

Energy Trust Board of Directors

September 27, 2017



153rd Board Meeting Wednesday, September 27, 2017 421 SW Oak Street, Suite 300, Portland, Oregon

	Agenda	Tab	Purpose
10:30 a.m.	Board Meeting—Call to Order (Debbie Kitchin)		
	Approve agenda		
	General Public Comment		
	The president may defer specific public comment to the appropriate agenda		
	юріс.		
	Consent Agenda	1	Action
	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.		
	• July 26, 2017 Board meeting minutes		
	Policy on Information Submitted by Utilities, Program Participants,		
	Contractors and Bidders 4.17.000-P–R816		
10:35 a.m.	President's Report		Info
10:45 o m	NEEA Annual Panart (Supan Stratton)		Info
10.45 a.m.	NEEA Annual Report (Susan Stratton)		IIIO
11:30 a.m.	Freeridership Study Presentation (Phil Degens)		Info
12:00 p.m.	Lunch Break		
12:30 p.m.	ODOE Update (Janine Benner)		Info
1:00 p.m.	Committee Reports		
	Compensation Committee (Dan Enloe)	2	Info
	Evaluation Committee (Alan Meyer) Evaluation Committee (Sugar Bradek)	3	Info
	Finance Committee (Susan Brodani) Policy Committee (Roger Hamilton)	4 5	Info
		J	iiio
1:20 p.m.	Staff Report		
	Highlights (Mike Colgrove) Lean Startup Training Summary Depart (75 minutes)		
	\circ 2017 Q2 Results (15 minutes)		
	 2018 Budget: Draft Action Plans (Peter West) (30 minutes) 		
3·20 n m	Adjourn		
5.20 p.m.			
3:30 p.m.	OPUC 101 Follow-up Training Board members are welcome to stay for this follow-up staff training on		
	the OPUC.		
	The next meeting of the Energy Trust Board of Directors will be	•	
	Wednesday, November 8, 2017 at 10:30 a.m.		
	at Energy Trust, 421 SW Oak, Suite 300, Portland, OR 97204		

Table of Contents

Tab 1 Consent Agenda

- July 26, 2017 Board meeting minutes
- Policy on Information Submitted by Utilities, Program Participants, Contractors and Bidders 4.17.000-P–R816

Tab 2 Compensation Committee

• August 24, 2017, Meeting Notes

Tab 3 Evaluation Committee

- June 14, 2017, Meeting Notes
- August 16, 2017, Meeting Notes
- Multifamily Process Evaluation Report

Tab 4 Finance Committee

- Notes on July 2017 Financial Statements
- July 2017 Financial Statements
- Contract Summary Report
- Financial Glossary of Terms

Tab 5 Policy Committee

- June 22, 2017, Meeting Notes
- September 7, 2017, Meeting Notes

Tab 6 Advisory Council Notes

- August 2, 2017, Conservation Advisory Council (CAC) Meeting Notes
- August 2, 2017 Renewable Energy Advisory Council (RAC) Meeting Notes

Tab 7 Glossary of Energy Industry Acronyms and Terminology

September 13 CAC meeting notes will be emailed prior to the board meeting if available September 15 RAC meeting notes will be emailed prior to the board meeting if available

Tab 1



Board Meeting Minutes—152nd Meeting

July 26, 2017

Board members present: Susan Brodahl, Ken Canon, Dan Enloe, Roger Hamilton, Lindsey Hardy, Debbie Kitchin, Alan Meyer, John Reynolds, Anne Root, Steve Bloom (OPUC ex officio)

Board members absent: Heather Beusse Eberhardt, Melissa Cribbins, Mark Kendall, Eddie Sherman, Janine Benner (Oregon Department of Energy special advisor)

Staff attending: Mike Bailey, Sarah Castor, Shelly Carlton, Scott Clark, Mike Colgrove, Hannah Cruz, Phil Degens, Andy Eiden, Sue Fletcher, Fred Gordon, Kate Hawley, Susan Jamison, Marshall Johnson, Corey Kehoe, Erika Kociolek, Steve Lacey, Debbie Menashe, Thad Roth, Dan Rubado, Mariet Steenkamp, Julianne Thacher, John Volkman, Sam Walker, Jay Ward, Peter West

Others attending: BJ Moghadam (NEEA), Greg Stiles (Ecova), Linda Woodley (public), Bob Stull (Ecova), Matt Braman (CLEAResult), Kari Greer (Pacific Power), E.D. Mondainé (NAACP Portland), Lisa Wright (NAACP Portland), John Charles (Cascade Policy Institute), Emily Fiecco (Secretary of State), David Kelliher (Ecova), Alecia Dodd (Ecova), Anne Snyder Grassman (PGE), Mike Christenson (Energy 350), Trent Brackenridge (CLEAResult), Roger Kainu (ODOE), Whitney Rideout (Evergreen)

Business Meeting

Debbie Kitchin called the meeting to order at 10:31 a.m. Reminder that consent agenda items can be changed to regular agenda items at any time. There were no changes to the agenda.

General Public Comments

The president may defer specific public comment to the appropriate agenda topic.

Susan Brodahl joined the meeting at 10:34 a.m.

Reverend E.D. Mondainé Jr., vice president of the Portland branch of the National Association for the Advancement of Colored People, Portland homeowner and Po' Shines restaurant owner, provided comment on the Energy Trust staff recommendation to the board of directors for residential sector program management and delivery contracts. Reverend Mondainé read from a letter from the Portland NAACP to the Energy Trust board and signed by Portland Branch President Jo Ann Hardesty. As written in the letter, the Portland NAACP requested the board reject the contract approval recommendations for the residential programs and reopen the competitive bid process with greater emphasis on diversity, equity and inclusion for underserved communities.

Reverend Mondaine read a copy of the letter. Although the letter was not delivered in paper form at the time of public comment, it was delivered to the board and to Energy Trust staff several days after the board meeting. A copy is included here:





PRESIDENT - JO ANN HARDESTY 1st V.P. - E.D. MONDAINE 2^{so} V.P. - NONI CAUSEY SECRETARY - MELISSA LANG TREASURER - CLEOPHAS CHAMBLISS

July 17, 2017

To:

Debbie Kitchen, President, Energy Trust of Oregon Ken Canon, Vice President, Energy Trust of Oregon Alan Meyer, Secretary, Energy Trust of Oregon Board Members: Susan Brodahl, Dan Enloe, Melissa Cribbins, Heather Beusse Eberthardt, Lindsey Hardy Roger Hamilton, Anne Haworth Root, Mark Kendall, John Reynolds, Eddie Sherman, Steve Bloom, Jamie Benner

From: The Board of the NAACP Portland Branch Executive Committee

Re: Request you reject contract for residential programs for 2018/2019 at your July 26 2017 board meeting until you are presented with a contract that ensures that all communities in Oregon benefit from the use of our public purpose funds.

Dear Board President Kitchen,

I am writing you today as the President of the NAACP Portland Branch. I have become aware of your intention to approve a contract for residential programs for 2018-2019. I strongly request that you reject this staff recommendation and send your staff back to the drawing board. I was troubled that your RFP only provided <u>5</u>% points for a plan to ensure services were made available to low-income communities and communities of color.

While low-income communities and communities of color all pay the public purpose fees on our utility bills in addition to paying more for utilities in the first place, the fact that ETO put so little value on engaging these communities clearly shows the need to reject this proposal.

Energy Trust has managed the Oregon public purpose funds 2002, yet still hasn't figured out a way to ensure that rural communities, low-income and diverse communities benefit from this mandated payment. The numbers of people paying this public purpose fund without any benefits continues to grow yet it appears that the Energy Trust of Oregon continues to ignore this growing inequity.

On June 10, 2017 NAACP Presidents from Eugene, Corvallis, Salem and Portland met with the Governor and legislative leadership to provide them with a copy of our research report Just Energy Policies: Reducing Pollution and Creating Jobs. The report clearly shows that while there are significant incentives in Oregon for energy improvements, those benefits and incentives benefit only a small segment of the population.

PORTLAND NAACP BRANCH 1120 | P.O. BOX 12333 | PORTLAND, OREGON 97212





PRESIDENT - JO ANN HARDESTY 1st V.P. - E.D. MONDAINE 2^{so} V.P. - NONI CAUSEY SECRETARY - MELISSA LANG TREASURER - CLEOPHAS CHAMBLISS

Almost all the incentives are for home owners yet 40% of our population are renters, low-income and people of color. Where are our benefits? With the Energy Trust budget schedule to be approximately \$198.6 million in 2017, it is critical that the needs of diverse communities are addressed as these funds are disbursed. Oregon rate payers are not a homogenous group. However, Energy Trust of Oregon continues to operate in an environment which does not acknowledge the diversity of it's service area. We believe the lack of diversity in the Energy Trust of Oregon's staff and Board of Directors has resulted in inequalities in the way that public purpose funds are utilized. Under current Energy Trust policies and practices, it is unrealistic to assume that public purpose funds will be used for the benefit of all rate payers when there are no decision makers among Energy Trust staff with a vested interest in designing programs which diverse communities can access. Also, because there is very limited diversity among contractors and trade allies, it reinforces the difficulty of successfully designing and implementing programs for diverse people and income levels.

Now is the opportunity for the Board of Directors of the Energy Trust of Oregon to recommit to your mission, to serve all Oregonians. Will you be a voice for inclusion and sharing the benefits of a clean energy future with low-income, rural and communities of color? Or will you continue to support the status quo by allowing this emerging clean energy future we all envision to only be available to the wealthy of our community at the expense of ratepayers who can't benefit.

Again, the NAACP Portland Branch strongly encourages you to reject the pending 2018-2019 residential program and start again. The first thing in your new RPF should include a scale of 25-30% of the score to develop residential programs that benefit ratepayers that are low-income, rural and that represent the diverse communities that make up our state. Anything less is unacceptable and doesn't serve the people of Oregon.

Sincerely Jo Ann Hardesty, President NAACP Portland Branch

PORTLAND NAACP BRANCH 1120 | P.O. BOX 12333 | PORTLAND, OREGON 97212

The board appreciated Reverend Mondainé's input on behalf of Portland NAACP, and invited Portland NAACP to continue to be involved in helping Energy Trust address this issue. The board discussed that page 3 of 19

a reweighting of the scoring could be informative and may result in a different numerical result. The process is nearing its end and it is important to move forward with a selection to avoid disruptions in services for residential customers.

Reverend Mondainé said it would be an indication that the board is trying to resolve the issue and is a starting point.

The board thanked Reverend Mondainé for providing them with the Just Energy Policies report and the Portland NAACP's concerns. The board has recognized equitable access to Energy Trust services is essential to consider in designing and delivering programs. Energy Trust started a Diversity, Equity and Inclusion initiative. Recently, the board reviewed the initiative at a May board workshop, discussing what it means to board and staff in terms of programs. The initiative also rated high in terms of prioritization for the organization. From a practical, pragmatic standpoint, Energy Trust is trying to meet energy goals and the only way to do that is to reach more and more people. It is something the board and staff has taken to heart. Energy Trust will have to work through this specific element in a way that doesn't disrupt program availability.

The board discussed follow-on actions Energy Trust and Portland NAACP could take together. Reverend Mondainé welcomed a one-on-one dialogue with Energy Trust staff and Executive Director Mike Colgrove. In response the board's question on whether Portland NAACP has any suggestions for Energy Trust in terms of diversity in income levels and types of housing, Reverend Mondainé said he will prepare that for the one-on-one dialogue.

The board noted Energy Trust needs the NAACP's help in reaching out and structuring programs so the organization delivers in the market sectors noted in the letter. Reverend Mondainé noted one of the things the NAACP is trying to do is to bring forward critical thinking instead of criticizing. They are relieved this is a group of hopefuls and critical thinkers looking to help the community together.

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. May 18-19, 2017, Strategic Planning Workshop minutes
- 2. June 7, 2017, Board meeting minutes
- 3. Authorize a Contract Amendment with SBW Consulting, Inc. for Evaluation Services-R809

RESOLUTION 809 AUTHORIZING THE EXECUTIVE DIRECTOR TO EXECUTE AN AMENDMENT TO A CONTRACT WITH SBW CONSULTING, INC.

WHEREAS:

- 1. Following a competitive solicitation process that concluded in March 2016, SBW Consulting was awarded the contract to conduct an impact evaluation for Energy Trust's Production Efficiency program, covering program years 2013-2014.
- 2. The added scope of the amended impact evaluation contract is to cover data collection, impact analysis, and reporting of savings results, observations and recommendations for program improvement for an additional sixteen (16) custom projects.
- 3. The expected not-to-exceed budget for the amended contract is \$540,000, which exceeds

the executive director's signature authority and requires board of directors' approval.

It is therefore RESOLVED that the Board of Directors of Energy Trust of Oregon, Inc., hereby authorizes the executive director to sign an amended contract for evaluation services for the 2013-2014 Production Efficiency program impact evaluation with SBW Consulting with a budget of up to \$540,000.

Moved by: John Reynolds Vote: In favor: 9 Opposed: 0 Seconded by: Ken Canon Abstained: 0

President's Report

Debbie presented on resiliency trends and how growing interest in improving the state's resiliency will continue and may affect Energy Trust's work. She met recently with ZincFive from Wilsonville, which won the Oregon Technology Association award for "Most Disruptive Technology off the Year" for its nickel-zinc battery. The battery technology is environmentally safe, maintenance free and recyclable. It could be back-up for critical emergency and other needs like traffic data centers or high-tech data centers. The battery is an example of the large transformations and improvements happening in battery technology that may impact solar, utilities, the electric grid and other energy-related opportunities.

Planning and Evaluation – End Use Load Research Project

Authorize an Amendment to the Regional Energy Efficiency Initiative Agreement with the Northwest Energy Efficiency Alliance–R810

Mike reviewed the resolution, which would authorize Energy Trust to amend its contract with NEEA for an end use load research project. The project would entail continuous metering of various end-use systems in residential and commercial buildings to better understand load shapes and penetration. Mike is on the end use load research steering committee and Phil Degens is part of the associated working group. The project is a five-year project that will cost an estimated \$12.5 million total. Energy Trust's funding of the project is based on its proportional funding overall for NEEA, and will amount to approximately \$2.5 million over five years. The contract amendment is structured to cap at approximately \$2.5 million or Energy Trust's proportional share of NEEA funding, protecting Energy Trust if the cost of the project changes. Bonneville Power Administration and Energy Trust are the largest funders of NEEA, and NEEA wanted the largest funders committed to encourage the rest of funders to commit. Of the 15 funders, 10-12 have already committed.

Mike clarified Energy Trust's funding is proportional based on the overall cost of the project, and is about 20 percent of the project cost.

The board asked for more information on what is driving the cost per site metered. Phil Degens noted that end use metering is expensive. NEEA looked at nonintrusive load metering technologies but they are not as reliable for assessing loads and load patterns for individual energy uses (e.g., water heating or clothes washer). Part of the cost is wiring individual homes. The cost per site is driven by the cost for collection, analysis and monitoring over time. The goal of the project is to have the meters in place for five years.

Phil described end use metering, which involves site visits and a review of the circuit breaker panel to determine which breakers to meter. The breakers will be wired with remote communications so the project team is aware as soon as possible if the metering breaks or is disrupted. Phil noted there is a higher cost to recruiting the 500 sites, and its expected only one in three sites identified will participate due to site-specific factors, including suitability of the wiring and end-uses, and customer willingness. Mike noted the metering will help the project team understand when equipment like a refrigerator draws

from the grid and if that is during peak periods. By knowing this information, NEEA and Energy Trust will better understand what end uses provide value in terms of peak load reduction.

Mike clarified industrial funds are not being used to fund the study.

The board asked how the project will be budgeted for Energy Trust's portion. Mike said the budget for the project will be set during the annual budgeting process, and the amount will fluctuate depending on the year.

Fred Gordon noted approximately \$150,000 in starter funding was allocated in the 2017 annual budget, and used as a show of commitment to bring other funders to the table. The project will be budgeted as part of the Planning & Evaluation group budget. Fred noted that evaluation budgets today are not apportioned depending on what specific sectors are being studied. This could be something to think about given the amount of this project. Traditionally, Energy Trusts policies have taken the perspective that reductions in load reduce the need for generation and fuel to the benefit of all customers. Fred said staff held on committing to this project until it became clear that peak costs are significant enough that understanding how measures reduce peaks helps determine the value of efficiency. Knowing equipment load shapes will inform efforts to understand that value.

The board asked staff to keep in mind if other studies or activities should be delayed given the cost of the project.

Phil noted the residential sites will be selected based on technologies at the site and not necessarily selecting a representative sample of residential homes. Phil clarified the resolution language and the use of "new" indicates new to the study, not new residential construction.

The board asked whether the sites will also be used to monitor new technologies. Fred noted it is a natural impulse to put many other research objectives into expansive studies, but multi-research often fails. Staff will make sure to prioritize the most important questions first so staff can answer them with some authority. Fred said Energy Trust will never know all load shapes of all equipment based on metered data because that costs too much. We will gain knowledge on the most important measures in terms of overall savings. Some lower priority measures we will estimate based on simulation or small sample data. For others that represent even less savings we will use simple engineering analyses.

The board discussed whether the sampling of the sites should start at around 30 sites instead of 100, citing a high-tech wafer project that conducted multi-varied testing of a smaller quantity of wafers. Staff noted 500 sites is the number needed to adequately test the various end-use technologies, and offered that the wafer project example tested a uniform product while the end-use technologies to be studied here are all different and are operated differently, resulting in multiple load shapes.

Mike clarified the funding request is in addition to the 2017 approved budget.

The board asked whether any other regions in the U.S. have completed a similar study. Phil said a similar study was completed on the East Coast for a couple of end uses. Not all the information was transferrable to the Pacific Northwest region.

The board asked whether there were any process learnings from that study. Phil believes that the commercial roof top unit load shape as well as commercial lighting load shape might be useful when the project starts looking more closely at commercial end use load metering.

Fred described the benefits of the study. Currently, staff is in the process of updating avoided costs. The forecast value of e energy savings is decreasing relative to what was forecast two years ago. The

value of winter peak and especially summer peak is going up. This is in alignment with what the Northwest Power and Conservation Council presented to the board a few months ago. The Pacific Northwest is pivoting to an evaluation of how much energy is saved and when it is saved, with the latter value increasing. Mike noted Energy Trust should have started this evaluation three to five years ago as the information is needed now. Fred said the electric utilities will use it to understand the value of demand-side management programs, and PGE is interested in making an additional contribution on top of Energy Trust's contribution.

The board stated that they are pleased the study will be completed.

Phil described how the sites will be selected. For instance, one of the questions from the Residential Building Stock Assessment asks whether the participant is willing to participate in this study.

The board discussed the resolution language, and adding a reporting clause to the resolution. Mike said the board will see the allocation brought forward every year during the annual budgeting process. This contract and resulting amendment does not commit Energy Trust to the amount. The annual authorization happens when the board approves each annual budget. Staff can provide progress updates each year.

John Charles, president of Cascade Policy Institute, provided public comment on the resolution. He said he appreciates the time the board put into deliberating the resolution. The comment about it being an annual authorization is appropriate; it's not appropriate to commit to five years of funding. The board should be very clear that you reserve the right to pull out over time if results don't merit it. He suggested that Energy Trust and NEEA are very comfortable in spending ratepayer dollars because it just appears. Energy Trust should solicit money from foundations. Money is being left on the table if you're not asking for foundation money. Energy Trust should also not be obligated to a share, which is irrelevant, as the project should be considered on its merits as a project. This allows for the possibility that you could put more or less into the project depending on what you are receiving from the project. Reserving the right to back out if needed in the future would be prudent.

The board thanked John Charles for his comments.

The board reviewed the resolution language and discussed revisions to add a reporting loop back to the board and to require a project update during each annual draft budget presentation. Staff will incorporate the revisions and bring the revised resolution back to the board later in the meeting.

Freeridership Study Presentation

The board postponed the presentation to a later date due to time constraints.

Executive Session

The board met in executive session pursuant to bylaws section 3.19.1 to discuss internal personnel matters from 11:45 a.m. to 12:24 p.m.

Planning and Evaluation – End Use Load Research Project

Authorize an Amendment to the Regional Energy Efficiency Initiative Agreement with the Northwest Energy Efficiency Alliance–R810

Staff provided a revised Resolution 810 to address the board's earlier comments to clarify funding is approved on an annual basis and to add a reporting clause.

RESOLUTION 810 AUTHORIZING AN AMENDMENT TO THE REGIONAL ENERGY EFFICIENCY INITIATVE AGREEMENT WITH THE NORTHWEST ENERGY EFFICIENCY ALLIANCE

WHEREAS:

- 1. The Northwest Energy Efficiency Alliance (NEEA) remains the premier regional market transformation organization and Energy Trust contractor since our inception.
- 2. In January 2015, Energy Trust entered into a five-year regional funding agreement with NEEA to support NEEA's 2015-2019 Business Plan activities and to acquire market transformation savings from NEEA's program delivery activities.
- 3. NEEA has proposed a five-year, comprehensive regional end use load research project monitoring identified end uses in a set of residential and commercial sites around the region (the EULR Project) which is supplemental to the activities described in its 2015-2019 Business Plan.
- 4. Energy Trust supports the EULR Project and will benefit from the results of the EULR project in designing its residential and commercial programs.
- 5. The proposed regional budget for the EULR Project is \$12,500,000. Energy Trust's regional portion, calculated at its current 19.961% funding share, is \$2,480,366, payable over five years.
- 6. Staff regards NEEA's work as essential to achieving Energy Trust savings goals over the next few years, helping ensure a full pipeline of efficiency projects to deliver long-term benefits to Oregon and the region, and further regards the EULR Project as an important regional research effort which will benefit Oregon ratepayers.

