumer that has used more than one aMW of electricity at any one site in the prior calendar year or an aluminum plant that averages more than 100 aMW 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.

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.

Strategic Energy Management (SEM)
A program offering for both commercial and industrial customers: commercial Strategic Energy Management and industrial Strategic Energy Management. Through SEM, customers engage with Energy Trust for a year or more in a systematic and ongoing approach to lowering energy usage. Energy Trust helps customers track and monitor energy use and performance, identify and implement no-cost and low-cost operations and maintenance changes, develop an energy management plan and more. SEM creates culture change around energy, training employees at all levels that energy use can be tracked, reduced and managed.

Therm
One hundred thousand (100,000) British thermal units (1 therm = 100,000 Btu).

Total Resource Cost Test
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. This test is central to how Energy Trust delivers on its mission. This test is the main test that determines whether Energy Trust can offer an incentive for a project. It also reflects the region's approach to long-term energy planning by prioritizing investment in low-cost energy resources. *Reference the Board Cost-Effectiveness Policy and General Methodology*

Tidal Energy
Energy captured from tidal movements of water.

Trade Ally Contractor (Trade Ally)
Energy Trust trade allies are valued ambassadors in the field. The network of independent contractors andother allied professionals helps homeowners, businesses, public and nonprofit entities, developers and others complete energy-efficiency and renewable energy projects across Oregon and in southwest Washington. Quite often, trade allies are the first, last and only Energy Trust representative a customer will see.

Trade Ally Network
Energy Trust statewide network of trained contractors and other allied businesses.

Utility Cost Test
This test is used to indicate the incentive amount for a project. It helps Energy Trust determine whether providing an incentive is cost effective for the utility system. *Reference the Board Cost-Effectiveness Policy and General Methodology*

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.

Acronyms Related to Energy Trust of Oregon's Work

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 organization
AFUE	Annual Fuel Utilization Efficiency	The measure of seasonal or annual efficiency of a furnace or boiler
AIA	American Institute of Architects	Trade organization
AOC	Association of Oregon Counties	
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
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	Former Oregon tax credit
BOC	Building Operator Certification	Trains and certifies building operators
BOMA	Building Owners and Managers Association	
BPA	Bonneville Power Administration	Federal power authority
BPS	Bureau of Planning and Sustainability	City of Portland government agency
CAC	Conservation Advisory Council	Energy Trust advisory council to the board
CCS	Communications and Customer Service	A group within Energy Trust
CCCT	Combined Cycle Combustion Turbine	
CEE	Consortium for Energy Efficiency	National energy efficiency group
CEW	Clean Energy Works	
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 ratio of heat output to electrical energy input for a heat pump
CR	CLEAResult	Program Management Contractor for Existing Homes, New Homes and New Buildings
CRM	Customer Relationship Management system	Energy Trust's system to capture information on program participants and non-participants that have communicated with us
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	
EA	Earth Advantage	
EASA	Electrical Apparatus Service Association	Trade association
ECM	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	
EMS	Energy Management System	See definition in text
EPA	Environmental Protection Agency	Federal agency
EPRI	Electric Power Resource Institute	Utility organization
EPS™	Energy Performance Score	Energy Trust rating that assesses a newly built or existing home's energy use, carbon impact and estimated monthly utility costs

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	
GP	Great Plains	Energy Trust's financial tracking system
HBA	Home Builders Association	
HER	Home Energy Review	Online review of a residential customer's home
HSPF	Heating Season Performance Factor	
HVAC	Heating, Ventilation and Air Conditioning	
IBEW	International Brotherhood of Electrical Workers	
ICNU	Industrial Customers of Northwest Utilities	Trade interest group
ICF	ICF International	Existing Buildings Program Management Contractor
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 Solution Implementation Project	
ISM	Instant-Savings Measure	See definition in text
ITC	Investment Tax Credit	Federal
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	
LM	Lockheed Martin	Existing Multifamily Program Management Contractor
LOC	League of Oregon Cities	Local government organization
MEEA	Midwest Energy Efficiency Alliance	Midwest Market Transformation organization, Alliance counterpart
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
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 energy efficiency and renewable energy organization funded by a systems benefit charge
OBA	Oregon Business Association	Business lobby group
OEFSC	Oregon Energy Facility Siting Council	Authority to site energy facilities in Oregon
ODOE	Oregon Department of Energy	Oregon state energy agency and one of three public purpose charge administrators
OHCS	Oregon Housing and Community Services	One of three public purpose charge administrator
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
OSEIA	Solar Energy Industries Association of Oregon	Volunteer nonprofit organization dedicated to education/promotion
P&E	Planning and Evaluation	A group within Energy Trust
PAC	Pacific Power	

PDC	Program Delivery Contractor	Company contracted with Energy Trust to identify and deliver industrial and agricultural services, and commercial Strategic Energy Management services, to Energy Trust customers
PECI	Portland Energy Conservation, Inc.	Portland nonprofit; former Energy Trust PMC
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
PNUCC	Pacific Northwest Utilities Conference Committee	
PPC	Public Power Council	National trade group
PPL	Pacific Power	Formerly Pacific Power and Light
PSE	Puget Sound Energy	Investor-owned utility
PT	Project Tracking	Energy Trust's database that tracks details on customer projects
PTC	Production Tax Credit	Federal incentive that provides financial support for the first 10 years of a renewable energy facility's operation
PTCS	Performance Tested Comfort Systems	Promotes the efficiency of air-systems in residential homes
PTNZ	Path to Net Zero	See definition in text
PUC	Public Utility Commission	
PUD	Public Utility District	
PURPA	Public Utility Regulatory Policies Act	See definition in text
QF	Qualifying Facility	
RAC	Renewable Energy Advisory Council	Energy Trust advisory council to the board
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	
RNW	Renewable Northwest	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
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
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
T&D	Transmission & Distribution	
TRC	Total Resource Cost	See definition in text
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
WUTC	Washington Utilities and Transportation Commission	
Wx	Weatherization	
W	Watt	