It is therefore RESOLVED:

- 1. The executive director or his designee shall identify annual budgets for each of the five years of the EULR Project and shall annually provide an update to the Energy Trust board regarding the status of the EULR Project (the "EULR Annual Report"). The EULR Annual Report shall be presented to the board during the presentation of the draft annual budget and twoyear action plan.
- 2. The executive director or his designee is authorized to negotiate and sign an amendment to the current Regional Energy Efficiency Initiative Agreement between Energy Trust and NEEA to authorize funding of up to \$2,480,366 to support the EULR Project.
- 3. Annual funding for the EULR Project shall be consistent with and subject to Energy Trust's board-approved annual budgets and two-year action plans.

Moved by: John Reynolds Vote: In favor: 9 Opposed: 0I Seconded by: Dan Enloe Abstained: 0

Energy Programs – Residential RFP Decision

Authorize Residential PMC and PDC Contracts–R811, R812, R813

Thad Roth introduced the resolutions. Staff recommends board approval for a Residential Program Management Contract with CLEAResult, Retail Midstream Promotions Program Delivery Contract with Ecova and EPS Whole Home New Construction PDC with TRC Solutions.

Thad described the 2017 residential sector structure, which includes three programs with three PMCs— Existing Homes, New Homes and Products. The structure is organized around how customers access services, either through contractors, builders or retailers. The programs have some similar activities, like project tracking, marketing and outreach.

A 2016 analysis of the program structure led to decision to restructure the sector, which will be implemented through a new PMC and PDC contracting framework. Thad reviewed the objectives of the request for proposals for residential PMC and PDC services, including providing more flexibility to serve customers, streamlining offerings and developing consistent market strategies. These objectives were formed from results of the sector reassessment and results of the RFP. Starting in 2018 if the board approves, the residential sector will continue with the PMC role yet will consolidate management functions into one PMC, like measure development, customer service, marketing and outreach. The individual PMC will support a portfolio of measures with strategy driven by internal staff. Program delivery contracts will be arranged directly between Energy Trust and the PDC, not as a subcontract between the PMC and PDC. The smaller program delivery contracts will be focused on program delivery and not program management. PDCs are akin to subject matter experts. PDCs positions Energy Trust to have direct conversations with retailers. Retail relationships are key to the Retail Midstream Promotions PDC while market expertise and technical expertise focused on the new construction market, reaching builders and expanding opportunities are key to the EPS Whole Home New Construction PDC.

Thad noted the new residential structure is a hybrid of the industrial sector if Energy Trust were to be considered the PMC in that case. Thad noted that through a direct contracting approach with the Energy Trust can define effective working relationships between the PMC and PDC.

The board asked if staff has concerns with any gaps or conflicts forming between the contracts. Thad said that is always a concern and is mitigated by outlining clear roles and scopes of work during the contracting process.

The board asked how staff roles will change with the new contracting structure. Thad said there will be some changes and he is working on restructuring residential staff. Currently there are three program managers managing the three PMC contracts and the rest of staff fulfills the remaining project analysis, marketing, outreach and technical responsibilities. One option for staff restructuring is to have one contract management manager, a measure portfolio manager focused on technologies, one manager for market channel manager manager, and one manager for marketing. The market channel manager informs how Energy Trust reaches out to customers, whether through contractors, retailer or distributors. The rest of the staff would keep the same responsibilities. One of the challenges is the projected change in savings over the next few years is still uncertain in terms of timing and magnitude. For the 2018 budget, overall program size and initiatives, they may not vary substantially from 2017 as staff understands the changes in timing and magnitude for future savings opportunities.

Thad described the RFP process. Respondents could respond to the PMC option, one or both PDC options or a combination of PMC and PDC options. There was a robust response to the RFP. Staff evaluated and scored each contract independently. Over the process, some companies consolidated their final responses with other companies that submitted intents to respond.

Two companies responded to all three contract opportunities. The RFP response review was done by a cross-organizational group of staff and two external evaluators, one from the Northwest Power and Conservation Council and a diversity, equity and inclusion expert.

Thad reviewed the RFP scoring criteria: 40 percent on energy savings and cost, 30 percent on proposal strength, 15 percent on team strength, 10 percent on collaboration, and 5 percent for diversity, equity and inclusion. This was the first time an Energy Trust RFP included an external reviewer specifically focused on diversity, equity and inclusion scoring. The 5 percent of the score was designated to understand the respondent's organizational expertise and resources in diversity, equity and inclusion. In other portions of the RFP scoring, the respondents were asked how to reach and serve all customers, reflecting additional focus and significance to this important aspect of program management and delivery in the RFP scoring process.

Thad noted staff reassessed the scoring results by weighting the diversity, equity and inclusion score at 25 percent after the board request this morning. The change in weighting did not change the ranking of respondents and still aligned with the unanimous recommendation of the RFP team. Staff welcomes continuing the conversation. Thad noted the strategic plan includes a goal of expanding participation and through the RFP, the residential sector sought to broaden its reach and to improve its understanding of customers.

The board discussed how to share the findings with Portland NAACP, either through a letter or by having Mike set a meeting with Reverend Mondainé. Mike suggested the meeting approach would be the most effective, and the board agreed. Mike will also ensure Reverend Mondainé knows the RFP review committee included a diversity, equity and inclusion expert.

Thad said the evaluation process included a review that the minimum response requirements were met, the company exhibited financial stability and the company received a high score in the weighted evaluative criteria. Out of this evaluation, three PMCs and two PDC bidders received interviews. Each interviewed company was rescored and a selection made based on what companies received the highest scores. The recommendation before the board reflects a consensus decision on all three contracts. Thad noted the 2017 delivery budget of \$13.6 million is for the three PMC structure. By adding each resolution under consideration today, it totals \$10.72 million, suggesting a savings opportunity of 20 percent based on criteria established for RFP responses. Those numbers could change as staff moves into 2018 budgeting and is dependent on measure portfolio makeup and outreach strategy.

Thad reviewed staff recommendations before board. Staff recommends CLEAResult for the PMC— Residential Program. Strengths of CLEAResult are its experiences as a delivery manager, in-depth knowledge of challenges and opportunities, cost-competitive proposal, engineering and measure development expertise, and business system acumen. Peter noted CLEAResult is currently the Existing Homes and New Homes PMC, and is also the PMC for New Buildings. It is board policy that no one company can be a PMC for more than three programs. If the board approves resolution 811, CLEAResult would be PMC for the residential program and New Buildings, and also has smaller contracts for Strategic Energy Management delivery for commercial and industrial.

Staff recommends Ecova for the PDC—Retail Midstream Promotions. Strengths of Ecova are its ability to navigate the retail lighting market, ability to build from existing business relationships, and experience engaging a wide range of retailers from Dollar Store to Costco. Peter noted Ecova is currently the Products PMC, and also has smaller contracts for specific services, the latter of which will continue.

Staff recommends TRC Solutions for PDC—EPS Whole Home New Construction. TRC has experience in California in advancing new construction, and expert staff based on that experience. TRC showed innovative strategy and processes to gain deeper savings on a per home and per builder basis. TRC also has forecasting expertise and integration for strategic planning. TRC has an office in Portland, and currently contracts with Oregon Housing and Community Services and NEEA. TRC does not have any existing contracts with Energy Trust.

Thad reviewed the next steps if the board were to approve the three resolutions. Three transition contracts would be completed by September 1, transition onboarding and trainings completed by November 15, and 2018 contracts signed by December 22. There are transition costs, below \$500,000 board approval threshold per contract.

The board asked if there will be savings in terms of spending given the cost of residential programs going down and the discussion that there will be measure changes in lighting in the near future. Thad said staff will know more through the 2018 budgeting process. While lighting is a large component of the sector's savings, there are other areas of uncertainty. For example, with the expiration of the Oregon Residential Energy Tax Credit, a number of measures that is might be impacted. In addition, the sector is reassessing field staff levels to avoid gaps in services.

The board noted there is currently a New Homes outreach manger in Bend and asked if similar services will be provided in 2018. Thad said staff is committed to covering Energy Trust's service territory, and there might be a new or different way to accomplish that.

The board reflected on Reverend Mondainé's comments and noted an area for concern might be in the retail stores participating in the program. Peter said participation is higher in rural areas than urban areas as the Products program has invested a lot in expanding retail relationships, including to Dollar Tree, Dollar Store and True Value. Field services are an important aspect, and Energy Trust needs a presence throughout its service territory.

The board thank staff for their good work and robust process. They commented they appreciated the comments brought forward by Portland NAACP and the commitment by Energy Trust to enhance participation for low income customers, rural customers and communities of color. There is much more to do.

Linda Woodley, member of the public, provided public comment on the staff recommendation on residential contracts. She said she served recently as a diversity consultant for Energy Trust and listened to the comments from Portland NAACP this morning. She said she does not think that the staff reassessment and explanation regarding the RFP process is responsive to the NAACP comments of earlier in the meeting. The RFP selection committee had one diversity expert and 14 staff members. Ms. Woodley perceived the NAACP comments to indicate that Energy Trust needs to go back to the beginning of the RFP process and look at how diversity was put together and at how the evaluation was done by people that are not of color. The board thanked Ms. Woodley for her comment.

The board noted Energy Trust still has the ability and process within which it can insert how it approaches these priorities as the contracts are scoped and program designed. Thad said part of the process was how Energy Trust could broaden its reach. Staff is always looking for new opportunities and directs these contracts. Peter added there is opportunity and time to put forward actions that help address these concerns as staff starts the 2018 budgeting process.

The board reflected on contracting goals the federal government uses, and how that could be used as a benchmark or consideration for Energy Trust. The board noted Energy Trust is well into the process and will move forward to ensure program continuity. It is the board's intent to move forward but will continue to seek better understanding of underserved populations so Energy Trust can take action.

RESOLUTION 811 AUTHORIZE A NEW PROGRAM MANAGEMENT CONTRACT WITH CLEARESULT FOR THE RESIDENTIAL PROGRAM

WHEREAS:

- Energy Trust staff has determined that, as compared to the current Residential program structure, a sole Residential program management contractor, combined with Residential program delivery contractors for (a) retail midstream promotions and (b) energy performance score whole-home new construction, would (i) streamline Residential program management work, (ii) increase process efficiencies, (iii) allow greater flexibility to adapt to future savings opportunities, (iv) establish a more robust and diversified portfolio, and (v) maintain costeffective offerings for Energy Trust customers;
- 2. With the assistance of outside expertise, Energy Trust staff has conducted a fair and open procurement process to select a sole program management contractor and two program delivery contractors to manage and deliver Residential program services for the next 2-5 years;
- 3. Staff selected CLEAResult Consulting Inc. as providing the Residential program management contract proposal that would best meet the needs of Energy Trust and Energy Trust customers;
- 4. Staff has estimated a total first-year Residential program management and program delivery budget to be delivered as a PMC contract for 2018 at \$7,978,915 for Oregon and Washington based on identified savings levels from the RFP. Final details for the exact cost will be approved by this Board as part of the 2018 annual budget approval process; and
- 5. The Energy Trust board will review actual savings and costs each year as part of the annual budget and action plan process.

It Is Therefore RESOLVED:

- 1. Subject to determination of a contract cost amount based on the board-approved 2018 annual budget, the executive director or his designee is authorized to negotiate and to enter into a contract with CLEAResult Consulting Inc. to manage the Residential program for an initial term from January 1, 2018, through December 31, 2019.
- 2. First-year contract costs and savings goals included in the contract shall be consistent with the board-approved 2018 annual budget and two-year action plan. Thereafter, staff may amend the contract consistent with the board's annual budget and action plan decisions and the executive director or his designee is authorized to sign any such contract amendments.
- 3. The contract may include a provision allowing staff to offer one-year extensions beyond the initial term if the program management contractor meets certain established performance criteria. In no event would the total term of the contract plus extensions exceed five years.

- 4. Before extending this contract beyond the initial term, staff will report to the board on the program management contractor's progress and staff's recommendation for any additional extension time periods.
- 5. If the board does not object to extension, contract terms would remain as approved in the most recent action plans, budgets and contract at the time of extension, and the executive director or his designee is authorized to sign any such contract extensions.

Moved by: Alan Meyer Vote: In favor: 9 Opposed: 0 Seconded by: John Reynolds Abstained: 0

RESOLUTION 812

AUTHORIZE A NEW PROGRAM DELIVERY CONTRACT WITH ECOVA FOR THE RETAIL MIDSTREAM PROMOTIONS PORTION OF THE RESIDENTIAL PROGRAM

WHEREAS:

- Energy Trust staff has determined that, as compared to the current Residential program structure, a retail midstream promotions delivery contractor, combined with a sole Residential program management contractor and a delivery contractor for energy performance score wholehome new construction, would (i) streamline Residential program management contract work, (ii) increase process efficiencies, (iii) allow greater flexibility to adapt to future savings opportunities, (iv) establish a more robust and diversified portfolio, and (v) maintain cost-effective offerings for Energy Trust customers;
- 2. With the assistance of outside expertise, Energy Trust staff has conducted a fair and open procurement process to select a program management contractor and two program delivery contractors, including a retail midstream promotions delivery contractor, to manage and deliver Residential program services for the next 2-5 years;
- 3. Staff selected Ecova, Inc. as providing the retail midstream promotions proposal that would best meet the needs of Energy Trust and Energy Trust customers;
- 4. Staff has estimated a total first-year Residential program delivery budget to be delivered as a PDC contract for 2018 at \$922,474 for Oregon and Washington based on identified savings levels from the RFP. Final details for the exact cost will be approved by this Board as part of the 2018 annual budget approval process; and
- 5. The Energy Trust board will review actual savings and costs each year as part of the annual budget and action plan process.

It Is Therefore RESOLVED:

- 1. Subject to determination of a contract cost amount based on the boardapproved 2018 annual budget, the executive director or his designee is authorized to negotiate and to enter into a contract with Ecova, Inc. to deliver the retail midstream promotions portion of the Residential program for an initial term from January 1, 2018, through December 31, 2019.
- 2. First-year contract costs and savings goals included in the contract shall be consistent with the board-approved 2018 annual budget and two-year action plan. Thereafter, staff may amend the contract consistent with the board's annual budget and action plan decisions and the executive director or his designee is authorized to sign any such contract amendments.
- 3. The contract may include a provision allowing staff to offer one-year extensions beyond the initial term if the program delivery contractor meets certain established performance criteria. In no event would the total term of the contract plus extensions exceed five years.
- 4. Before extending this contract beyond the initial term, staff will report to the board on the program delivery contractor's progress and staff's recommendation for any additional extension time periods. If the board does not object to extension, contract terms would remain as approved in the most recent action plans, budgets and contract at the time of extension, and the executive director or his designee is authorized to sign any such contract extensions.

Moved by: Alan Meyer Vote: In favor: 9 Opposed: 0 Seconded by: Roger Hamilton Abstained: 0

RESOLUTION 813

AUTHORIZE A NEW PROGRAM DELIVERY CONTRACT WITH TRC FOR THE ENERGY PERFORMANCE SCORE WHOLE-HOME NEW CONSTRUCTION PORTION OF THE RESIDENTIAL PROGRAM

WHEREAS:

- 1. Energy Trust staff has determined that, as compared to the current Residential program structure, an energy performance score ("EPS") wholehome new construction delivery contractor, combined with a sole Residential program management contractor and a delivery contractor for retail midstream promotions, would (i) streamline Residential program management contract work, (ii) increase process efficiencies, (iii) allow greater flexibility to adapt to future savings opportunities, (iv) establish a more robust and diversified portfolio, and (v) maintain cost-effective offerings for Energy Trust customers;
- 2. With the assistance of outside expertise, Energy Trust staff has conducted a fair and open procurement process to select a program management contractor and two program delivery contractors, including an EPS whole-home new construction delivery contractor, to manage and deliver Residential program services for the next 2-5 years;

- 3. Staff selected TRC Companies, Inc. as providing the EPS whole-home new construction proposal that would best meet the needs of Energy Trust and Energy Trust customers;
- 4. Staff has estimated a total first-year Residential program delivery budget to be delivered as a PDC contract for 2018 at \$1,818,244 for Oregon and Washington based on identified savings levels from the RFP. Final details for the exact cost will be approved by this Board as part of the 2018 annual budget approval process; and
- 5. The Energy Trust board will review actual savings and costs each year as part of the annual budget and action plan process.

It Is Therefore RESOLVED:

- 1. Subject to determination of a contract cost amount based on the boardapproved 2018 annual budget, the executive director or his designee is authorized to negotiate and to enter into a contract with TRC Companies, Inc., or its subsidiary, for the EPS whole-home new construction portion of the Residential program for an initial term from January 1, 2018, through December 31, 2019.
- 2. First-year contract costs and savings goals included in the contract shall be consistent with the board-approved 2018 annual budget and two-year action plan. Thereafter, staff may amend the contract consistent with the board's annual budget and action plan decisions and the executive director or his designee is authorized to sign any such contract amendments.
- 3. The contract may include a provision allowing staff to offer one-year extensions beyond the initial term if the program delivery contractor meets certain established performance criteria. In no event would the total term of the contract plus extensions exceed five years.
- 4. Before extending this contract beyond the initial term, staff will report to the board on the program delivery contractor's progress and staff's recommendation for any additional extension time periods. If the board does not object to extension, contract terms would remain as approved in the most recent action plans, budgets and contract at the time of extension, and the executive director or his designee is authorized to sign any such contract extensions.

Moved by: Alan Meyer Vote: In favor: 9 Opposed: 0 Seconded by: Anne Root Abstained: 0

Committee Reports

Executive Director Review Committee, Ken Canon

As part of annual review of the executive director's performance, the committee conducted 360-degree review with board and staff, including a self-assessment by Mike Colgrove on what he has accomplished and areas he would like to continue working. The committee reviewed the information and evaluated Mike's performance. Mike will work with Board President Debbie Kitchin on developing a work plan, and the next evaluation will compare performance against the work plan. The committee reviewed Mike's compensation and increased his salary by 4 percent for merit and 2 percent for market

changes, effective August 16, 2017. The full board reviewed this information in executive session today.

RESOLUTION 814 EXECUTIVE DIRECTOR PERFORMANCE REVIEW

WHEREAS:

- 1. Energy Trust's Executive Director Review Committee completed its evaluation of Michael Colgrove's performance in 2016 2017.
- 2. The committee evaluated Michael's performance as excellent.
- 3. The Executive Director Review Committee also considered the following in proposing a merit increase from the review:
- a. Energy Trust's existing salary structure and Michael's current salary position on that range.
- b. Survey and market analysis of comparable position salaries performed in 2016.

It is therefore RESOLVED:

The Board of Directors authorizes increasing Michael's salary by a merit increase of 4.0 percent and a market adjustment of 2.0 percent to be awarded effective August 16, 2017.

Moved by: John Reynolds Vote: In favor: 9 Opposed: 0 Seconded by: Susan Brodahl Abstained: 0

Mike thanked the board for their review and feedback. He noted this was the smoothest transition he has been a part of and witnessed, due to the support of board and staff.

Finance Committee, Susan Brodahl

The May 2017 financial statements are in the board packet. Energy Trust is receiving more revenue than budgeted due to a stronger economy and an increase in the public purpose charge as approved by the OPUC during the 2017 budget development last fall. The increase in revenue supports energy savings acquisition. PGE revenue is roughly in line with budget. Pacific Power revenue is greater than budgeted and expected to level out over the year. Energy Trust reserves continue to decrease as planned. Staff will evaluate reserve levels and usage at year end. Incentives are 2 percent over budget. All programs are performing well except Existing Homes due to a change in Energy Saver Kits. LED lighting incentives are driving results.

The board asked what the main driver is in the revenue increases. The increases are due to colder than usual winter temperatures early in the year, the economy and rate adjustments for PGE and Pacific Power.

Policy Committee, Roger Hamilton

At the latest committee meeting, the committee reviewed topics the board already discussed in today's board meeting or will hear during the staff report.

Staff Report

Highlights, Mike Colgrove and Staff

Update on Large Customer Funding Report Results, Peter West page 16 of 19 Peter West provided background on Energy Trust's ability to support energy efficiency projects at electric customer sites that use more than one average megawatt in one year, termed large customers. Pursuant to SB 838 (2007), large customers are exempt from funding additional cost-effective energy efficiency and cannot benefit from subsequent SB 838 expenditures of those funds by Energy Trust. To ensure compliance with SB 838 requirements, Energy Trust contracts with a third party to conduct an annual review of incentive expenditures for the previous year against the 2007 baseline or threshold year. For 2016, Energy Trust is in compliance for Pacific Power but is not for PGE. The PGE threshold is 18.4 percent and the 2016 results show 18.7 percent due to industrial activity, new construction and a healthy economy. Energy Trust has three years to achieve compliance. Staff is completing a 2017 year-end forecast analysis and 2018 forecast analysis to estimate whether the threshold will be further exceeded in future years. Once the analysis is complete, staff will determine and implement corrective strategies. The proposed actions will be brought to the September 13 Conservation Advisory Council meeting, including identification of projected savings that will not be acquired due to the need to reduce incentive spending for large customers to achieve compliance with SB 838 requirements.

The board discussed the implications of the report, remarking the actions staff need to take to come back into compliance are less about correcting for a negative effect and are about adjusting to something that is positive. Peter agreed, noting the low-cost savings that result from large customer energy efficiency projects provide great value for ratepayers.

The board noted Energy Trust cannot lobby to propose any changes to the funding requirements and asked whether PGE is aware of the situation. Peter said staff is communicating with both PGE and Pacific Power.

Pacific Power Targeted Demand-Side Management Project, Julianne Thacher

Julianne Thacher reviewed the pilot project, which explores how energy efficiency can bring additional value to utility customers and the grid by reducing energy use during peak times. In collaboration with Pacific Power, Energy Trust is testing this concept in the North Santiam Canyon area southeast of Salem. The pilot project uses existing energy efficiency measures, outreach and marketing efforts in a concentrated manner to reach residential, commercial and industrial customers. The pilot also supports objectives within the 2015-2019 Strategic Plan. Marketing and outreach started July 1, 2017, including paper, digital and radio ads. Pacific Power also hosted customer events for residential and business customers, and started community outreach efforts. The pilot project is for two years. Planning started in January 2017; promotion, marketing and outreach will be from July through March 2017; and evaluation will go through mid-2019. Evaluation is important, as the primary goal of the pilot is to learn how Energy Trust's targeted conservation program offering can achieve peak demand reduction, in what amount and for what cost.

2016 Utility Marketing Activity Report, Mike Colgrove

On June 13, Mike and representatives from PGE and Pacific Power presented to the OPUC commissioners on utility-specific marketing expenditures utilizing SB 838 expenditures. Mike provided examples of how the funds supported customer access to Energy Trust programs, including by helping to market direct-install lighting offers for businesses, holding customer events, and dedicating bill inserts to energy efficiency and Energy Trust program information.

2018 Budget Development and Outreach Schedule, Mike Colgrove

Starting in July, staff began developing the 2018 annual budget and 2018-2019 action plan. The process continues through December and includes public and stakeholder outreach. The board will receive budget-related presentations at the next three board meetings. A final proposed budget and action plan will be presented to the board for approval at the December 15 board meeting. New elements to the budget development process are incorporating findings from a sector trends analysis and penetration rate analysis. Staff will also incorporate improved forecasting and easy-to-implement recommendations from the larger cross-organizational budget review project.

State Legislative Update, Jay Ward

The Oregon legislative session concluded on July 7, 2017, during which Energy Trust staff monitored bills that were energy related or could impact Energy Trust. Jay Ward reviewed highlights of bills that passed or failed. A complete list is in the Update on 2017 State Legislation Briefing Paper.

The board took a break from 2:05 to 2:15 p.m.

Commissioner Bloom left the meeting at 2:15 p.m.

Strategic Planning Workshop Next Steps

Strategic Planning Committee, Ken Canon

At the last committee meeting, members commented on the positives of the logistics of the May 2017 Strategic Planning Workshop in terms of location and timing. Committee members and staff discussed the initial list of learning topics that resulted from the workshop exercises, and noted the topics are to provide background and are not necessarily the focus for the next strategic plan. The topics are to support staff and board learning and understanding of what is going on around Energy Trust, and what will be helpful for the board to know more about as it considers the future direction of the organization.

Strategic Planning Workshop Next Steps, Mike Colgrove

From now until the May 2018 Strategic Planning Workshop, staff will provide regular updates to the board during board meetings on progress in researching and exploring the learning topics identified at the 2017 workshop. Out of the workshop, 27 learning topics were identified; of which, 16 were ranked by the board. The remaining topics not ranked by the board due to time constraints at the workshop were ranked by staff using criteria approved by the Strategic Planning Committee.

In mid-July, staff combined the topics into five categories: 1) new opportunities and within mission, for example distribution system work and community engagement; 2) new opportunities and not within mission, for example workforce development, electric vehicles, transportation, solar, storage and community resilience; 3) doing better what we do well, for example expand cost-effectiveness, thinking goals beyond energy use, diversity, equity and inclusion, data and low-income customer approach; 4) customer development like mapping relationships; and 5) transition strategies. Learning objectives for each topic were also drafted. Staff did not remove any topics from the list.

The next step is for the board to review the proposed learning objectives for each topic within each category. The board-approved learning objectives will then guide staff in how to proceed in researching and learning about the topics to inform the board at the 2018 Strategic Planning Workshop in May 2018.

Mike reviewed a slide that shows the approach staff will take in learning more about each topic, such as hiring a research consultant, conducting a literature review or implementing pilots. Staff identified topics that could be removed from the list if the board agreed, including workforce development and microgrids. In addition, staff identified the topics expand opportunities and funding; diversity, equity and inclusion; and low-income customer approach and collaboration as topics that are already being explored with resources allocated to them, and as such, could be removed from the exercise.

The board asked what is being explored on the expand opportunities and funding topic. Staff reviewed internal systems for external grants and is aware of other opportunities that could come through RFPs.

The board recommended the slide column title be changed from "could be cut" to "could be cut or already underway."

Mike asked what the board expects to receive at the end of the process. The board noted a packaged paper and presentation for each topic is not as important as staff learning and understanding of the topics. Mike noted staff will also provide updates at board meetings between now and the Strategic Planning Workshop in May 2018.

The board noted there should be a place for unidentified, transformational technologies that could impact the organization's work. Mike noted this is within the transition strategies category.

The board noted topics may need to be removed given ongoing work, and if that happens, to inform the board what the ongoing work is and the objectives of that work.

Mike asked the board to weigh in on the remaining topics and the draft learning objectives. The board noted their feedback should highlight anything that is out of bounds. Mike encouraged the board to look at the topics and draft learning objectives in terms of what they need to guide the organization.

The board noted it would be helpful to have the topics defined and explained. Mike noted the learning objectives drafted for each topic could be helpful.

The board commented researching 16 topics fully is time consuming and a lot of research to conduct in less than a year. Mike noted work is still needed to assign estimated FTE, budget and time allotted for each topic. That assessment will be completed after the board weighs in on the topics list and draft learning objectives. The board asked if each topic should be examined as to the why, meaning whether it furthers the overall objective of the category assigned. Mike said a different question to ask may be whether understanding the topic will support the board in crafting the next strategic plan.

The board commented some members have expertise in the electricity sector and others have expertise in different areas. Mike noted one of the purposes of gathering the board's feedback on the topics and draft learning objectives is for board members to provide their opinion based on their experience.

The board asked when staff resources will be dedicated to the topics. Mike said the research will be scheduled out in a phased approach, delivering on the committee's request that information and results be provided to them on an ongoing basis versus only in the May workshop packet.

Board feedback on the topics and draft learning objectives are due to staff in approximately three weeks.

Adjourn

The meeting adjourned at 3:30 p.m.

The next meeting of the Energy Trust Board of Directors will be on Wednesday, September 27, 2017, at 10:30 a.m. at Energy Trust, 421 SW Oak, Suite 300, Portland, Oregon.

Alan Meyer, Secretary

PINK PAPER



Board Decision Amend Participant Information Policy

September 27, 2017

Summary

Approve amendments to the Policy on Information Provided by Program Participants, Contractors and Bidders ("Participant Information Policy"). The amendments update the policy to reflect best practices in privacy standards and data governance, and address certain operational issues.

Background

- Energy Trust is careful about how it uses information provided by individuals and businesses that participate in Energy Trust programs. In addition to being respectful of privacy interests generally, Energy Trust is concerned that if participants do not trust that their identities will be protected, they may not participate in Energy Trust programs.
- At the same time, Energy Trust has a strong commitment to transparency in its operations, and a variety of disclosure obligations and interests, regulatory reporting, legislative inquiries, and collaboration with utilities, government agencies and other energy analysts.
- To balance these concerns, in 2005 the Energy Trust board, in close collaboration with the OPUC, adopted a policy with these basic features:
 - treat all information about residential participants as confidential, while still allowing disclosure of name, Energy Trust incentive and energy savings (or generation) for commercial and industrial participants;
 - o permit sharing of aggregated information with other energy analysts;
 - do not treat contracts as confidential unless specifically identified as confidential by Energy Trust's counter-party; and
 - o treat bid materials as confidential.
- Since 2005, the policy has been amended in limited ways. The basic parameters of the policy have stayed in place and, we think, worked well.

Discussion

- Law and policy on data and privacy is constantly evolving, and so staff hired a privacy consultant, Julie Glover of 6 Degrees, to help review Energy Trust privacy policies and procedures. Her review focused primarily on bringing our practices in line with current "Generally Accepted Privacy Principles," or GAPP.
- Many of the resulting policy recommendations update the policy to reflect current GAPP standards:

- clarifying that we protect "personally identifiable data," which is the phrase now used to describe the type of data with which we are concerned;
- making the policy more explicit about the "Energy Trust purposes" for which participant information will be used; and
- o providing more detail on how we retain and store this data.
- Some amendments reflect operational issues identified by staff who use this information:
 - Clarifying the policy's phrase "in the public domain," which has been confusing because it is also a term of art in intellectual property law. We propose to use a different phrase, permitting disclosure of information that is "made otherwise publicly available by a source other than Energy Trust."
 - Broadening the definition of government entities to which we report nonresidential participant information. The current language can be a challenge for Energy Trust programs in Washington and in sharing information with federal agencies. The proposed language refers to government agencies generally instead of state agencies and the Bonneville Power Administration.
 - Clarifying that "participant" information includes information not just from program participants, but also information from survey respondents.
 - Addressing two common issues in providing non-residential participant information to government entities: (1) frequent requests for site address, not just city or county of business; and (2) requests for a general description of measures installed at a site (lighting, HVAC, or solar PV).

Recommendation

Amend the Participant Information Policy as indicated below.

RESOLUTION ____ PARTICIPANT INFORMATION POLICY

WHEREAS:

- Energy Trust is careful about how it uses information provided by individuals and businesses that participate in Energy Trust programs. In addition to being respectful of privacy interests generally, Energy Trust is concerned that if participants do not trust that their identities will be protected, they may not participate in Energy Trust programs.
- 2. At the same time, Energy Trust has disclosure obligations and interests: regulatory reporting requirements, legislative inquiries, and the need to collaborate with utilities, government agencies and other energy analysts.
- 3. To balance these concerns, in 2005 the Energy Trust board, in collaboration with the OPUC, adopted a policy that: (a) treats information about residential participants as confidential; (b) allows disclosure of name, Energy Trust incentive and energy savings (or generation) for commercial and industrial participants; (c) permits sharing of aggregated information with other energy analysts; (d) discloses contracts except for provisions specifically identified as confidential by the contract counter-party; and (e) treats bid materials as

Page 2 of 7

confidential. The policy has been amended in limited ways since 2005, but its basic parameters have stayed in place and worked well.

- 4. Because policy on data and privacy evolves, Energy Trust retained a consultant to review Energy Trust privacy policies and procedures. The review focused primarily on bringing our practice in line with current "Generally Accepted Privacy Principles," or GAPP. Energy Trust also consulted with staff who use this information most often, to identify operational issues.
- 5. Recommendations reflecting GAPP standards: (a) clarifying that we protect "personally identifiable data;" (b) providing more detail on how Energy Trust retains and stores these data; and (c) making the policy more explicit about the "Energy Trust purposes" for which information will be used.
- 6. Recommendations reflecting operational issues: (a) replacing the policy's phrase "in the public domain" with "made otherwise publicly available by a source other than Energy Trust"; (b) clarifying that "participant" information includes information not just from program participants, but also information from survey respondents; (c) broadening the government entities to which we share information; and (d) addressing two common requests for information: site address, not just city or county, and general description of measures installed.

It is therefore RESOLVED that the Energy Trust policy on Participant Information is amended as shown below.

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

Page 3 of 7

4.17.000-P Policy on Information Submitted by Utilities, Program Participants, Contractors and Bidders

History						
Source	Date	Action/Notes	Next Review			
			Date			
Policy Committee	05/24/04	Review and discussion	08/24/2004			
Policy Committee	08/24/04	Reviewed for board action	09/09/2004			
Board	09/09/04	Action postponed pending further review and discussion	09/21/2004			
Board	07/06/05	Approved (R345)	07/2008			
Board	05/09/07	Amended (R438)	05/2010			
Board	11/07/12	Amended (R648)	11/2015			
Board	07/31/14	Amended (R707)	07/2017			

Purpose: Energy Trust and its contractors acquire information from utilities, program participants and others. This document establishes Energy Trust policy on collection, use and disclosure of information about program participants, <u>that is, information obtained from Energy Trust program participants that refers specifically to the participant by name, address, or other personally identifiable characteristics. This information may include not just data from program participants, but also information from Energy Trust survey respondents and others. This policy also addresses <u>disclosure</u> of contracts and bid information. The policy does not <u>restrict the use of</u>-information that <u>made</u> publicly <u>available by sources other than Energy Trust-domain</u>.</u>

1. Energy Trust will inform participants of this policy

Participants in Energy Trust programs will be advised of the contents of this policy by appropriate means (e.g., on program application forms, the Energy Trust web site and oral communications). Energy Trust and its contractors will offer participants a copy of this policy.

2. Energy Trust protects information provided by utilities

Utilities provide Energy Trust with information about that refers to specific energy consumers on condition that this information it is treated confidentially. This information is covered by Oregon Public Utility Commission administrative rules, OAR 860-086-000, et seq., and "information transfer agreements" negotiated with each funding utility. Energy Trust will not afford access to this information to anyone who has not signed a confidentiality agreement consistent with the applicable administrative rules and information transfer agreements. If Energy Trust obtains written, oral (documented electronically or in writing), or electronic consent from an Energy Trust program participant, information relating to such participant is no longer subject to utility confidentiality agreements, and instead is governed by section 3 of this policy.

Energy Trust uses specific procedures, systems and tools to safeguard this information, and provides regular training to employees and contractors in governing policy and procedures, data collection, storage, use, retention and disposal of this information in

Page 4 of 7

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order to safeguard against inappropriate use or disclosure. For further information, see https://www.energytrust.org/privacy-policy/.

- 3. Energy Trust and those it works with use of Participant Information only for Energy Trust purposes
 - A. <u>Definition of Participant Information</u>: "Participant Information" means information obtained from program participants, <u>participants in surveys and other Energy Trust</u> <u>initiatives, that which</u> refers specifically to the participant by name, address, or other personally identifiable characteristics. <u>"Participant Information" does not include</u> <u>information that is made publicly available by sources other than Energy Trust, or</u> <u>information that a program participant has consented to allow disclosure.</u>
 - B. Use of Participant Information for Energy Trust PurposesGenerally. Energy Trust employees, contractors and sub-contractors will use Participant Information only for Energy Trust purposes. For more detail about how Energy Trust uses Participant Information, see the Energy Trust Privacy Policy. https://www.energytrust.org/privacy-policy/. These purposes include a activities involved in providing energy-saving or renewable energy services to program participants, program design, program delivery, program evaluation, energy use analysis, and other activities. Energy Trust will not provide Participant Information to any other entity without express participant consent, or as provided in sections 3.C-E and 3.G-H, below. Energy Trust will share Participant Information with third parties only in the ways that are described in this policy. Energy Trust does not sell Participant Information.
 - C. Protection of Participant Information by Third Parties. Energy Trust may provide Participant Information to Energy Trust cContractors who agree in writing to protect such information consistent with this policyreceive Participant Information from Energy Trust may not disclose it to any other party unless required by law or the other party has by contract or other written agreement agreed to protect such information consistent with this Energy Trust policy. Contractors will consult with their Energy Trust contract manager when if in doubt whether disclosure would be appropriate.
 - DC. Collaborative analysis. Energy Trust analyzes Participant Information and aggregates it with other information to plan, evaluate and report on Energy Trust programs. If consistent with section 3 of this policy and if the shared data do not reveal Participant Information, Energy Trust may share such aggregated information with other third-party analysts, recognizing that some of these analysts work for organizations with their own information disclosure policies and requirements.
 - ED. Using Participant Information in Energy Trust marketing materials. Before using Participant Information in case studies, brochures, press releases, advertisements, marketing or other publicity material, Energy Trust and/or its contractors will obtain express consent from the relevant participants. This express consent will refer be used-specifically to use of Participant Information in marketing materials. -Aggregated, non-identifiable participant data may be used without participant consentparticipant approval.

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Page 5 of 7

Part	Participant Information Policy September 27, 2017				
	F Retent	ion and Destruction of Participant Info	ormation -Energy Trust retains		Formatted Font: 11 nt Underline
	Partici	pant Information for only as long as it	is needed to meet the purposes stated in	\leq	Formatted: Font: 11 pt
	Sectio	n 3.b of this policy (https://www.energ	ytrust.org/privacy-policy/, or as required		
	by law	or regulation. When Participant linfor	mation is no longer needed for such		Formatted: Font: 11 pt, Not Highlight
	purpos	ses, Energy Trust will securely delete	and/or destroy such information.		Formatted: Font: 11 pt
	G E . Inf	ormation provided to government enti	ties		Field Code Changed
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	(1)	Energy Trust will <u>not report treat</u> re	sidential program Pparticipant	\	Formatted: Font: 11 pt
		Information to government entities	as confidential. Energy Trust may report		
		participant by name address teler	when a constant the short dentity the		
		allow identification of the individual			
	(2)	For non-residential programs, Ene information in reports to the Bonne legislature, the Oregon Public Utilit <u>government</u> agencies as necessar <u>and regulatory requirements</u> :	rgy Trust may include the following ville Power Administration, the y Commission ("OPUC") and other state y to meet Energy Trust responsibilities		
		 participant name 			
		city or county of business site a	address		
		 general description of type of e 	nergy saving or renewable project	<	Formatted: Font: 11 pt
		Implemented (e.g., lighting, HV	<u>AC, solar PV)</u>		Formatted: Indent: Left: 1.13", Tab stops: 0.75", Left
		Of	live payments provided to the participant,		
		 energy saved or generated as incentives. 	a result of Energy Trust services or		
	(3)	Before providing Participant Inform	ation other than as specified in this		
	(0)	information listed in section 3.GE(2	2), Energy Trust will obtain express		
		participant consentapproval or, in t	he case of information requested by the		Formatted: Font: 11 pt
		OPUC, use the procedure specifie	d in Section 6, below.		
H	E. <u>Inform</u> utilities of	 ation provided to utilities. Energy Trus as specified in OAR 860-086-000, w name; service address (including apare) meter number and other point- information about efficiency province installed since the incention of the 	st will provide Participant Information to hich, as of September, 2012, consisted rtment, unit, or suite number); of-delivery identification numbers; ogram participation, such as measures efficiency programs; and		
		 whether an electric customer h 	as agreed to the transfer of its		
		proprietary customer information a	s a result of its participation in an		
		efficiency program, and the term d	uring which Energy Trust has the right to		
		see it, it applicable.			
4.	Contracts				
	Δ Γ	t for contracts that sees are seen at	mothers, and contract are delayed		Formatted: Font: 11 pt
	A. Excep contair	i for contracts that concern personnel	matters, and contract provisions		Formatted, Font. 11 pt
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		Page 6 of 7			

	made publicly available, subject to Section 4.B belowwill not be treated as confidential. For purposes of this policy "contract" does not mean program	<	Formatted: Font: 11 pt, Not Highlight
	application materials or incentive project funding agreements.		Formatted: Font: 11 pt
В.	If a contract specifically identifies as confidential sensitive business records or		
	financial or commercial information that is not customarily provided to business		
	by judicial order or audittreat such information as confidential. However, Energy		Formatted: Font: 11 pt
	Trust may publicly disclose all other non-Participant linformation in the contract.		Formatted: Font: 11 pt
C.	Subject to judicial order litigation or other legal disclosure and/or audit requirements		Formatted: Font: 11 pt
0.	Energy Trust will not disclose information submitted in response to requests for		Formatted: Font: 11 pt
	proposals or other solicitations.		

September 27, 2017

Energy Trust will afford auditors full access to participant information for purposes of audit.

6. Resolving issues

Participant Information Policy

In the event the OPUC requests from Energy Trust information that <u>is protected by this</u> <u>policy</u>, <u>a participant has reasonably designated as Confidential Information</u>, Energy Trust will follow the procedure specified in section 3.c of the Grant Agreement between Energy Trust and the OPUC (available at <u>https://www.energytrust.org/wp-</u> <u>content/uploads/2016/11/grant_agreement.pdf</u><u>http://energytrust.org/About/PDF/grant_ag</u> <u>reement.pdf</u>).

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4.17.000-P Policy on Information Submitted by Utilities, Program Participants, Contractors and Bidders

History				
Source Date		Action/Notes	Next Review	
			Date	
Policy Committee	05/24/04	Review and discussion	08/24/2004	
Policy Committee	08/24/04	Reviewed for board action	09/09/2004	
Board	09/09/04	Action postponed pending further review and discussion	09/21/2004	
Board	07/06/05	Approved (R345)	07/2008	
Board	05/09/07	Amended (R438)	05/2010	
Board	11/07/12	Amended (R648)	11/2015	
Board	07/31/14	Amended (R707)	07/2017	

Purpose: Energy Trust and its contractors acquire information from utilities, program participants and others. This document establishes Energy Trust policy on collection, use and disclosure of information about program participants, that is, information obtained from Energy Trust program participants that refers specifically to the participant by name, address, or other personally identifiable characteristics. This information may include not just data from program participants, but also information from Energy Trust survey respondents and others. This policy also addresses disclosure of contracts and bid information. The policy does not restrict the use of information that made publicly available by sources other than Energy Trust.

1. Energy Trust will inform participants of this policy

Participants in Energy Trust programs will be advised of the contents of this policy by appropriate means (e.g., on program application forms, the Energy Trust web site and oral communications). Energy Trust and its contractors will offer participants a copy of this policy.

2. Energy Trust protects information provided by utilities

Utilities provide Energy Trust with information that refers to specific energy consumers on condition that this information is treated confidentially. This information is covered by Oregon Public Utility Commission administrative rules, OAR 860-086-000, et seq., and "information transfer agreements" negotiated with each funding utility. Energy Trust will not afford access to this information to anyone who has not signed a confidentiality agreement consistent with the applicable administrative rules and information transfer agreements. If Energy Trust obtains written, oral (documented electronically or in writing), or electronic consent from an Energy Trust program participant, information relating to such participant is no longer subject to utility confidentiality agreements, and instead is governed by section 3 of this policy.

Energy Trust uses specific procedures, systems and tools to safeguard this information, and provides regular training to employees and contractors in governing policy and procedures, data collection, storage, use, retention and disposal of this information in order to safeguard against inappropriate use or disclosure. For further information, see https://www.energytrust.org/privacy-policy/.

3. Energy Trust use of Participant Information

- A. <u>Definition of Participant Information</u>: "Participant Information" means information obtained from program participants, participants in surveys and other Energy Trust initiatives, which refers specifically to the participant by name, address, or other personally identifiable characteristics. "Participant Information" does not include information that is made publicly available by sources other than Energy Trust, or information that a program participant has consented to allow disclosure.
- B. <u>Use of Participant Information for Energy Trust Purposes</u>. Energy Trust will use Participant Information only for Energy Trust purposes. For more detail about how Energy Trust uses Participant Information, see the Energy Trust Privacy Policy, <u>https://www.energytrust.org/privacy-policy/</u>. These purposes include a activities involved in providing energy-saving or renewable energy services to program participants, program design, program delivery, program evaluation, energy use analysis, and other activities. Energy Trust will not provide Participant Information to any other entity without express participant consent, or as provided in sections 3.C-E and 3.G-H, below. Energy Trust will share Participant Information with third parties only in the ways that are described in this policy. Energy Trust does not sell Participant Information.
- C. <u>Protection of Participant Information by Third Parties.</u> Energy Trust may provide Participant Information to Energy Trust contractors who agree in writing to protect such information consistent with this policy. Contractors will consult with their Energy Trust contract manager if in doubt whether disclosure would be appropriate.
- D. <u>Collaborative analysis</u>. Energy Trust analyzes Participant Information and aggregates it with other information to plan, evaluate and report on Energy Trust programs. If consistent with section 3 of this policy and if the shared data do not reveal Participant Information, Energy Trust may share such aggregated information with third-party analysts, recognizing that some of these analysts work for organizations with their own information disclosure policies and requirements.
- E. <u>Using Participant Information in Energy Trust marketing materials</u>. Before using Participant Information in case studies, brochures, press releases, advertisements, marketing or other publicity material, Energy Trust and/or its contractors will obtain express consent from the relevant participants. This express consent will refer specifically to use of Participant Information in marketing materials. Aggregated, non-identifiable participant data may be used without participant consent.
- F. <u>Retention and Destruction of Participant Information</u>. Energy Trust retains Participant Information for only as long as it is needed to meet the purposes stated in Section 3.b of this policy (<u>https://www.energytrust.org/privacy-policy/</u>, or as required by law or regulation. When Participant Information is no longer needed for such purposes, Energy Trust will securely delete and/or destroy such information.
- G. Information provided to government entities
 - (1) Energy Trust will not report residential program Participant Information to government entities.

- (2) For non-residential programs, Energy Trust may include the following information in reports to the Bonneville Power Administration, the legislature, the Oregon Public Utility Commission ("OPUC") and other government agencies as necessary to meet Energy Trust responsibilities and regulatory requirements:
 - participant name
 - site address
 - general description of type of energy saving or renewable project implemented (e.g., lighting, HVAC, solar PV)
 - Energy Trust services or incentive payments provided to the participant
 - energy saved or generated as a result of Energy Trust services or incentives.
- (3) Before providing Participant Information other than as specified in this section 3.G, Energy Trust will obtain express participant consent or, in the case of information requested by the OPUC, use the procedure specified in Section 6, below.
- H. <u>Information provided to utilities</u>. Energy Trust will provide Participant Information to utilities as specified in OAR 860-086-000, which, as of September, 2012, consisted of
 - name;
 - service address (including apartment, unit, or suite number);
 - meter number and other point-of-delivery identification numbers;
 - information about efficiency program participation, such as measures installed since the inception of the efficiency programs; and

• whether an electric customer has agreed to the transfer of its proprietary customer information as a result of its participation in an efficiency program, and the term during which Energy Trust has the right to see it, if applicable.

4. Contracts

- A. Except for contracts that concern personnel matters, and contract provisions containing Participant Information, contracts to which Energy Trust is a party may be made publicly available, subject to Section 4.B below. For purposes of this policy "contract" does not mean program application materials or incentive project funding agreements.
- B. If a contract specifically identifies as confidential sensitive business records or financial or commercial information that is not customarily provided to business competitors, Energy Trust will not publicly disclose such information unless required by judicial order or audit. However, Energy Trust may publicly disclose all other non-Participant Information in the contract.
- C. Subject to judicial order and/or audit requirements, Energy Trust will not disclose information submitted in response to requests for proposals or other solicitations.

5. Audit

Energy Trust will afford auditors full access to participant information for purposes of audit.

6. <u>Resolving issues</u>

In the event the OPUC requests from Energy Trust information that is protected by this policy, Energy Trust will follow the procedure specified in section 3.c of the Grant Agreement between Energy Trust and the OPUC (available at https://www.energytrust.org/wp-content/uploads/2016/11/grant_agreement.pdf).

Tab 2
Compensation Committee Meeting

August 24, 2017 3:30 p.m.

Attending by Teleconference

Dan Enloe, Chair, Melissa Cribbins, Mark Kendall

Attending at Energy Trust offices

Mike Colgrove, Corey Kehoe, Debbie Menashe, Mark LaMontagne, Jason Richmond, Greg Stokes

Review and Approval of April 27, 2017 Meeting Notes

The minutes of April 27, 2017 were reviewed and approved by the Committee as submitted.

Retirement Plan Update

Jason Richmond and Mark La Montagne of the Standard joined the meeting to provide an investment review of Energy Trust funds in the retirement savings plans. Jason said there are a couple of funds on the watch list – the PIMCO Total Return ESG and the TIMCO Total Return Institutional. There is no action recommended at this time. He reviewed the broad market returns as of June 30, 2017, which looked more favorable in second quarter. The leader were the emerging markets indexes. The Europe, Asia and Far East (FAFE) index evaluations look letter overseas at this time. Mark Kendall asked if there are indications we should take away from these commodity indexes. Jason agreed as these commodities have had a rough patch lately. China commodities have experienced a slight slowdown and could be seen as a potential indicator of slowing growth that has occurred over the past nine years or so. Investors are keeping an eye on this shift.

Jason reported on the current United States jobs and unemployment rates and said that consumer sentiment is strong at this time. US stock valuations have been on the higher end with stocks rising over the last few years. Earnings have been picking up for some of the Standard & Poors companies' earnings. Jason reviewed Energy Trust retirement plans' historical volatility and asset class history through June 30, 2017.

The committee reviewed the Energy Trust Retirement Savings Plan. The second quarter total of the plan was \$11 million dollars and saw an increase in participant deferrals. There were no rollovers in the quarter and some usage of the Roth IRA. Total contributions were down, but expected due to a large rollover in the first quarter. Gains and losses look favorable so far this year with no large distributions from the plan. The ending balance for the quarter was just over \$12 million dollars.

Jason and Mark discussed Energy Trust's different investment options and said that there were no major changes over a year-to-year basis. The Stable Asset fund is currently earning 2.5% per year in the Cash Fund category. All funds are meeting the performance criteria. The Green Century Fund expense ratio has risen since adoption and is something that hasn't previously been seen. The committee discussed socially responsible funds. Jason noted that more research needs to be performed in compliance with the philosophy of the fund, but no sees no reason for concern now as the fund meets the mandate of being socially responsible. While the fund is currently flagged due to a higher expense ratio, The Standard is making no recommendations at this time. PIMCO Total Return ESG is the socially responsible fund in Energy Trust's portfolio. It was just removed from the watch list and should drop off next quarter.

There were no contributions to the Energy Trust Supplemental Executive Retirement Plan 1 (SERP1) as expected. Distributions have remained same for the past 1.5 years. No funds are on the watch list.

With regard to the Green Century fund, Mark Kendall asked if there are any indexes of expense ratios for those funds requiring extra management. Jason replied that the MorningStar fund lumps into the non-socially responsible funds, so they aren't enough to make for a meaningful comparison. Dan Enloe suggested that Jason ask the fund to comment on their status and explain the reasoning behind their inclusion on the watch list.

Other Items

Debbie Menashe said an interim oversight arrangement is in place following former CFO Mariet Steenkamp's. Debbie has interim oversight of some of Mariet's duties and projects, including the 401K plan for employees. Debbie reported that:

• The 401K plan assets exceeded \$10 million dollars in 2016, which has triggered an audit. Energy Trust has engaged Moss Adams for our first 401K audit. In their initial review, they discovered that timing were inconsistent with plan requirements. Additionally, they discovered that the plan definition of earnings on which deferrals are calculated is inconsistent with our practice. Neither of these inconsistencies is deemed a material issue for purposes of the audit, and Energy Trust is addressing them.

With respect to the deferral calculation, Energy Trust does not include imputed income in the deferral calculation and has been using the same calculation method since inception of the 401K program. Debbie and the Human Resources team are working with Moss Adams, The Standard as Plan Administrator, and ERISA counsel to revise plan documentation so that it is consistent with current practice. Staff believes that the plan document reflects a scrivener's error, and current calculation methodology is consistent with organization and participant intent. Staff is continuing to work on a completed a plan for correction moving forward. Dan asked what constitutes imputed income for purposes of the calculation, and Debbie responded that the most significant imputed income is domestic partner medical benefit coverage. Dan inquired whether we can declare that the committee approved the correction and move forward. Debbie will discuss further with Moss Adams and report back.

- Beginning in spring of 2017, Energy Trust has been planning for an RFQ for 401K plan administrators and Mariet had started the process. We have engaged with a consultant to assist with the proposal request and will also involve staff in the creation of an RFQ. The goal is to send the RFQ out in October 2017, and then vet through this committee in order to make a decision by the first of 2018.
- A review of Energy Trust health benefits is underway for 2018. Staff had an initial meeting with insurance brokers Brown and Brown. They have performed preliminary research on our current health provider and are seeing significant premium pressure in the coming year. Brown and Brown will go back to Pacific Source to encourage further quotation on premiums and then possibly put out a request for market bids. If Pacific Source does not favorably respond, we will release an RFQ. Staff is targeting the end of September 2017 to have some sort of solid quote in order to build into the 2018 budget. Upcoming committee meetings will allow for further discussion of benefits and the 401K program. The urgency of these discussions may lead to additional committee meetings. Greg Stokes inquired whether additional meetings should be added prior to the next committee meeting on October 26, 2017. The committee agreed to let the October 26 meeting suffice for now. Dan suggested that if further feedback is needed sooner, guidance should be requested from the committee and/or the board. Mark Kendall inquired about a parallel communications plan with staff on the 401K RFQ and any benefit plan changes and asked staff to consider the best way to share this information.

Meeting adjourned at 4:30 p.m. Next meeting date – October 26, 2017, 1:45-3:15pm

Tab 3



Evaluation Committee Meeting

June 14, 2017 12:00 pm-3:00 pm

Attendees

Evaluation Committee Members Alan Meyer, Board Member, Committee Chair Susan Brodahl, Board Member Heather Beusse, Board Member Lindsey Hardy, Board Member (phone) Anne Root, Board Member (phone) Ken Keating, Expert Outside Reviewer Dulane Moran, Expert Outside Reviewer

Energy Trust Staff

Michael Colgrove, Executive Director Fred Gordon, Director of Planning and Evaluation Mike Bailey, Engineering Manager, Planning Jackie Goss, Sr. Planning Engineer Kenji Spielman, Planning Engineer Phil Degens, Evaluation Manager Sarah Castor, Evaluation Sr. Project Manager Dan Rubado, Evaluation Project Manager Erika Kociolek, Evaluation Project Manager Andy Hudson, Planning Project Manager Thad Roth, Residential Sector Lead Marshall Johnson, Residential Program Manager Ryan Crews, Residential Program Manager Susan Jamison, Residential Marketing Manager Katie Wallace, Residential Marketing Project Manager Ray Hawksley, Industrial Sr. Technical Manager Jessica Iplicki, Business Program Manager Shelly Carlton, Strategic Marketing Manager Sue Fletcher, Communications and Customer Service Sr. Manager

Other Attendees Brien Sipe, CLEAResult Cindy Strecker, CLEAResult

1. 2016 Fast Feedback Results

Presented by Dan Rubado

<u>Background</u>: This presentation focuses on the key findings from Fast Feedback surveys. There is a lot of detailed information in the report if you want to drill down; this presentation will not go into all of the details.

Fast Feedback is a short phone survey that is completed with recent participants shortly after they receive their incentive check. The goal of the surveys is to gauge overall satisfaction, get information about the investment decision process, assess participants' use of tax credits, and ask about satisfaction with contractors and other measure-specific elements. We strive for representative samples (90% confidence and 10% precision on a quarterly basis). In 2016, there were a total of approximately 2,700 surveys, of which 600 were non-residential and 2,100 were residential.

This information is used in a few ways. First, open-ended comments are provided to program staff on a semi-regular basis (when we receive them). Second, quarterly satisfaction numbers are reported to the Oregon Public Utilities Commission (OPUC). Third, a mid-year report is distributed internally. Fourth, annual satisfaction numbers are reported to the OPUC. And fifth, an annual report is made public. There are two OPUC performance metrics that draw on numbers from Fast Feedback: first, across all residential and non-residential programs, we must achieve greater than 85% overall satisfaction, and second, for non-residential programs, we must achieve greater than 85% satisfaction with program representatives. We have exceeded those thresholds every year since we started.

The final key way in which Fast Feedback is used is to estimate free ridership, or the portion of savings would have occurred in the absence of Energy Trust programs or would have happened anyway. Energy Trust estimates this based on participant responses to a series of questions about decision-making regarding their project. There is a set of questions about project change ("what would you have done in absence of Energy Trust incentives and information") and a set of questions about the influence of Energy Trust, Energy Trust incentives and services, and contractors. Responses to project change and influence questions are converted to scores, and equally weighted, which represents the free ridership rate for projects. On the residential side, project-level free ridership rates are averaged. On the non-residential side, project-level free ridership rates are weighted by the portion of savings the project represents, and rolled up to the track level. These track-level estimates of free ridership are then weighted by the portion of savings that track represents in the population. If any one project has savings that are very large relative to the savings of the other projects in a given track, it is excluded from the free ridership rate used in the savings, realization, and adjustment factors (SRAFs) used for budgeting and planning purposes; essentially, we are removing outliers that are not representative for the purpose of budgeting and planning. These methodological decisions are documented in the report and other documents (e.g., evaluation committee notes). They are decisions that have been made over many years, and at this point, the methodology for Fast Feedback is quite nuanced.

<u>Non-Residential Results</u>: The grey and blue bars in the graph below represent the percent of Existing Buildings – Oregon respondents that said they were satisfied with their overall experience with Energy Trust and their interaction with program representatives, respectively. The green and yellow bars represent the free ridership rates. As you can see from the graph, satisfaction has been consistently high. Free ridership was down slightly from last year, but is consistent with prior years.



Satisfaction and free ridership rates for Existing Buildings – Oregon, 2012-2016

Satisfaction for Existing Buildings – Washington was high in 2016; the numbers tend to jump around more because the project volume is much lower, and we are not able to complete very many surveys. Free ridership isn't calculated for Washington because it isn't of interest to Washington regulators.

As shown in the graph below, the Production Efficiency program has very high satisfaction numbers, which have been steady over time. Free ridership rates were down significantly this year, which could be random, or could be some other trend. Ray commented that the program has worked with Program Delivery Contractors (PDCs) extensively on evaluations and on driving free ridership down.



Satisfaction and free ridership rates for Production Efficiency, 2012-2016

Susan B. asked what specifically the program did to help PDCs drive free ridership down. Ray explained that the program helped PDCs better understand how evaluations are done, and how individual projects factor into evaluations. The program helped PDCs better understand what projects should and can be (including what projects should be funded) and to classify such projects correctly when they come into the program.

Dan continued, noting that satisfaction has been consistently high for the Multifamily program, and, like the other non-residential programs, free ridership rates have jumped around a bit, but this year, free ridership was down.

Satisfaction with technical services (for those received them and could recall receiving them) was high: 94% for Existing Buildings – Oregon, 94% for Production Efficiency, and 87% for Multifamily. Satisfaction was also high for multifamily participants that received walk-through surveys, with 90% of respondents stating that they were satisfied. Walk-through surveys involve program representatives doing visual building audits and making recommendations about opportunities for property improvements. Alan noted that it is gratifying to see such high satisfaction numbers continuing to come in year after year.

<u>Residential Results</u>: The graph below shows satisfaction for Existing Homes measures; the colors represent different years (2012 through 2016).



Satisfaction for Existing Homes, 2012-2016

The numbers at the top of the graph represent 2016 satisfaction numbers. Satisfaction was above 90% for most measures, although a few are lower (and seem to be consistently lower). However, the main takeaway is that satisfaction is relatively high, and has been relatively consistent over time. As you can see from the graph, heat pump water heaters and smart thermostats haven't been in the mix for that long. In addition, we broke out gas furnaces (for

Washington customers only) this year; in the past, this was combined with all measures that were done in Washington. Overall, satisfaction for Existing Homes – Oregon was 93%, and satisfaction was roughly the same in Washington.

Mike C. asked if Fast Feedback specifically asks for participant satisfaction with their interaction with Energy Trust, or overall satisfaction. Dan responded that the question wording is about overall satisfaction – there is introductory language to the effect of, "you received an incentive from Energy Trust; how satisfied were you with your overall experience?"

Katie asked if Savings Within Reach participants were included in Fast Feedback. Dan responded that these participants are not surveyed as part of Fast Feedback. Sarah commented that separate process evaluations of Savings Within Reach have been conducted in the past, and Savings Within Reach participants do not receive incentives from Energy Trust (the incentives go to the contractor) so the Fast Feedback questionnaire would need to be modified significantly. Phil noted that free ridership isn't applied to the Savings Within Reach track, another reason that these participants aren't included in Fast Feedback. Marshall commented that there are a number of measures that have common market baselines, and in those cases, the free ridership numbers provide information to programs, but are not applied to savings. In addition, there are other programs and measures, such as ductless heat pumps, where there is an argument to be made that Energy Trust would not be in the market if not for the efforts of NEEA and Energy Trust, so while free ridership numbers are calculated, they are not applied to savings.

The graph below shows free ridership for Existing Homes measures. Note that not all free ridership estimates are applied in True-Up or in savings realization adjustment factors (SRAFs) for planning and budgeting purposes; some of them have other mechanisms for adjusting for attribution. Across the board, free ridership rates were down this year compared to last year, and most free ridership rates range between 30% and 40%. Note that the home performance free ridership rate is based on only seven responses. There has not been a lot of activity in the home performance track outside of Enhabit; we don't survey customers working with Enhabit because Enhabit is already surveying participants, and they don't have much (if any) interaction with Energy Trust, since everything is handled by Enhabit.



Existing Homes free ridership, 2012-2016

Ken commented that high free ridership rates can be symptomatic of technologies becoming baseline (for example, high efficiency windows) but in some cases (for example, smart thermostats), free ridership looks high, but because the technology is in an early phase, it is attracting people that are interested in the technology and are early adopters.

Dan noted that it will be interesting to see what happens to free ridership for smart thermostats in the future and for heat pump water heaters, which are in similar market phases. In 2016, we saw a pretty substantial decrease in free ridership for heat pump water heaters.

Other interesting findings included:

- 90% of respondents were satisfied with their overall contractor experience.
- Old equipment was still operating when it was replaced for 47% of heat pump upgrades, 60% of gas tank water heaters, and 73% of gas furnaces in Washington.

Fred commented that this information provides useful information about what part of the market the program is reaching – people that plan ahead versus people that do emergency replacements. We seem to be reaching more people that plan ahead versus people that do emergency replacements.

We also asked respondents that installed heat pump water heaters where they installed, since this has some bearing on the savings due to HVAC interactions. Three-quarters installed their heat pump water heater in a garage or basement (outside the heated envelope). Fred asked if we knew the percent that were installed in garages and the percent that were installed in basements. Dan responded that the information is in the report. Most (87%) of respondents said they replaced an electric water heater with a heat pump water heater, while 10% said they replaced a gas water heater, which indicates a minimal amount of fuel-switching.

Just under two-thirds (64%) of respondents that installed a gas fireplace replaced a woodburning stove, 26% replaced an old gas fireplace, and 6% replaced nothing, meaning that there is a fair bit of additional gas load from gas fireplaces that is in addition to, or offsetting, furnace use. Fred noted that this information doesn't tell you if the program caused participants to switch from wood to gas. We think that fuel-switching is happening already – we are trying to ensure that the product is more efficient than it would be otherwise. Ken asked if wood burning stoves included both stoves and fireplaces. Dan confirmed that it includes both.

Dan continued, noting that between 78% and 94% of respondents (depending on the measure) paid for projects with cash or credit. Heat pumps, gas furnaces, and wall insulation made up the low end of that range, Thad asked what the other question options were. Dan responded that the other options included loans (for example, personal loans or bank loans). Susan B. asked why this question was of interest to staff. Dan responded that the idea was to get a sense of how many participants were using financing, because programs have been interested in supporting loan products in the past.

Similar to Existing Homes, satisfaction for Products program measures (including clothes washers, refrigerator recycling, and clothes washer recycling) is consistent and very high. As shown in the graph below, free ridership was down for clothes washers and refrigerator recycling.



Products free ridership, 2012-2016

Three-quarters of refrigerator recycling respondents replaced a refrigerator and 94% of clothes washer recycling respondents replaced a clothes washer. Marshall commented that the recycling programs initially started to remove secondary appliances and older appliances; these results indicate that people are replacing appliances that failed. The Regional Technical Forum used the total cost of recycling a refrigerator into their measure; these data support that decision.

<u>Solar Results</u>: Satisfaction is generally very high for solar, although it was down slightly this year (90% for residential solar PV and 96% for commercial solar PV). The program theorizes that it might have something to do with third-party owned and installed systems – specifically, that participants may not be as happy with those contractors.

Other findings included:

- Almost all residential respondents said they applied for the state tax credit
- 62% paid all cash for their system
- 89% were satisfied with their overall contractor experience

On the commercial side, 88% of respondents reported applying for the federal tax credit, 28% reported using a loan or financing to pay for the system, and only 12% reported that they would have installed the same system without Energy Trust's incentives.

<u>Summary</u>: All programs in 2016 had high (> 90%) overall customer satisfaction, and this was similar to past years for most programs and measures. For non-residential programs, satisfaction with program representatives ranged from 95% to 100%. And finally, free ridership decreased slightly across the board.

Marshall asked if there is any opportunity to capture diversity impacts through Fast Feedback surveys. Dan responded that this has been discussed a number of times, and the Evaluation team is not convinced that this survey is the right way to capture such information about program participants for a few reasons, including that survey respondents tend to differ from people who don't respond to surveys, and people tend not to provide responses to demographic questions. In addition, responses obtained through Fast Feedback would not be representative of all participants because the sample is designed to target specific programs and measures to gather information about free ridership and satisfaction. As programs have moved upstream, Fast Feedback has gotten even less representative of program participants.

Marshall asked if conducting surveys by phone negatively impacts the survey results. Dan responded that the response rate for non-residential programs is 36%, which is a relatively high response rate for this type of survey. For residential programs, the response rate is lower, at 28%. The Evaluation team has been discussing potentially using a different survey mode, such as a web survey, and different methods, such as surveying all participants (rather than a sample). We are currently investigating and weighing different options. Sarah commented that if we want to change methods, that discussion needs to take place with the board and the OPUC, because Fast Feedback results are used in Energy Trust's performance metrics. Fred commented that satisfaction is a key part of utility regulation. Ken observed that free ridership tends to go up when there are no changes to program requirements. Energy Trust has increased the bar significantly over time, and part of the story behind that decline in free ridership observed in 2016 is an avoided increase in free ridership.

2. Ceiling Insulation Billing Analysis

Presented by Phil Degens

<u>Background</u>: Energy Trust Evaluation staff have performed billing analysis for various components of the Existing Homes program, including air sealing, gas weatherization, Enhabit (formerly Clean Energy Works Oregon), gas fireplaces, and Nest thermostat. Such analysis has been done internally because staff know and understand the data. External reviewers have

been employed to review and provide feedback on the methods used by staff. Currently our two external reviewers are Scott Pigg of Seventhwave and Ken Agnew of DNV GL. Fred commented that the strategy has been to get senior, experienced staff at third-party firms to review and provide feedback on billing analysis methods and results prepared by internal staff. We wanted to avoid having junior, inexperienced staff at third-party firms spend a significant amount of time doing this work.

This billing analysis is focused on six years of ceiling insulation projects, representing program years 2009-2014. Over this time period, over 16,500 residences participated, and the vast majority (72%) had gas heat. Just over a third only installed ceiling insulation, which is important, because to assess savings, we want to look at places that only installed ceiling insulation.

To assess savings, we used weather normalization models that adjust energy consumption for weather. We created weather-normalized estimates of energy consumption using long-run weather information so that we can compare one year to the next. The reference temperature is the outside temperature at which the heating system (or cooling system) turns on in a given home. We assume that as homes get more efficient, the heating system will go on at a lower outside temperature.

To calculate savings, we constructed a comparison group and look at the change in consumption of the comparison group relative to the change in consumption of the participant group. The difference of those differences is savings. Two different comparison groups were used: 1) non-participants and 2) future participants. We wanted to use future participants because they are more similar to participants. The challenges with using future participants include: there are relatively small number of future participants, it can take time for future participants to accumulate, and in some cases, there are no future participants. Non-participants are selected to ensure they have similar levels of energy consumption and are in geographic areas similar to participants.

Participants can be screened out for various reasons, including:

- Inability to match to energy consumption data
- Installed more than ceiling insulation
- Inadequate energy consumption data (e.g., too few observations, missing observations, extremely high or extremely low energy consumption, etc.)
- Participation in other programs during the analysis period
- Regarding the weather normalization model, bad goodness-of-fit (low R²), negative heating or base load (meaning the model is saying that as it gets colder, the less energy is used), etc.

Mike C. asked how any work done by participants beyond programs is captured. Phil responded that if participants are doing additional efficiency work coincident with ceiling insulation that's not captured in our program data (and non-participants are not doing similar levels of efficiency work) that's wrapped up with the savings attributable to ceiling insulation.

<u>Gas – Analysis</u>: There were 2,864 homes that did ceiling insulation only and had gas billing data. 546 had inadequate billing data or installed other measures during the analysis period and 625 were screened out due to issues with the weather normalization model. There were a total of 1,693 homes in the final analysis sample (the overall attrition rate was 41%).

As the chart below shows, participants reduced their consumption more than the non-participant and future participant comparison group. Fred commented that for the non-participant comparison group, sometimes the load increased, and other times it went down.



Change in gas consumption by group and year

The table below shows the average savings of the participant group relative to the two comparison groups, along with the standard error. We estimated savings as the midpoint between the savings for the participant group relative to the non-participant group, and the savings for the participant group relative to the future participant group. This is what is used to estimate the realization rate. The evaluated savings equate to an 8-11% reduction in total consumption.

2009 2010 2012 2011 2013 2014 Savings relative to non-78 64 76 66 90 100 participant comparison group S.E. 9 7 6 8 10 12 Savings relative to future 54 72 64 59 75 63 participant comparison group 7 S.E. 9 7 9 12 18 Savings midpoint between future participant and 75 59 70 62 82 81 comparison groups S.E. 12 9 9 12 22 16 Savings midpoint as % of 10% 8% 10% 9% 11% 11% annual consumption Ex ante savings 104 75 103 90 89 74 Realization rate 110% 72% 57% 70% 110% 78%

Gas savings analysis

We looked to see if there were any trends; one trend that was observed was that people with over 800 therms of consumption (which was slightly higher than the average) tended to have higher savings and high realization rates. Fred asked about the variation in the realization rate over time, and asked if that was being driven by a change in the program's estimated savings for ceiling insulation. Marshall commented that the number of ceiling insulation projects for which the program claimed savings grew rapidly in 2010-2012. In 2014, the program changed

participation requirements such that the existing condition had to be a minimal amount of insulation (R12, or approximately 3 inches) compared to the past (R18, or approximately 5 inches). In addition, the estimated savings for the measure dropped. Finally, the program switched to a new Program Management Contractor and subsequently became more targeted.

<u>Electric – Analysis</u>: On the electric side, there were 1,118 homes that did ceiling insulation only and had electric billing data. 373 had inadequate billing data or installed other measures during the analysis period and 630 were screened out due to issues with the weather normalization model. There were a total of 264 homes in the final analysis sample (the overall attrition rate was 57%). There is a slight difference in the screens used in the electric analysis; homes were allowed to have a cooling-only model, a heating-only model, or a model with both cooling or heating. The billing analysis reviewers noted that moving forward, we should do a heating and cooling model using a fixed reference temperature. Fred asked if these homes had electric resistance heat or heat pumps. Phil responded that both types of heating systems are represented in the final analysis sample.

As the chart below shows, overall, participants reduced their consumption more than the nonparticipant and future participant comparison group. In 2014, future participants significantly increased their consumption. We are not sure why, but it could be due to relatively small samples.



Change in electric consumption by group and year

The table below shows the average savings of the participant group relative to the two comparison groups, along with the standard error. Realization rates are also shown below. Similar to the gas analysis, there were relatively low realization rates between 2010 and 2012, which subsequently improved in 2013 and 2014. Realization rates were also high in 2009. The evaluated savings equate to a 9-13% reduction in total consumption (in 2009 and 2013-2014); this was much lower for 2010-2012. As with the gas analysis, participants with higher usage (more than 19,000 kWh) had higher savings and higher realization rates.

<u>Multiple Measure Regression</u>: A multiple measure regression, which included homes that did multiple measures (e.g., ceiling insulation plus other measures), was done to estimate the energy savings of additional measures. Participants with gas heating that did additional

measures saved an additional 63 therms, and participants with electric heating that did additional measures saved an additional 52 kWh. Mike C. asked if the additional savings are attributable to other measures, and Phil confirmed that they are attributable to other measures. Phil noted that the other measures completed by participants were varied, and in some cases, could have negative synergistic effects – for example, if a participant installed ceiling insulation and a new heat pump, if you add up all the savings from those measures, you may get more savings that exceed consumption, which doesn't make sense. Fred added that if one does comprehensive retrofits involving multiple measures, individually, the measures save more on their own than they do collectively.

In summary, the average unweighted gas savings were 72 therms, which represents an 82% realization rate and equates to a 10% decrease in total consumption. The table below shows gas savings estimated via multiple measure regressions by year.

	2009	2010	2011	2012	2013	2014
Savings midpoint (therms)	75	59	70	62	82	81
S.E.	12	9	9	12	16	22
Percent change in NAC	10%	8%	10%	9%	11%	11%
Ex ante ceiling insulation savings (therms)	103	104	90	89	75	74
Realization rate	72%	57%	78%	70%	110%	110%
Multiple measure savings (therms)	53	71	64	78	52	44
Percent change in NAC of additional measures	7%	10%	9%	11%	7%	6%

Gas savings summary

The average unweighted electric savings were 1,099 kWh, which represents an 80% realization rate and equates to a 7% decrease in total consumption. The table below shows electric savings estimated via multiple measure regressions by year.

Electric savings summary

	2009	2010	2011	2012	2013	2014
Savings midpoint (kWh)	1,568	669	407	920	1,308	1,722
S.E.	574	539	526	473	803	965
Percent change in NAC	9%	4%	2%	5%	10%	13%
Ex ante ceiling insulation savings (kWh)	1,175	1,147	1,178	1,117	1,588	1,597
Realization rate	137%	57%	36%	58%	82%	108%
Multiple measure savings (kWh)	(775)	435	534	(395)	318	292
Percent change in NAC percent change of additional measures	-4%	2%	3%	-2%	2%	2%

Alan asked if the reason that savings were greater in recent years was because we had a lower starting point. Marshall confirmed that homes had to be in worse condition to qualify. Dulane asked why the *ex ante* savings and the realization rates are increasing over time. Marshall responded that the switch to a new PMC resulted in the use of better targeting practices starting in 2013. Ken commented that the trend of increased ex ante savings and realization rates looks counterintuitive; since the 1980s programs have been weatherizing homes and every year there are more new homes, which are more efficient. The target market for electrically-heated homes with little ceiling insulation is shrinking. Fred noted that in addition to improvements in codes, the percent of all homes that are electrically-heated homes has declined (due to fuel switching in the 1980s and 1990s) meaning that the target market is getting smaller. Ken noted that given this, it would be unwise to draw a conclusion about savings using only the more recent years as would assuming that the same level of savings is what the program could get in the future.

<u>Energy Trust Take</u>: Ceiling insulation realization rates are approximately 80%, and have improved in recent years (2013 and 2014). Participants with higher consumption (800 therms or 19,000 kWh) had higher savings and realization rates. In future analyses, we will add a heating and cooling model using a fixed reference temperature for electrically-heated homes, and add heating and cooling load criteria for selecting the electric non-participant comparison group sample.

Fred asked if the billing analysis reviewers recommended adding the heating and cooling model and adding heating and cooling load criteria for selecting the electric non-participant comparison group sample. Phil responded that those were recommendations from the billing analysis reviewers, which would greatly reduce the number of regressions that are estimated for a given home. Alan asked if the evaluated savings are used in cost-effectiveness calculations. Fred responded that when we do cost-effectiveness calculations, we look at savings (the difference between pre- and post-participation usage). Dan clarified that these numbers are averages; savings could be 500 kWh in some cases and 3,000 kWh in other cases. That depends on the size of the space that's being insulated and the initial base conditions. Prior to 2013, the realization rates were low, and 2013-2014 saw improvements in realization rates. Phil added that the reason for those results could be larger projects, or projects of the same size but with different levels of baseline insulation. Fred noted that when the engineers review these results, they will look at the savings and the sample sizes, and determine reasonable numbers to use to update savings. That hasn't yet happened. Choosing a number to use also depends on what the program looks like currently, and what we expect the program to look like in the future - for example, if the program is doing or expects to do a high volume of ceiling insulation projects, using savings from 2013-2014 may not be tenable.

3. 2014 New Buildings Impact Evaluation

Presented by Dan Rubado

<u>Background:</u> The New Buildings program supports design, construction, and major renovation of commercial buildings. It offers a variety of design and technical services and incentives. Measures offered by the program include standard, Market Solutions (packages of measures pre-modeled for certain building types), and custom analysis (using building simulation models and custom engineering calculations). In 2014, the program completed 358 projects and claimed 35 million kWh and 650,000 therms, which was split between standard and custom measures. Market Solutions accounted for a relatively small portion of the program in 2014 (around 7%).

The graph below shows claimed program savings over time. 2013 looks very different from 2011-2012 and 2014. This is due to one very large data center project that we have discussed previously.





The goals for this impact evaluation were to verify New Buildings program electric and gas savings at 90/10 confidence and precision, provide robust realization rates for the program overall and by building type, assess the energy use intensity (EUI) performance of buildings served by the program, report variances and observations about projects, and make recommendations for specific program improvements. Michaels Energy was hired to conduct this study in 2016; this study had a larger sample compared to prior studies.

<u>Evaluation Sample</u>: A stratified random sample was used; the sample was stratified by building type. Within each stratum, there was a certainty sample comprised of a few of the largest projects and then a probability sample. Ninety-nine sites were selected: 45 certainty and 54 probability. The graph below shows the sampled savings; the green bars represent the percentage of the total population savings in the sample (electric and gas are combined).



Population savings compared to 2014 impact evaluation sample by building type

The sample represents 65% of electric savings and 70% of gas savings, and has good coverage of various measure types.

<u>Evaluation Process</u>: The evaluator reviewed project files and calculations, developed site measurement and verification (M&V) plans, interfaced with program staff throughout the evaluation and interacted with customers. The evaluator completed site data collection through 71 site visits and completed 28 desk reviews, including 18 phone interviews. They then analyzed measure savings and produced final site reports for each site. Site-level realization rates were extrapolated to building type categories and to the program overall. The evaluator also completed an EUI analysis and produced a final report.

<u>Site Data Collection</u>: Site visits included physical verification of measures; talking with site personnel; collecting snapshot data on equipment specifications, control settings, schedules, operations, and hours of use; and gathering control system trend data in many cases. Desk reviews were completed mostly for prescriptive measures (there were a few cases in which the evaluator was not able to get ahold of participants that completed large projects). These involved comparing equipment specifications to requirements and verifying size and efficiency levels in calculations. Eighteen phone interviews were completed to confirm installation and operation of equipment. Electric and/or gas billing data was retrieved for 98 sites.

<u>Savings Analysis</u>: The evaluator analyzed savings at the measure level, and used data gathered through site visits and interviews to update the savings calculations. For deemed savings, the evaluator verified that the measure met the program requirements (e.g., that the equipment was the efficiency level that was recorded in the project documentation, or that the measure saved gas when it was reported as saving gas in the project documentation). For calculated savings, the evaluator determined the input(s) going into the calculation and verified those inputs. For custom engineering calculations, the evaluator collected building operations data and updated the calculations with the as-built numbers. For building simulation models, the evaluator took the baseline and as-built models, updated them based on as-built conditions, calibrated the models using actual weather conditions, and re-ran the models using typical weather data to obtain the final calibrated model. The difference between the baseline and the as-built calibrated models aventer data to be the final evaluated savings. Realization rates for each measure and project was calculated as the ratio of *ex post* (program-estimated) to *ex ante* (evaluated) savings.

The project-level realization rates were rolled up based on the strata-level weighting scheme. Realization rates for certainty projects (which were not part of the random sample) were only applied to those projects, and were not extrapolated to the program. Once realization rates had been rolled up to the building type level, they were weighted and rolled up to the program level.

As shown in the graph below, the program achieved a 96% electric realization rate (3% precision) and a 94% gas realization rate (4% precision), which are very high and consistent with prior years. Because of this consistency, we elected to not conduct an impact evaluation of the entire program for 2013. However, we did end up evaluating over half of the savings achieved in 2013 due to the evaluation of several large projects.



New Buildings program electric and gas realization rates, by year

Alan asked when free ridership is applied. Dan responded that the New Buildings program is considered to be a market transformation program; the working theory is that free ridership does not apply because the program is trying to transform the market. Fred commented that the theory is that the program is helping to drive advances in code, and had the program not been there, the baseline would be a lot worse.

Ken asked about the percentage of program savings coming from deemed measures. He commented that the relative precision may be skewed by the fact that there is no variation in deemed values. Dan responded that deemed and prescriptive measures represented 40% of the sample. The underlying assumptions for such measures are heavily researched; we don't think it is valuable to recreate that as part of every impact evaluation. It's true that there isn't a lot of variability in realization rates for deemed and prescriptive measures, but those numbers are settled on through other studies. It's also true that part of the driver for the precision of the estimates are deemed and prescriptive measures.

The graph below shows results by building type. This allows us to see how well we are estimating savings within one type of building. Note that some of the building types have high precision, while others have low precision (meaning there weren't a sufficient number of sites in the sample to provide a precise estimate of savings). Realization rates at the building type level were relatively high, with a few exceptions that are flagged in the graph below.



Realization rates by building type

<u>Major Drivers of College/University Realization Rate</u>: There was one very influential project presenting 11% of the sampled electric savings and 20% of the sampled gas savings that achieved a 91% electric realization rate and a 76% gas realization rate. The evaluator reduced the minimum airflow ratio in the simulation model to reflect program guidelines and actual operations, which affected the gas realization rate. In addition, the site had lower lighting hours than expected, which reduced savings, and elevator regenerative systems were never installed (so the savings were zeroed out).

<u>Major Drivers of Data Centers Realization Rate</u>: Three of the four data centers in the stratum were adjusted. The realization rates for these three data centers varied substantially: one achieved a 0% realization rate, one achieved a 74% realization rate, and one achieved a 210% realization rate. The key driver was adjustments made to actual IT loads; two data centers had lower than expected IT loads, and one had higher than expected IT loads. The lower loads had a large effect on the performance of uninterruptible power supply (UPS) measures and had an effect on cooling measures as well. The evaluator noted that UPS redundancy lowered efficiency, which could have been mitigated with UPS controls, although some data centers are hesitant to implement controls, because they like to have redundancy.

<u>Major Drivers of Multifamily Realization Rate</u>: There were 18 multifamily projects in the sample, representing 17% of the sampled electric savings and 15% of the sampled gas savings. Four projects had documentation errors which resulted in a 58% electric realization rate and 90% gas realization rate. Of those, three sites had verified quantities of low-flow devices that were lower than the project files indicated. There were four sites where customers had removed low-flow devices for tenant satisfaction reasons after installation, which zeroed out the savings.

<u>Major Drivers of Office/Retail Realization Rate</u>: There were 11 office/retail projects in the sample, representing 7% of the sampled electric savings and 2% of the sampled gas savings. Two projects drove an increase in electric savings; this was due to the projects having higher

hours of use than originally expected. One project drove a reduction in gas savings; it was a boiler that was rarely used (provided supplemental heat).

<u>Major Drivers of Warehouse and Storage Realization Rate</u>: There were 11 warehouse projects in the sample, representing 6% of the sampled electric savings and 7% of the sampled gas savings. Four projects reduced electric savings; they had low operating hours. One large project drove a reduction in gas savings; the heating load was much smaller than originally expected.

When looking at results by measure type, those that achieved relatively low or high electric realization rates included:

- Standard clothes washers (84% realization rate) had two projects that did not meet program requirements
- Standard refrigeration (107% realization rate) had one project that had a greater number of devices installed than was recorded by the program.
- Standard water heating (91% realization rate) had a few instances of devices that were removed.
- And we touched on the major drivers for the custom measure types when we discussed major drivers of the realization rates for select building types.

And those that achieved relatively low or high gas realization rates included:

- Standard clothes washers (112% realization rate) had one project that assumed in-unit use would be higher than it was (common areas received a fair amount of use).
- Standard food service (88% realization rate) there was a documentation error; a steam cooker was found to be electric as opposed to gas
- Standard HVAC (90% realization rate) was driven by a boiler measure that was discussed previously.
- And we touched on the major drivers for the custom measure types when we discussed major drivers of the realization rates for select building types.

The evaluator sought to categorize the reasons adjustments were made. They found that most of the time, adjustments were made because facilities operated differently than was originally installed or equipment was installed differently than originally assumed.

<u>Energy Use Intensity Analysis</u>: The evaluator used energy consumption data and project data to calculate EUIs for each building type in the sample. As shown in the table below, they compared those EUIs to the prior (2012) impact evaluation, the Northwest Energy Efficiency Alliance's Commercial Building Stock Assessment (CBSA), and the 2012 Commercial Building Energy Consumption Survey (CBECS). This wasn't a perfect analysis, but it did yield some interesting information.

Study Name and Date	2014 NB Participants (n=84)		2012 NB Participants (n=34)		2014 NEEA CBSA (n=1,278)		2012 CBECS (national)
Building Type	n	kBtu/sf	n	kBtu/sf	n	kBtu/sf	kBtu/sf
Retirement/Assisted Facilities	7	54					
Multifamily Residential	15	31	5	12			
Retail	5	76	2	74	152	65	89
Data Center	5	699	1	177			
Schools K-12	8	41	7	106	117	64	69
College/University	5	62	1	44	13	64	69
Warehouse	10	58	2	14	105	30	34
Office	8	69	3	41	171	76	78
Other	6	43	3	87	111	85	145
Lodging/Hotel/Motel	6	74			100	91	97
Assembly	1	41			137	91	86
Grocery	1	127	7	252	129	240	210
Religious/Spiritual	1	29					38
Restaurant	4	781	2	404	159	352	283
Hospital	2	294	1	181	25	174	231

Energy use intensity by building type

Sampled K-12 schools and lodging/hotel/motel in the 2014 program year had EUIs that were quite a bit lower than EUIs estimated for those building types by other studies. For other building types, there was not a big difference. Sampled warehouse and restaurants in the 2014 program year had EUIs that were higher than EUIs estimated for those building types by other studies. Warehouses tended not to be empty (they often had process-related activities occurring, or served as office spaces) and there was one restaurant that really drove the EUI for that building type (it had four gas wok burners running the entire time it was open, and those used a fair amount of gas).

<u>Interactive Effects</u>: The evaluator dug into interactive effects in the report. They found that many interactions are documented in project files but are not claimed. Negative, cross-fuel measure interactions are not tracked per Energy Trust policy. However, whole building projects using simulation models do account for such interactions. Whether or not cross-fuel interactions are captured and claimed depends on how measures are defined and recorded in Energy Trust's system. If total fuel savings are greater than zero, interactions are tracked and captured. If total fuel savings are less than zero, interactions are not tracked or captured. This is explained more in the report, but essentially, there are some inconsistencies in terms of how interactions are tracked and claimed.

The evaluator also noted that some measure interactions are not documented at all. Michaels Energy examined the potential impact of lighting and HVAC interactions at a high level, and used simple assumptions to show the upper bound of the impact. Michaels Energy took the 7,300,000 kWh lighting savings in the sample, applied basic assumptions, and said that the cooling benefit equates to 593,000 kWh, while the heating penalty equates to 119,000 therms. So there is a big penalty on program gas savings, keeping in mind that these numbers reflect the upper bound of the impact; the actual numbers are probably lower.

<u>Major Findings</u>: The program achieved a 96% electric realization rate and a 94% gas realization rate. The program did an excellent job of estimating savings for most projects in 2014, and there were no significant problems with modeling files. The most common reason for savings

adjustments was that equipment operated or was installed different than was assumed. And as we just discussed, there are a large number of unclaimed negative cross-fuel interactions, per Energy Trust policy.

<u>Recommendations</u>: The evaluator recommended that the program ensure that site verification findings are linked to final savings to reduce documentation efforts, properly identify and account for backup HVAC equipment, expand site verification for multifamily properties to reduce documentation errors, delay site verification as long as possible to obtain better information on system operation, and educate customers about the benefits of low flow devices. The evaluator also recommended verifying seasonal schedule changes in simulation models, and engaging and educating data center customers about uninterrupted power supply controls. Finally, the evaluator recommended that Energy Trust consider claiming negative measure interactive savings that are documented but not claimed, claiming HVAC interactions for lighting, and setting criteria for applying different versions of program technical guidelines to projects.

<u>Energy Trust Take</u>: Our take is that the program performing well and accurately estimating savings, and a few site verification process improvements may help clean up documentation errors. We are not sure it is possible to get better operational data from customers prior to project close, and are determining if we can address the removal of low-flow devices and how to work with data centers on uninterruptible power supply controls. There is a need for internal discussions regarding cross-fuel measure interactions across multiple programs.

Alan commented that the evaluator's recommendations in the report were extremely detailed and insightful; it was clear that they put a lot of time and effort into thinking about ways to improve the program. Dan responded that some of the recommendations were based on relatively small problems (e.g., an issue observed at one site) as opposed to major or widespread problems. And we felt that some of the recommendations were more valuable than others.

Ken commented that it is extremely difficult to estimate the *ex ante* savings for new construction, but the program seems to have done a good job, and it doesn't sound like there were a whole lot of unexpected problems. Dan responded that the main takeaway is that only minimal problems were revealed through the evaluation, and not a whole lot can be done to improve. In particular, we aren't sure that getting better operational data is something that could be implemented. Dulane asked about the IT loads of data centers at the time of design, site verification, and long-term. Dan commented that IT loads vary. Evaluators discuss future loads with facilities staff, and look at anywhere from several months to several years' worth of trend data over time. Mike commented that some of these data centers are speculative; they are built out, and there is a business risk associated with them. Dan noted that uninterruptible power supply systems have built-in controls that can be enabled; the controls operate as many UPS components as are needed to serve the IT load currently at the building. However, sites do not enable these controls because there is a risk of downtime; Michaels Energy perceives this risk to be relatively small.

Jessica commented that companies see Oregon as an attractive place for data centers. The timing of evaluation is really important for data centers in particular, since loading up can take some time. As has been discussed previously, a new process has been implemented for evaluating data centers and other large projects. Dan noted that the sample for this impact evaluation included relatively small data centers.

4. Mega-Project Impact Evaluation

Presented by Phil Degens

This evaluation was an impact evaluation of an industrial mega-project. This portion of the meeting was conducted in closed session; prior to the start of the presentation, Phil asked anyone who was not a board member or had not signed Energy Trust's Nondisclosure Agreement to step out of the room or off the phone. Notes from this portion of the meeting are not publicly available.

Wrap-Up & Next Steps

We are thinking about scheduling another evaluation committee meeting in late July or mid-August. Erika will send out a Doodle poll to see what days would work best for folks.

PINK PAPER



Evaluation Committee Meeting

August 16, 2017 12:00 pm-3:00 pm

Attendees

Evaluation Committee Members Alan Meyer, Board Member, Committee Chair Heather Beusse, Board Member Lindsey Hardy, Board Member (phone) Jennifer Light, Expert Outside Reviewer Ken Keating, Expert Outside Reviewer Dulane Moran, Expert Outside Reviewer (phone) Janine Benner, Board Member and Oregon Department of Energy Special Advisor (phone)

Energy Trust Staff Steve Lacey, Director of Operations Jackie Goss, Sr. Planning Engineer Kenji Spielman, Planning Engineer Phil Degens, Evaluation Manager Sarah Castor, Evaluation Sr. Project Manager Dan Rubado, Evaluation Project Manager Erika Kociolek, Evaluation Project Manager Andy Griguhn, Planning & Evaluation Operations Analyst Connor Morrow, Planning Intern Andy Eiden, Planning Project Manager Andrew Hudson, Planning Project Manager Peter Schaffer, Planning Project Manager Mike Bailey, Engineering Manager (phone) Sue Fletcher, Sr. Manager, Communications and Customer Service Susan Jamison, Residential Marketing Manager Amber Cole, Director of Communications and Customer Service Marshall Johnson, Sr. Residential Program Manager Scott Leonard, Residential Sr. Project Manager Peter West, Director of Energy Programs Oliver Kesting, Commercial Sector Lead Shelly Carlton, Strategic Marketing Manager Ray Hawskley, Sr. Industrial Technical Manager (phone)

Other Attendees Jamie Woods, Portland State University

1. 2012 Production Efficiency Impact Evaluation

Presented by Erika Kociolek

<u>Background</u>: The Production Efficiency (PE) program claimed savings of 140 million kWh and 800,000 therms in 2012, which represents about 28% and 15% of total Energy Trust electric savings and gas savings, respectively. Cadmus was selected to conduct the 2012 impact evaluation, the goals of which were to determine actual program savings and realization rates, as well as make recommendations to help Energy Trust improve program effectiveness. Site visits and participant interviews were completed in 2015, and there was a lag in finalizing the

report. Strategic Energy Management (SEM) projects were originally part of the evaluation, but were separated into an SEM-specific evaluation that will be completed soon; results presented here are only for capital measures.

Cadmus identified a sample of projects and reviewed project files and analyses. They created site-specific evaluation plans and then conducted data collection activities on site and by phone. The analyses of savings were summarized by project and then extrapolated to the program population.

Track	# projects evaluated	% of program electric savings in 2012*	Electric RR	% of program gas savings in 2012*	Gas RR
Custom Capital	52	51%	94%	49%	82%
Custom O&M	8	8%	71%	14%	79%
Green Rewind	12	0.3%	96%	-	-
Lighting	17	31%	96%	-	-
Prescriptive	20	4%	98%	31%	95%
Streamlined	13	6%	94%	7%	97%
Total*	122	-	94%	-	87%

Production Efficiency realization rates by track

*Excludes SEM from totals.

The overall program realization rates were 94% for electric savings and 87% for gas. Alan commented that those are very good realization rates. Ken agreed and said that it could provide more information to the program if we plotted the *ex ante* and *ex post* savings for custom projects (excluding deemed measures and lighting) to see if we are getting better at accurately predicting the savings from complex custom measures over time and finding fewer big errors. Steve said it looks like the only weak area is custom operations and maintenance (O&M), and he was impressed that we are doing so well on custom capital. Ken said we want to see the distribution in addition to the average, in case the average is hiding highs and lows.

<u>Results – Custom Capital</u>: Custom capital measures rely on modeling and engineering calculations with site-specific inputs. Note that within some measure groups in custom capital, the counts of projects are very small, so numbers are imprecise. Today we will focus on the five measure categories in orange in the graph below, which show large deviations from 100%.



Custom capital realization rates by measure type

The custom air abatement measure category had only three sites evaluated. Realization rates were driven by lower-than-assumed operating hours, an incorrect operating assumption, and a site that reverted back to the original baseline systems. Alan said he would assume the system was abandoned because it wasn't working for them. Ray said there was a change in business operations that caused the site to revert back to the original system.

The custom HVAC measure category also involved evaluation of three sites. Realization rates were driven by differences in operating conditions relative to expectations.

Twelve custom primary process projects were evaluated. For the lone gas project in this category, results were based on adjustment for utility bills and operating hours; we did not get actual facility production data, so we used an assumption from the Program Delivery Contractor (PDC).

Custom pumping savings were based on eight projects and results were driven by lower-thanexpected operating hours or pumps operating at 100% power (which results in no savings). Six custom secondary process projects were evaluated, and realization rates were driven by a waterside economizer that was no longer in use, low facility production, and the removal of a water tank insulation measure due to water damage.

<u>Results – Custom O&M</u>: Custom O&M measures have a life of only three years, rather than the typical 10-15 for capital measures. These measures are not usually equipment, they often involve human behavior or controls. The short measure life requires evaluating before that period is up. This evaluation was conducted between two and four years after measures were completed. There were eight projects in this category, and the realization rates were 71% for electric and 79% for gas. The largest electric project was a motor shutdown, but the motors needed to be turned back on and we aren't sure how long they were shut down. The evaluator recommended a 3% project realization rate based on an assumption of a one month shut down, to be conservative. For the second largest gas project, a boiler tune-up, the evaluator learned the boiler received a full overhaul one year after the tune-up, removing the savings for the last 2 years of the measure, for a 33% project realization rate. Alan asked if the three year life was the median expected life. Phil confirmed that it is, and we are interested in learning more about the

measure life and persistence of actual measures. We still need to have more discussions about measure life determination. Ken said it is tricky because you lose savings if the measure doesn't make it to three years, but you don't get extra savings if the measure makes it past three years. Jennifer agreed that we need more studies of measure persistence to learn more.

Dulane asked about the order of magnitude – is there evidence that persistence is a widespread issue for custom O&M measures? Erika said that six of eight projects had 100% realization rates, and two did not. Each of these projects is very different. In the impact evaluation of the subsequent program years, which, as noted previously, is already underway, we selected a larger sample from this track to get more perspective, and we are currently wrapping up the O&M persistence study. Steve noted that we would prefer to defend conservative numbers, rather than less reliable numbers; we are short changing ourselves a bit right now, but look forward to having more information in the future. Alan said if six of eight measure are still working, that argues for more than a three year measure life.

Ray disagrees with the results of the two custom O&M projects with low realization rates. In the case of the motors project, he thinks we are being overly harsh since we don't know when they were turned off. For the boiler project, Ray said the overhaul was done three years after the tune-up, so the realization rate should be 100%; he told Cadmus this, but they did not incorporate the information into the evaluation. Peter asked why we are including data of which we are not sure, regarding the assumption about motor shut-off duration. Erika is not sure that increasing from a realization rate of 3% to 50% would substantially impact the overall program realization rate. Peter asked why Ray's information hasn't been incorporated into the evaluation. Phil said with conflicting information, it's hard to know what to do; we don't want to discount what the evaluator heard from the customer either. Peter asked how reliable Ray's info on the boiler project was, and what it was based on. Steve suggested we might need to go back and ask the customer for more information. Peter wants to make sure that info the program gathers is used, or if it won't be used, we shouldn't bother to gather it.

<u>Results – Green Motor Rewind</u>: Green rewind measures received a 96% realization rate (electric only). One motor could not be found. Alan asked if this is just a matter of counting units, and Phil confirmed that this is a deemed measure. Ken said if we knew the motor was still somewhere in our territory, we could count the savings. Phil says sometimes the counts are wrong or you just can't find a motor in a really large facility.

<u>Results – Lighting</u>: Lighting measures received a 96% realization rate as well (electric only). There were very small adjustments to quantities or operating hours.

<u>Results – Prescriptive</u>: For prescriptive track measures (98% electric realization rate and 95% gas), there were two large projects that drove results, a greenhouse cover measure and an HVAC tune-up measure; both overestimated savings slightly. Results were very similar for the

Results - Streamlined: 94% realization rate for electric and 97% for gas.

Overall, the most common factors impacting realization rates were the removal of measures, changes to operating parameters, facility production levels, or operating hours, and lack of trend data. Billing data showed overestimated savings at two sites in the prescriptive track. Alan asked how the trend data affects the evaluation. Erika said that trend data is used to verify operating conditions and that when we can't get it at all or for a long enough period, we have to rely on assumptions about operating conditions.

As shown in the two graphs below, electric realization rates over time have been fairly consistently high since 2006. Gas realization rates have been higher in the past.



Production Efficiency electric realization rates by year

Production Efficiency gas realization rates by year



<u>Conclusions</u>: The evaluator concluded that the program saved a lot of energy through 2012 projects and the realization rates were relatively consistent with previous years. Custom PDCs changed after 2012 and this resulted in the loss of some project files, which hindered evaluation. The evaluation also suggested that server replacement measures should not be treated as early replacement; the measure has since been discontinued by the program. Program staff and PDCs were extremely knowledgeable about sites and provided critical assistance to the evaluator.

Recommendations: The evaluator recommended:

- · Maintaining a repository of files and data used to estimate savings
- Collecting trend data for at least two weeks of retrofit measure operations
- Consider examining correlations between energy consumption and volume of pumped water
- Re-examining deemed savings for greenhouses and HVAC tune-ups
- Revising savings calculations for measures with rapid obsolescence (servers)
- Considering ways to encourage measure persistence

<u>Energy Trust Take</u>: Based on the results, Energy Trust sees that program staff and PDC involvement were key to the evaluation. The program is performing well with no major issues. We are not sure why files were deleted during the program transition – that was not the intent or direction given by the program. The impact evaluation of the 2013 and 2014 program years is well underway with more detailed focus on custom O&M. The SEM impact evaluation should be completed around the same time. We are currently conducting an O&M persistence study and we will be scoping the 2015-2017 PE impact evaluation at the end of this year to catch up and have evaluation closer to the implementation year. Alan asked for more information about the O&M persistence study. Phil said it is a review of literature and other program practices.

Peter noted that, regarding the project files, we had some misunderstandings with PDCs about how to handle confidential information. They were overly enthusiastic in protecting confidential data. Heather asked if we have a current process for storing documents. Ray said that the Allied Technical Assistance Contractors (ATACs) often have the custom models, production data, etc. They provide the data to evaluators, but not the proprietary models. Heather said she understands that some models are proprietary, but this information is critical to the evaluation. Providing adequate information should be connected to incentive payments. We need to make sure we have the final files. Phil added that the evaluators like to use the models developed by the ATACs to make sure they understand the difference between the expected and realized savings, and don't have to build models from scratch at high cost. Ken said there have long been issues with evaluators not being able to reproduce results of contractors. Many things are not proprietary and should be able to be shared. Peter agrees it is something to work on, with nondisclosure agreements and contracts - making it easier to require and provide the data and models. Jackie said that in most cases we do have files retained and this is sort of a special case. Erika said the evaluator's recommendation regarding a central repository of files was meant to ensure this doesn't happen again. Ray said that the program will consider the recommendation; the issue was mostly related to one PDC that was not selected to continue working with the program.

Heather said it would be interesting to know what the customer thinking was behind changes to the projects – do the customers know they are doing something other than what we assumed? Ray said we do provide all our assumptions to the customers – it is not clear how much they process them, but we do provide the information. Phil said that we don't generally tell the customers what their realization rates are, unless there are deviations that may need to be addressed. But it isn't the role of the evaluator to provide feedback to the customers; their role is to provide feedback to the program. Alan said he would expect that when there is an issue with a measure it is being communicated to the customer. Phil and Erika confirmed that usually is the case. Phil said what a large change for us is often small for the customer. They make decisions for all kinds of reasons, not just energy savings. They have production and business needs that sometimes outweigh the energy efficiency decisions.

2. Short Take: Tier 1 Advanced Power Strips Pilot Evaluation Update

Presented by Erika Kociolek

In 2015, the Multifamily program completed a pilot to test the savings and persistence of tier 1 advanced power strips (APS). These strips operate differently than tier 2 strips, which are infrared sensing. Tier 1 APS sense electric loads by monitoring a control outlet. When the device connected to the control outlet is no longer drawing power, then the APS shuts off peripheral devices plugged into switched outlets.

The tier 1 study involved 120 participants: 59 in a control group that received standard power strips and 61 in the treatment group that received a tier 1 APS. After two-weeks of metering, the program analyzed the data, normalized for a few factors, and found that the strips saved 76 kWh per year, on average. When the program went on-site to retrieve the metering equipment, they found that 14 out of 120 strips had been removed, not used as intended, or not set up to save energy. Once adjusted for the share of affordable and market rate units in the sample, the non-install rate was estimated to be 10%. A survey was done after the end of the metering period to follow-up with study participants. The results of the survey indicated that 20 out of 120 strips were removed or not properly used, a slight increase in the non-install rate to 15%, after adjusting for the share of affordable units.

In the control group units, when the metering equipment was picked up, program staff left behind an APS. This provided an opportunity to assess installation rates. We also wanted to go back and look at how many devices remained installed rate a year later. For the original participant group, we surveyed the 54 people who did not remove their APS based on the initial survey, completed at the end of the metering period. Twenty six people from this group responded, for a 48% response rate. For the original control group, all 59 units were eligible to survey. Thirty people from this group responded, for a 51% response rate. Among those surveyed in the participant group, we found that 81% of APS were still installed. The strips that were removed were due to participants moving, the strips being too big for the space they were used in, or had a problem with their DVR. Among those surveyed in the control group, 80% of APS were still installed. Reasons for not being installed including not knowing how to install, among others.

The survey included some other questions about the use of the power strips, including what was plugged into the control outlet. The measure was designed with the idea that a TV would be plugged into the control outlet and that peripherals would be used in the switched outlets. Thus, the switched outlets would turn off when the TV is off. If other configurations were used, then there may not be energy savings or the equipment may not work as intended. Among the participants, 76% had a TV plugged into the control outlet, compared with 46% among the control group. Another similar question was asked about whether items in the switched outlets turn off when the TV is turned off; 62% of participants and 42% of controls responded affirmatively. These results suggest that some people may not be using the APS correctly, especially those in the control group.

Of those who still had APS installed, 100% of participant respondents and 88% of control respondents said they planned to continue using the APS. Most respondents were satisfied with the APS, including 83% of participant and 60% of control respondents. Many in the control group were neutral satisfaction. When asked whether they would have purchased and installed an APS if Energy Trust hadn't provided them for free, less than 30% said they would have installed them on their own. When asked the same question after informing them that the strips

cost \$30, responses in the participant group who said they would have purchased one increased substantially to 58%. There was no corresponding increase among the control group.

In summary, of the 85% of APS initially still installed after the survey at the end of metering period, 82% were still installed one year later. This equates to an overall persistence of 70% one year after installation. In addition, most of those who still have them installed plan to continue using them and most are satisfied with the strips. Education on how to properly use APS is important since many people appeared to not have the strips set up properly.

Alan asked what we will do with the results. Marshall responded that the results will go into the cost-effectiveness calculations for this measure and that the reduction in persistence will reduce the savings. Scott L. and Jackie responded that the measure is currently on the border of cost-effectiveness and that the program is trying to negotiate a lower price per unit with the vendor to improve cost-effectiveness.

Jamie asked a question about what type of strips the control group received. Erika responded that they initially received standard power strips and then were given APS strips at end of the initial metering study. Jamie stated that we should include the folks who initially removed the strips in future follow-up surveys because they may go back later and re-install them. Phil stated that the APS measure provides a pretty significant amount of savings for a very simple measures and that if there are ways to improve installation rates and reduce costs, they are worth pursuing. Ken said that a lesson is that self-install means that there are more errors made in how strips are installed. The cost of ensuring the quality of the installation, however, would probably be much more than the cost of the equipment. We could do a better job of education on how the strips should be installed. Phil said we could create instructional YouTube videos on APS installation, for instance. Jackie said that there is a limit on how many people can properly use these strips based on the type of equipment they have in their home and that is plugged in near, or related to, their TV. For instance, if there is only one wall outlet near the TV, there may be many different types of things vying to be plugged into a strip that might mean it won't work as intended. Erika said that the original study looked at those strips that were installed correctly and that the overall install rate was adjusted accordingly. There was some additional discussion of the types of things that were found to be plugged into the strips in the original study, which included many items not associated with the TV, such as an A/C unit and an electric wheelchair charger.

3. Short Take: 2017 New Homes Gas Fireplace Survey

Presented by Erika Kociolek

In 2015, the New Homes program became interested in investigating and developing a gas fireplace measure for new homes. The Existing Homes program has a robust fireplace measure that provides a large portion of the gas savings for that program. A midstream measure aimed at supporting units with electronic ignition (versus standing pilot lights) has garnered savings for the New Homes program. Standing pilot lights use a lot of gas throughout the year when the fireplace is not in use. With electronic ignition, there is no pilot light, so no gas is used when the fireplace is off.

Energy Trust also claims savings for the Existing Homes program based in the thermal efficiency of units. Savings for thermal efficiency are heavily dependent on how much fireplaces are actually used in a home. Given interest in developing a similar measure for New Homes, we have completed several studies, including working with New Homes verifiers and builders to see

how many homes had fireplaces and the characteristics of those fireplaces. We also conducted interviews with builders and conducted a survey of people living in newly constructed homes that helped us estimate average hours of use.

Although the homeowner survey gathered information about how often people are using their gas fireplaces, the hours were low and there were some concerns about the methods of that survey that could have caused a downward bias in the results. So, in 2017, we conducted a new survey of homeowners to determine the hours of use, which is the focus of today's presentation.

The first survey was done in May 2015, and asked respondents to estimate how many hours per week they used their fireplace during the heating season. There was concern that this timing affected the responses to the survey, since people were no longer using the fireplaces for heating in May. It was also a warm winter, so people may not have used their fireplaces as much as they might in a typical year. In 2017, we fielded the survey between January and April 2017 and respondents were asked about their use during the prior seven days rather than the entire heating season. We hoped this would improve recall and also provide more timely responses during the heating season. It was also a much colder winter. The primary research questions were essentially the same as the previous survey: to determine the prevalence of gas fireplaces in new homes and to determine how often residents of new homes use their fireplaces.

The sample frame was residents of new homes for which the builders received incentives from the New Homes program and were built in 2014 and 2015. The surveys were distributed in four waves between January and April 2017. Mail recruitment was used to direct people to a web survey. There was a 13% response rate and we ended up with 473 completed surveys.

The prevalence of fireplaces increased slightly in 2017, from 81% to 89%. When we compare the distributions of the 2015 and 2017 responses about hours of use (see graph below), they appear to be quite similar. However, the mean hours went down from 8.2 hours per week to 6.1 hours per week.



Fireplace hours of use, 2015 survey vs. 2017 survey

The survey included two questions about how the fireplace was used. We first asked how people use the fireplace (e.g., for heating, for ambiance, for both heating or ambiance) or if they don't really use it at all. Respondents were then asked how much they used the fireplace in the past seven days. There was a big difference between the two surveys in the percent reporting zero hours of use (15% in 2015 versus 44% in 2017).

This difference could be based on differences in the questions; whereas the 2015 survey asked about the entire heating season, the 2017 survey asked about the prior seven days. It could be that in the prior week more people happened not to use the fireplace than during an "average" week. Ken commented that we might want to consider dropping responses from April because people don't heat as much in the spring, and we should to see if usage is higher in the earlier months than the later ones.

The evaluation contractor ran regression models to look at drivers of fireplace use in response to weather. As shown in the graph below, those that reported using their fireplace for heating had a significant association between fireplace use and weather. Those that used the fireplace only for ambiance used their fireplaces very little and there was no relationship with weather.



Relationship between fireplace use and weather

In summary, gas fireplaces are very prevalent in new homes, but are used less when compared to customers that specifically purchased and installed a new fireplace on their own. Results from the 2017 survey are probably more reliable and will be used to update planning assumptions used in 2018. Alan asked if the survey results change the program assumptions for this measure. Marshall said that there is not an existing thermal efficiency measure for the New Homes program, but given the results of this research, there is probably not much savings potential and the program probably won't pursue a new measure. Jennifer asked how many of the homes were heated with gas versus electricity. Erika responded that most but not all homes had gas furnaces. Jennifer said that there could be differences in how gas fireplaces are used depending on whether there is a central or zonal heating system. Erika said they tried to look at differences between gas and electric heated homes but the sample sizes were too small to get definitive results, although there did appear to be a difference.

4. 2016 Customer Insights Study

Presented by Shelly Carlton

<u>Background</u>: The Customer Insights study was fielded in 2016 and we have been mulling over the results since then to make sense of what we learned. We found that it was hard to get good answers from people about some aspects of demographics, but we are using this study as a learning opportunity on how to obtain info on customer demographics in the future.

<u>Study Goals</u>: The study goals were to learn about differences in awareness, barriers, and motivations between different demographic groups and between program participants and non-participants. We looked at many demographic variables, including age, race, income, geography, etc. We also compared the results from this study to demographics of the state overall. We asked questions about topics of interest to board and staff, including questions about energy education and underserved groups.

Energy Trust's Strategic Plan included goals to expand participation and this study directly speaks to where we should focus. We are currently making changes to our residential programs, so there is an opportunity to change how we reach customers and expand participation. Energy Trust also has a Diversity Initiative that has goals of expanding participation and reaching underserved populations. We also wanted to do research on energy education. This study was different from the past Residential Awareness Study, which aimed to
determine what people knew about Energy Trust. In this study, we wanted to find out more about our customers.

We contracted with VuPoint Research to conduct the survey (via phone) and Efficiency for All did the analysis. Our goal was 1,000 respondents: 500 participants and 500 non-participants. We came close with to the goal with just short of 1,000 responses. A non-participant list was created using our Utility Customer Information (UCI) data and phone numbers were appended from a third-party database. A participant list was pulled from our Project Tracking data. Participants were defined based on the following: insulation, energy saver kits (ESKs), windows, and HVAC measures installed in 2015.

It is important to look at data on the typical Oregonian to compare with respondents. Energy Trust covers most of Oregon, so customers in our territory should be very similar to the state overall. We will look at differences between respondents and the state and differences between program participants and non-participants.

Census data for Oregon indicates that 31% of households are in the \$50K to \$100K income range, 58% of adults are in the workforce, 30% of adults have a bachelor's degree or higher, 17% of households are in rural areas (outside a town or city), 87% identify as white, and 30% have children in the home.

<u>Respondent Profile</u>: Survey respondents did differ from the state overall somewhat. They were less likely to be employed, wealthier, and older than for the state as a whole (which is typical for a phone survey). They were more likely to be homeowners, more educated, and less likely to be Hispanic or Asian than the state overall. They were mostly one- and two-person households. These differences could partially be based on service territory coverage, but Energy Trust's service territory is probably pretty comparable to the state. There may also have been some response bias that made the respondents different from the state overall. Jamie asked if we did post sample stratification to adjust the results based on weightings for each group in the state overall. Sarah responded that we did not adjust the results.

<u>Income and Participation</u>: Program participants were more likely to be in the \$50-\$100K range than non-participants. Respondents in the \$50-\$100K range were more likely to have interest in increasing their home value, be aware of incentives, and know of Energy Trust and its programs. Those making under \$50K were more likely to learn about Energy Trust by word of mouth. They were also more likely to know about retail discounts.

<u>Age and Participation</u>: Participants were more likely to be under 65 than non-participants. Respondents under age 44 were more likely to know of Energy Trust. Respondents under age 65 were more likely to list money as a barrier. Respondents over age 65 reported being less motivated to do energy efficiency projects by factors across the board. Energy costs were a major concern for those over age 30.

<u>Education and Participation</u>: Participants were slightly more likely to have college degrees. Respondents with some college were more likely to know of Energy Trust. Respondents with no college were more likely to learn about Energy Trust by word of mouth. Those with some college or more were more likely to use online resources. Respondents with a college degree or higher were more motivated by helping the environment than others.

Location and Participation: There were some regional differences in motivations. Respondents East of the Cascades and in the Portland Metro area were more motivated than people in other

regions by helping the environment. Respondents East of the Cascades and in the Willamette Valley were more likely than people in other regions to be influenced by saving energy and money. Willamette Valley and Southern Oregon respondents were more likely to consider energy costs a major concern. Alan asked whether people were asked about one thing that was the most motivational or if they were asked about multiple things. Shelly said that people were asked about how motivational each single item was for them and then we compared the importance of each item between regions.

Energy Trust participants had higher income than the state overall, but this is expected because we aren't the primary entity to serve low income households. There are also differences in how Energy Trust works with households that are rented versus occupant-owned. That said, participants were much less likely that the average Oregon household to fall into the <\$50K income range, and there were significant differences in other income categories as well. Generally, households in the higher income brackets were better represented among program participants than the lower income categories. Hispanic households were substantially underrepresented among participants. We also had a large group of respondents that refused to state their race or ethnicity. Alan asked why there was such a disparity in among Hispanic households. Jamie responded that there could be many reasons, including a trend toward reporting as Native American rather than Hispanic. Andy G. noted that Hispanic households may be reluctant to identify themselves as such in the current political environment for fear of attack or deportation. Sarah stated that the survey was conducted immediately after the presidential election in 2016, so that certainly could have been a factor that people had in their minds. At any rate, it appears there is a large difference between the state overall and program participants.

When asked about energy education, respondents stated that they wanted to know how to save the most money and energy, and where they were wasting energy. They did not want to know how energy efficiency works or how Energy Trust works.

We didn't get enough information about business decision makers to report anything about them. We also didn't have sufficiently large sample sizes to draw inferences about communities of color. We didn't get enough information to analyze the potential causes of difference in barriers to efficiency. To be able to better answer key research questions related to race, the 2017 study will oversample more diverse geographic areas to boost responses from communities of color.

<u>Conclusions</u>: Data will be used to fine-tune targeted messages to various groups across Oregon. We are currently exploring marketing opportunities for those that don't use web resources as much. We are also going to provide educational materials and methods that better align with what respondents want to learn about energy. We are exploring how to reach a more representative group of households for the next survey.

Alan asked how valuable the survey results were and whether it justifies continuing to do the survey. Shelly said it depends on the value we place on ensuring we don't have gaps in participation based on demographics. We can engage people better using this information by hitting them with the messages that are more motivational. We learned that people with lower incomes are not using online resources as much, and that is important because we use those a lot. There will be more uses that come up over the next couple years as well. Alan asked if there were more differences found by geographic area than what were reported. Shelly responded that she only reported on statistically significant results here. She thought it was very interesting

that those East of the Cascades were motivated by helping the environment, since it is often assumed that people in that region don't care about the environment.

Jackie asked about measure distribution by income level because many measures are only applicable to homeowners. Sarah said that we didn't analyze that as part of this study. Jamie asked if we asked about monetary barriers in terms of cash versus credit. He believes that people will respond differently whether they believe they can obtain financing or not. Shelly responded that we didn't ask those questions in that way. Jamie also stated that we should think about exploring secondary barriers in the future, after removing money as a response option, as that can sometimes turn up interesting results.

Wrap-Up & Next Steps

We are going to try to schedule three meetings in the remainder of 2017. Also, at the next meeting, we'd like to talk about how the Evaluation Committee is functioning – namely, what the board sees as the purpose of the committee and what board members get out of the meetings.

PINK PAPER



Final Report

Multifamily Process Evaluation

March 7, 2017

Final Report Multifamily Process Evaluation

March 7, 2017

Funded By: Energy Trust of Oregon

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Executive Summary

Energy Trust of Oregon (Energy Trust) has served the multifamily market since 2003, first through its residential sector programs. In 2006, it defined these services as the Existing Multifamily (Multifamily) program, and, in 2010, moved the program into the commercial sector. Working with its Program Management Contractor (PMC) Lockheed Martin since 2011, Energy Trust has expanded program offerings and target audiences. The program's current six market segments and five tracks are shown in Figure ES-1.

Figure ES-1: Multifamily Market Segments and Tracks



Evaluation Objectives, Research Questions, and Methods

This research addresses the evaluation objectives and research questions shown in Table ES-1.

Table ES-1: Evaluation	Objectives ar	nd Research	Questions
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Evaluation Objectives	Research Questions
1. Document Program Evolution	How has the program changed over time?
2. Examine Program Effectiveness	How effective is the mix of services and measures currently offered?
	How effective is program marketing and outreach?
	How effective is coordination and communication?
	How effective are program technical services?
	What are they key indicators of program success?
	How has the program driven deeper energy savings?
3. Explore Customer Decision-Making	What motivates customers to participate in the program?
	What other factors affect energy related decisions?
	What barriers prevent deeper savings?

Continued...

Evaluation Objectives	Research Questions
4. Identify Program Opportunities	What is the state of the multifamily market in Oregon?
	What market opportunities for energy efficiency exist?
	How opportunities for program improvements exist?

To meet these objectives and questions, the Research Into Action team reviewed key program documents and participation data and completed interviews with 80 respondents: Energy Trust staff (5), PMC staff (3), contractors (13), allied technical assistance contractors (ATACs) (5), distributors (3), program participants (42), and market experts (9). This in-depth qualitative research provides robust insights about the program.

Conclusions

These conclusions are draw from the detailed findings in the report chapters.

Conclusions: Program Evolution

The Existing Multifamily program has historically focused on larger properties and their business and institutional decision makers who have influence over the bulk of savings opportunities. Smaller "mom and pop" properties and residential homeowners, also served through the program, collectively offer savings opportunities, but these targets are more dispersed and have been more challenging for the program to reach cost-effectively.

The interviews with Energy Trust and PMC staff show the program has successfully used a continuous improvement, research-based, and proactive approach to evolve the program, by:

- > Expanding beyond traditional multifamily segments to more specialized segments, while, at the same time, maintaining one point of entry for all segments.
- > Adding mid-stream buy-down incentives through distributors.
- > Tailoring custom track forms and processes and developing the Energy Savings Action Plan to meet market and customer needs.
- > Shifting away from marketing ISMs as a "gateway" to deeper savings, and shifting focus toward driving standard and custom projects.
- > Development of tailored marketing to reach specific segments.
- > The PMC taking over measure development responsibilities to relieve an over-burdened Energy Trust planning group.

Conclusions: Program Effectiveness

Most respondents (PMC and Energy Trust program staff, contractors, distributors, ATACs, participants) agreed the program is highly effective, and pointed to these success indicators:

- > Effective coordination between the PMC and Energy Trust, and with other program actors.
- Successful development of new ISM measures, including light-emitting diodes (LEDs) and advanced power strips, and continued research to foster new measures.
- A notable shift to more savings from standard and custom projects rather than from ISMs.
- > Program staff being seen as long-term trusted advisors for most market segments.
- > Developing a proactive approach to sell energy efficiency to higher-level decisionmakers.
- > Successful expansion of the distributor buy-down track.
- Participants saying walkthrough surveys (WTSs) influence their decisions; incentives influence pursuit of non-ISM projects; and technical analysis studies (TASs) prompt more comprehensive projects.
- Strong contractor, distributor, ATAC, and customer satisfaction across all program dimensions: 83% of customers gave the program a "10" overall, and had high praise for customer service, program processes, trade ally quality, and project results.

While the Multifamily program is successful, respondents reported these challenges:

- > Finding new cost-effective ISMs, gas measures, and replacements for electric baseboard heating.
- > Providing personalized marketing to all market segments.
- > Ensuring all participants are aware of the WTS offering and all available measures.
- > Improving project hand-off between other Energy Trust programs and the Multifamily program.
- > Finding a 'one point of contact' solution for campus living participants.
- > Coordinating and communicating the results of measure research it performs that has implications for other Energy Trust programs.
- > Handling resistance from program stakeholders when desired measures are removed from the program, such as window measures.

Conclusions: Customer Decision-Making

For most market segments, owners are the final decision-makers on efficiency projects. However, multiple layers of decision-making may exist, especially for large properties and affordable housing facilities, where on-site managers may identify projects, or even execute small projects, but need to get a higher level of approval for larger projects. For HOAs, the board of directors decides on upgrades that affect common areas of the building.

When asked about what drives them to make *building improvement in general*, participants said:

- > **Immediate need.** Equipment failure, wear and tear, poor condition or performance, or age is, by far, the most universal driver for action.
- > **Long-term improvement plans.** HOA, affordable housing, and market rate segments often follow long-term improvement plans.
- > **Competitive advantage and aesthetics.** This driver is most relevant to market rate, campus living, and individually owned market segments. Owners want to make older units more attractive or "stylish" to renters or buyers by replacing outdated features.

However, when participants, contractors, and Energy Trust and PMC staff were asked to name what drives *energy efficiency upgrades*, the list of drivers changed. Except for contractors, most respondents did not mention immediate need and long-term improvement plans as drivers. Rather, drivers for efficiency improvements focused on:

- > A good return on investment.
- > Operations and maintenance savings.
- > Non-energy benefits, including aesthetics.

These findings suggest a greater emphasis on how the program can meet immediate needs and fit into long-term plans would help move energy upgrades from a "specialty" status to a mainstream improvement status.

Articulating barriers to efficiency projects appeared to be a challenging question for many respondents. Respondents cited the same barriers for any efficiency project, from 'simple' to comprehensive, except that certain barriers – such as financial constraints, lack of understanding of the complete business case, complex decision-making, and concerns about taking on complex projects – are exacerbated for large projects.

Conclusions: Program Opportunities

Market Insights

For many multifamily market segments, demand is high, especially in western Oregon Metro areas. Where markets are tight, energy efficiency, especially as a means to attract renters and buyers, loses some of its cachet.

> Distributors noted, however, that they see a growing demand for higher efficiency products, and credited Energy Trust with generating some of this demand.

Program Process Opportunities

- Enhance coordination and communication across Energy Trust programs, especially between Existing Buildings and Multifamily program teams, and the handing off of New Buildings completed projects to the Multifamily team.
- > Streamline and automate the incentive application forms and processes where possible (some work is already underway).
- > Increase outreach to owners of individually owned units.
- > Provide more or improved communication to keep various program actors up to date.

Recommendations

- Continue to devote program resources to proactive continuous program improvement based upon strong communications between the PMC and Energy Trust, building longterm relationships with market actors, conducting ongoing research to establish costeffective measures, and collecting input and insights from market actors.
- > Take time to focus on key program suggestions and challenges emerging from this research. While work may already have begun on some of these issues, it would be valuable to document how each one will be addressed, including a timeline. The key program challenges are to:
 - Develop marketing tailored to each market segment. Consider how the program can help decision-makers meet their immediate and long term planning needs, in addition to the typical benefits emphasized for efficiency upgrades.
 - Increase effective outreach to the individually owned unit segment.
 - Ensure target audiences across all segments are aware of the WTS offering and its value.
 - Ensure target audiences are up to date on available measure and incentives.

- Enhance coordination with other Energy Trust commercial and residential programs in two key areas: (1) hand-off of projects, such as from New Buildings to Existing Multifamily; and (2) communicating about the results of measure research that the Multifamily program conducts but which has implications for other programs.
- Find a 'one point of contact' solution for campus living participants.
- Proactively develop an approach to deal with resistance from program stakeholders when popular measures are dropped from the program.
- Continue research to find new cost-effective ISMs, gas measures, and replacements for electric baseboard heating.
- Improve tools to sell more comprehensive projects, including presenting the business case to customers, solving financial barriers, simplifying the process, and fitting the projects into long-term improvement plans.

MEMO



Date: July 13, 2017
To: Board of Directors
From: Kate Scott, Program Manager – Commercial Sarah Castor, Evaluation Sr. Project Manager
Subject: Staff response to the Existing Multifamily Process Evaluation

The Existing Multifamily Process Evaluation was undertaken as a regular, periodic review of program operations, and customer and ally experience. It also provided an opportunity to review program changes and progress since the last evaluation was completed in 2013. Since that time, the multifamily program has evolved and expanded its scope to additional building types and market segments. The housing market has seen dramatic changes in occupancy rates, and the program has worked to adapt to this overall trend while addressing the specific needs of each building type and customer segment.

The evaluation highlighted the program's use of marketing and outreach strategies tailored to market segments as well as its accomplishments in promoting standard and custom measures to balance the portion of program savings that come from instant savings measures (ISMs). Other noted improvements were the redesign of the process for incentivizing custom measures and development of the Energy Savings Action Plan to help customers identify and follow through with projects. Interviews with participants, trade allies and ATACs showed high satisfaction with the program, and the majority indicated that program offerings – including incentives and technical services – influenced their decisions to make energy efficiency improvements at their properties.

Participant interviews also revealed that customers tend to think of energy efficiency projects differently than they do other upgrades to their properties. While energy efficiency projects are often pursued because of their good return on investment, operations and maintenance savings, and non-energy benefits, they do not seem to fit into customers' general building improvement plans, decisions about immediate needs for equipment replacement, or investments to increase competitive advantage. There are opportunities to reframe energy efficiency improvements and their value, to drive demand, as well as simplify the process of incorporating energy efficiency into general building improvements. A complicating factor is the tight housing market, which makes it both less convenient and less necessary for property managers to take on discretionary improvements. An additional finding was that some participants and allies suggested adding measures that are already available from the program, indicating an opportunity to inform both groups about the full suite of incentivized measures.

Going forward, the Existing Multifamily program is planning the following actions to address evaluation recommendations and continue to build a robust and resilient program:

- Re-engage property management firms that have already identified opportunities to save energy, to encourage them to integrate program offerings into their medium- and long-term capital planning process.
- Work to strengthen the distributor buy-down and standard tracks by mapping distributor and trade ally locations, to inform a gap analysis and outreach to grow and diversify these relationships. Distributors and allies can play an important role in presenting efficient options and instant discounts to customers and allies when emergency replacements are being made. The program will coordinate with the Existing Homes program on distributor engagements to align outreach and avoid duplication of effort and confusion for distributors.
- Develop segment-specific marketing and outreach strategies, such as customer testimonial videos for specific market sectors that will speak to both immediate and planned capital improvements.
- Streamline the application process and develop webforms. The program recently created fillable PDF application forms to make them more efficient for customers, and webforms would build on this improvement.
- Collaborate with other Energy Trust programs to enhance customer transfer processes and cross-program awareness, to ensure a seamless customer experience.
- Conduct focus groups to learn more about specific market segments and opportunities to engage and serve them effectively.
- Expand the awareness of walkthrough surveys to assist customers in identifying potential projects and increase awareness of program incentive offerings.
- Continue to explore new program offerings and incentives that resonate with and motivate our customers to plan for and implement projects.

Tab 4

Finance Committee Meeting

August 30, 2017 9:00 a.m.

Attending by Teleconference

Susan Brodahl, Chair, Debbie Kitchin

Attending at Energy Trust offices

Mike Colgrove, Corey Kehoe, Steve Lacey, Pat Presnail

CFO Recruitment

Mike Colgrove gave an update on the recruitment of a new CFO. It will be a diligent process and will incorporate the Diversity, Equity and Inclusion (DEI) initiative, utilize bias training, and bring in outside reviewers. Human Resources (HR) and Finance currently report to the CFO, but the reporting structure may change going forward. Mike is meeting with the Organizational Review Project team to gather input from their findings and he will continue to meet with Human Resources Manager Greg Stokes to work on the position description. The position most likely will not be filled until the end of the year.

Debbie Kitchin asked how the organization will fill the gaps for the interim with the 2018 budget work. Mike said that Pati Presnail will be filling in for the areas where Mariet Steenkamp was the point person. Mike will oversee the Budget Review Project and the Secretary of State audit. Art Stokes has been serving as project manager on a few of the initiatives. Some of the HR oversight has been transferred to Debbie Menashe. Cheryle Easton and the Administrative team are reporting to Steve Lacey.

July Financial Statements Notes

Pati reported that Pacific Power (PAC) is now submitting less than budget (approximately \$400,000 below budget in July). A reforecast was performed, however, PAC will be under budget by \$2 million for the year. The methodology for next year's budget will look at additional spending or revenue overages. Northwest Natural Gas (NWN) had an increase in their spending, so reserves have increased over the last couple of months.

In professional services spending, some projects that were planned will not be coming through this year, so there will be spending decreases in that area versus the budget. Meanwhile, everything else in the budget is close to forecast at this time.

Electronic Payments to Solar Contractors

Pati said Finance has been working with the solar team to roll out electronic payments to their trade allies. The solar teams would like to offer the electronic payment processing option to high performing trade allies initially then roll out to other allies. Crosschecking is being performed to see if the same vendors are working in other programs. A second vendor may need to be created for those solar allies. The new process is expected to be in place by the next payment cycle. While internal workload won't be greatly affected, it is a real upside for allies and vendors. Mike inquired what volume of checks the electronic payments entails. Pati said that approximately 25 checks per week are processed electronically. Mike asked if this payment method could lead to broader electronic payments for other vendors and contractors of other programs. Pati replied that we want to get to the point where we have the sense of high contact with other programs as we do with solar.

Budget Schedule

Pati reported that the Communications and Customer Service team (CCS) is working on a new budget presentation method with better visuals and charts.

Pati asked the committee if there are any changes they would like to see incorporated into the updated presentation. Debbie likes the high-level summaries in terms of comparisons with prior years and the full rate impact for each utility when sources are combined. Pati will send the Budget Review Team's proposed quick wins to the committee for their review. Today's input will be sent to CCS to incorporate into the full presentation.

The first full rollup of the budget will be October 16. Pati will make sure the committee reviews a rollout of the proposed changes to the budget process. Peter West will present a brief overview of the budget themes at the September 27, 2017 board meeting.

Walk On

Pati said Energy Trust is undergoing a 401K audit for the first time. Initial findings are coming in and there may be some changes in our compliance reporting. Knowing this work is run through the Audit Committee, Pati asked if there is interest from this committee in providing 401K audit updates. The committee agreed that processing through the Audit Committee alone should suffice for review.

Adjourned at 9:28 a.m.

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<u>Revenue</u>

PAC is now submitting less than budget (about \$400K below budget in July). We expect the variance to be reduced by the end of the year, but PAC will still come in over budget by about \$2.5 million.

	YTD Actual	YTD Budget	<u>YTD Var</u>	YTD %	<u>PY</u>
PGE	60,698,453	60,749,249	(50,796)	0%	46,680,428
PAC	38,567,069	33,568,756	4,998,313	15%	30,014,017
NWN	19,148,339	17,738,459	1,409,880	8%	12,771,984
CNG	1,921,329	1,650,995	270,334	16%	1,115,334
Avista	614,418	590,299	24,119	4%	78,000
Investment Income	208,777	160,000	48,777	30%	391,489
Total	121,158,385	114,457,758	6,700,627	6%	91,051,252

Reserves

Reserves ended up at \$66.2 million in July vs. \$60.3 million in June. Only NW Natural had a decrease in reserves for the month.

Reserves			
	7/31/17	Actual 12/31/16	% Change
	<u>Amount</u>	<u>Amount</u>	from Year End
PGE	19,898,684	6,507,279	206%
PacifiCorp	10,979,185	644,839	1603%
NW Natural	8,032,408	1,485,656	441%
Cascade	705,273	0	
Avista	194,142	68,620	183%
NWN Industrial	3,144,879	1,028,150	206%
NWN Washington	302,410	283,171	7%
PGE Renewables	6,800,516	7,543,333	-10%
PAC Renewables	6,697,815	7,376,941	-9%
Program Reserves	56,755,312	24,937,989	128%
Contingency Reserve	5,000,000	5,000,000	0%
Contingency Available	4,480,586	3,935,314	14%
Total	66,235,884	33,873,295	96%

Expenses

Year-to-date expenses are \$88.8 million, \$6.1 million below budget. The variance is due to lower than expected spending in incentives (\$2.3 million YTD) and Professional services (\$2.5 million YTD). Overall expenses remain \$1.8 million higher than last year.

July incentives came in \$3.3 million less than budgeted. After a strong push for mid-year, the month of July was very light. Year-to-date incentives are \$44 million and budgeted incentives are \$46 million. Incentives are almost exactly the same as last year at this time.



Incentives thru July 2017	Total Incentives Year-to-Date 2017									
	Actual	Budget	Variance	<u>Var %</u>						
Existing Buildings	10,762,428	10,421,049	(341,379)	-3%						
New Buildings	4,293,575	4,676,471	382,895	8%						
Production Efficiency	6,930,784	7,242,470	311,686	4%						
Existing Homes	4,386,532	5,503,352	1,116,820	20%						
New Homes & Products	9,110,930	9,537,009	426,079	4%						
Washington Programs - All	504,227	321,472	(182,754)	-57%						
Solar	5,262,355	5,514,633	252,278	5%						
Other Renewables	2,847,005	3,196,637	349,632	11%						
Total Incentives	44,097,837	46,413,094	2,315,257	5%						
Energy Efficiency Only	35,988,476	37,701,823	1,713,347	5%						

	Total Incentives									
July 2017 vs. July 2016	Y	ear-to-Year Comp	arison							
	Current Year	Prior Year	Variance	<u>Var %</u>						
Existing Buildings	10,762,428	12,242,664	1,480,236	12%						
New Buildings	4,293,575	4,122,734	(170,842)	-4%						
Production Efficiency	6,930,784	5,481,438	(1,449,347)	-26%						
Existing Homes	4,386,532	5,192,117	805,585	16%						
New Homes & Products	9,110,930	8,834,907	(276,023)	-3%						
Washington Programs - All	504,227	347,417	(156,810)	-45%						
Solar	5,262,355	5,716,751	454,396	8%						
Other Renewables	2,847,005	2,313,783	(533,223)	-23%						
		44.054.040	450.070							
lotal Incentives	44,097,837	44,251,810	153,970	0%						
Energy Efficiency Only	35,988,476	36,221,276	232,800	1%						

Investment Status

The graphs below show the type of investments we hold and the locations where our funds are held. Total Cash increased back to May levels. We are continuing to purchase short term investments.





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Energy Trust of Oregon BALANCE SHEET July 31, 2017 (Unaudited)

	July 2017	June 2017	Dec 2016	July 2016	Change from one month ago	Change from Beg. of Year	Change from one year ago
Current Assets							
Cash & Cash Equivalents	42,355,732	38,181,801	44,471,035	28,838,017	4,173,931	(2,115,303)	13,517,714
Investments	31,226,501	28,973,955	19,350,134	49,692,808	2,252,546	11,876,367	(18,466,306)
Receivables	(14,766)	108,039	86,058	183,989	(122,805)	(100,823)	(198,755)
Prepaid Expenses	430,090	439,074	280,347	540,904	(8,984)	149,743	(110,814)
Advances to Vendors	1,422,266	2,133,389	2,050,126	1,444,424	(711,123)	(627,860)	(22,158)
Total Current Assets	75,419,823	69,836,259	66,237,700	80,700,142	5,583,564	9,182,124	(5,280,319)
Fixed Assets							
Computer Hardware and Software	3,733,082	3,733,082	3,696,232	3,671,135	-	36,849.84	61,947
Leasehold Improvements	326,158	326,158	318,964	318,964	-	7,194	7,194
Office Equipment and Furniture	815,056	791,443	716,876	701,604	23,613	98,181	113,452
Total Fixed Assets	4,874,296	4,850,683	4,732,072	4,691,703	23,612.81	142,224	182,593
Less Depreciation	(4,094,850)	(4,023,478)	(3,598,867)	(3,219,452)	(71,372)	(495,983)	(875,398)
Net Fixed Assets	779,446	827,206	1,133,205	1,472,251	(47,759)	(353,758)	(692,805)
Other Assets							
Deposits	237,314	237,314	223,339	223,339	-	13,975	13,975
Deferred Compensation Asset	874,139	870,730	849,522	779,898	3,410	24,617	94,241
Note Receivable, net of allowance	263,669	263,669	260,891	88,909	-	2,779	174,761
Total Other Assets	1,375,123	1,371,714	1,333,752	1,092,146	3,410	41,371	282,977
Total Assets	77,574,393	72,035,178	68,704,656	83,264,540	5,539,215	8,869,737	(5,690,147)
Current Liabilities							
Accounts Pavable and Accruals	8,863,898	9,214,613	32,588,773	8,880,853	(350,715)	(23,724,875)	(16,955)
Salaries, Taxes, & Benefits Pavable	937.356	1.008.607	827.526	851,166	(71.251)	109.830	86.189
Total Current Liabilities	9,801,254	10,223,220	33,416,299	9,732,019	(421,967)	(23,615,045)	69,235
Long Term Liabilities							
Deferred Rent	657,252	643,252	559,253	482,661	14,000	97,999	174,591
Deferred Compensation Pavable	877,689	874,280	853.072	779,898	3,410	24,617	97,791
Other Long-Term Liabilities	2.315	2.315	2.110	4.290	-	205	(1.975)
Total Long-Term Liabilities	1.537.257	1.519.847	1.414.435	1.266.849	17.409	122.821	270.407
Total Liabilities	11,338,510	11,743,068	34,830,735	10,998,868	(404,557)	(23,492,224)	339,642
Net Assets							
Unrestricted Net Assets	66.235.883	60.292.110	33.873.922	72.265.672	5,943,772	32.361.961	(6.029.789)
Total Net Assets	66,235,883	60,292,110	33,873,922	72,265,672	5,943.772	32,361,961	(6,029,789)
Total Liabilities and Net Assets	77,574,393	72,035,178	68,704,656	83,264,540	5,539,215	8,869,737	(5,690,147)

Energy Trust of Oregon Cash Flow Statement-Indirect Method Monthly 2017

	January	February	March	<u>April</u>	May	June	July	Year to Date
Operating Activities:								
Revenue less Expenses	\$ 9,021,323 \$	11,985,541	7,297,639	3,428,944	(906,648)	(4,408,611)	5,943,771	\$ 32,361,959
Non-cash items: Depreciation Change in Reserve on Long Term Note Loss on disposal of assets	70,722	70,512	69,965	70,662	72,383	70,979	71,372	496,595 - -
Receivables Interest Receivable Advances to Vendors Prepaid expenses and other costs Accounts payable Payroll and related accruals Deferred rent and other	9 (5,311) 660,492 17,387 (21,595,003) 12,024 4,262	(38,100) 660,492 (338,051) (2,386,675) 42,941 (585)	(50) 11,304 (1,489,806) 27,347 (256,773) 253,852 14,000	400 (41,168) 739,643 48,843 341,108 (151,351) 14,205	136,841 33,111 585,111 (21,451) 468,466 19,195 13,999	17,834 (1,239,195) 93,559 (82,140) 25,628 14,000	136,861 (14,056) 711,123 5,575 (350,716) (67,842) 14,000	274,061 (36,386) 627,860 (166,791) (23,861,733) 134,447 73,881
Cash rec'd from / (used in) Operating Activities	(11,814,095)	9,996,075	5,927,478	4,451,286	401,007	(5,507,946)	6,450,088	9,903,893
Investing Activities: Investment Activity (1) (Acquisition)/Disposal of Capital Assets Cash rec'd from / (used in) Investing	(992,696) 	(3,749,267) (7,194)	(5,787,813) (75,180)	2,537,756	(5,555,047) (36,850)	3,923,246	(2,252,546) (23,612)	(11,876,367) (142,836)
Activities	(992,696)	(3,756,461)	(5,862,993)	2,537,756	(5,591,897)	3,923,246	(2,276,158)	(12,019,203)
Cash at beginning of Period	44,471,035	31,664,245	37,903,859	37,968,346	44,957,390	39,766,501	38,181,801	44,471,035
Increase/(Decrease) in Cash Cash at end of period	(12,806,791)	6,239,614 37,903,859	64,485 \$ 37,968,346	6,989,042 \$ 44,957,390	(5,190,890)	(1,584,700) \$ 38,181,801	4,173,930 \$ 42,355,732	(2,115,310)

(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 2017 - December 2018

	Actual							A	djusted Budget			
	January	February	March	April	Мау	June	July	August	September	October	November	December
Cash In:												
Public purpose and Incr funding	15,758,534	21,457,118	21,917,554	17,402,020	15,025,545	13,768,287	15,620,550	12,890,609	13,055,044	16,589,678	13,251,632	15,980,429
Investment Income	17,648	(14,444)	25,634	(2,155)	64,393	53,021	28,294	(21,565)	(21,565)	(21,565)	(21,565)	(21,565)
From Other Sources	9	0	(50)	400	136,841		136,861					
Total cash in	15,776,191	21,442,674	21,943,138	17,400,265	15,226,779	13,821,308	15,785,705	12,869,044	13,033,479	16,568,113	13,230,067	15,958,864
Cash Out:	(27,590,279)	(11,453,791)	(16,090,835)	(12,948,972)	(14,862,622)	(19,329,250)	(9,359,224)	(14,346,249)	(15,421,834)	(16,890,802)	(17,896,730)	(20,554,264)
Net cash flow for the month	(11,814,088)	9,988,883	5,852,303	4,451,293	364,157	(5,507,946)	6,426,481	(1,477,205)	(2,388,355)	(322,688)	(4,666,662)	(4,595,400)
Cash Flow from/to Investments	(992,696)	(3,749,267)	(5,787,813)	2,537,756	(5,555,047)	3,923,246	(2,252,546)	-	-			-
Beginning Balance: Cash & MM	44,471,035	31,664,245	37,903,859	37,968,345	44,957,390	39,766,501	38,181,805	42,355,732	40,878,535	38,490,180	38,167,492	33,500,829
Ending cash & MM	31,664,245	37,903,859	37,968,346	44,957,390	39,766,501	38,181,801	42,355,732	40,878,535	38,490,180	38,167,492	33,500,829	28,905,430
·												

Future Commitments

Efficiency Incentives	69,500,000	69,100,000	81,600,000	80,800,000	80,800,000	86,700,000	86,000,000	86,900,000	98,700,000	96,600,000	94,900,000	87,300,000
Emergency Contingency Pool	5,000,000	5,000,000	5,000,000	5,000,000	5,000,000	5,000,000	5,000,000	5,000,000	5,000,000	5,000,000	5,000,000	5,000,000
Total Commitments	81,200,000	79,900,000	94,400,000	92,700,000	92,700,000	100,000,000	98,400,000	98,200,000	109,700,000	106,800,000	105,100,000	96,800,000

(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 for commitments to Efficiency program projects with signed agreements

 Escrow:
 reduction in available cash to cover cashflow variability and winter revenue risk

 dedicated funds set aide in separate bank accounts
 reduction

Energy Trust of Oregon Cash Flow Projection January 2017 - December 2018

	2018 R2 Budget											
	January	February	March	April	Мау	June	July	August	September	October	November	December
Cash In:												
Public purpose and Incr funding	19,000,000	20,400,000	17,800,000	17,700,000	13,900,000	13,000,000	15,800,000	14,400,000	15,700,000	17,200,000	14,800,000	18,100,000
Investment Income	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000
From Other Sources												
Total cash in	19,010,000	20,410,000	17,810,000	17,710,000	13,910,000	13,010,000	15,810,000	14,410,000	15,710,000	17,210,000	14,810,000	18,110,000
Cash Out:	(29,400,453)	(11,522,562)	(12,143,651)	(13,249,709)	(12,974,034)	(13,751,122)	(16,010,687)	(13,675,485)	(14,988,146)	(17,133,101)	(18,752,720)	(20,759,756)
Net cash flow for the month	(10,390,453)	8,887,438	5,666,349	4,460,291	935,966	(741,122)	(200,687)	734,515	721,854	76,899	(3,942,720)	(2,649,756)
Cash Flow from/to Investments	-	-	-	-	-	-	-	-	-	-	-	-
Beginning Balance: Cash & MM	28,905,430	18,514,977	27,402,415	33,068,764	37,529,055	38,465,021	37,723,899	37,523,212	38,257,727	38,979,581	39,056,480	35,113,760
Ending cash & MM	18,514,977	27,402,415	33,068,764	37,529,055	38,465,021	37,723,899	37,523,212	38,257,727	38,979,581	39,056,480	35,113,760	32,464,005
Future Commitments												

Renewable Incentives	4,500,000	4,500,000	4,500,000	4,500,000	4,500,000	4,500,000	4,500,000	4,500,000	4,500,000	4,500,000	4,500,000	4,500,000
Efficiency Incentives	87,300,000	87,300,000	87,300,000	87,300,000	87,300,000	87,300,000	87,300,000	87,300,000	87,300,000	87,300,000	87,300,000	87,300,000
Emergency Contingency Pool	5,000,000	5,000,000	5,000,000	5,000,000	5,000,000	5,000,000	5,000,000	5,000,000	5,000,000	5,000,000	5,000,000	5,000,000
Total Commitments	96,800,000	96,800,000	96,800,000	96,800,000	96,800,000	96,800,000	96,800,000	96,800,000	96,800,000	96,800,000	96,800,000	96,800,000

(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 for commitments to Efficiency program projects with signed agreements

 Escrow:
 reduction in available cash to cover cashflow variability and winter revenue risk

 dedicated funds set aide in separate bank accounts
 reduction

Energy Trust of Oregon Income Statement - Actual and YTD Budget Comparison For the Seven Months Ending July 31, 2017 (Unaudited)

	July				YTD					
	Actual	Budget	Budget Variance	Variance %	Actual	Budget	Budget Variance	Variance %		
REVENUES										
Public Purpose Funds-PGE	2,827,107	2,921,168	(94,061)	-3%	23,202,928	22,484,186	718,742	3%		
Public Purpose Funds-PacifiCorp	2,154,685	2,084,467	70,218	3%	17,563,289	15,968,568	1,594,721	10%		
Public Purpose Funds-NW Natural	519,777	190,787	328,990	172%	14,345,276	12,935,396	1,409,880	11%		
Public Purpose Funds-Cascade	51,232	109,660	(58,428)	-53%	1,921,329	1,650,995	270,334	16%		
Public Purpose Funds-Avista	30,458	39,208	(8,750)	-22%	614,418	590,299	24,119	4%		
Total Public Purpose Funds	5,583,259	5,345,290	237,969	4%	57,647,240	53,629,444	4,017,796	7%		
Incremental Funds - PGE	4,916,925	4,919,911	(2,986)	0%	37,495,525	38,265,063	(769,538)	-2%		
Incremental Funds - PacifiCorp	2,581,999	3,034,319	(452,319)	-15%	21,003,779	17,600,188	3,403,592	19%		
NW Natural - Industrial DSM	2,000,000	2,000,000	-		3,720,596	3,720,596	-			
NW Natural - Washington	538,367	538,367	-		1,082,467	1,082,467	-			
Revenue from Investments	42,349	10,000	26,698	267%	208,777	160,000	43,125	27%		
TOTAL REVENUE	15,662,899	15,847,886	(184,987)	-1%	121,158,385	114,457,758	6,700,627	6%		
EXPENSES										
Program Subcontracts	3,987,058	4,869,957	882,899	18%	32,101,941	33,066,060	964,119	3%		
Incentives	3,986,263	7,256,953	3,270,691	45%	44,097,837	46,413,094	2,315,257	5%		
Salaries and Related Expenses	1,038,472	1,150,510	112,038	10%	7,774,821	8,024,907	250,086	3%		
Professional Services	427,518	789,070	361,552	46%	2,998,700	5,528,371	2,529,671	46%		
Supplies	3,202	4,050	848	21%	18,910	28,350	9,440	33%		
Telephone	6,365	5,825	(540)	-9%	32,822	40,775	7,953	20%		
Postage and Shipping Expenses	768	1,500	732	49%	6,579	10,500	3,921	37%		
Occupancy Expenses	74,176	79,203	5,027	6%	536,163	554,419	18,257	3%		
Noncapitalized Equip. & Depr.	112,683	118,208	5,525	5%	694,280	772,898	78,618	10%		
Call Center	10,164	16,667	6,503	39%	79,679	116,667	36,988	32%		
Printing and Publications	356.46	1,171	814	70%	3347.59	10,696	7,348	69%		
Travel	19,130	17,753	(1,378)	-8%	116,760	119,936	3,176	3%		
Conference, Training & Mtng Exp	18,186	20,537	2,352	11%	119,850	113,762	(6,087)	-5%		
Interest Expense and Bank Fees		125	125	100%	1677.92	3,375	1,697	50%		
Insurance	8,803	9,167	364	4%	61,459	64,167	2,708	4%		
Miscellaneous Expenses	12,148	250	(11,898)	-4759%	30,099	1,750	(28,349)	-1620%		
Dues, Licenses and Fees	13,837	8,177	(5,660)	-69%	121,500	84,700	(36,799)	-43%		
TOTAL EXPENSES	9,719,127	14,349,122	4,629,995	32%	88,796,424	94,954,427	6,158,003	6%		
TOTAL REVENUE LESS EXPENSES	5,943,772	1,498,764	4,445,008	-297%	32,361,961	19,503,331	12,858,630	66%		

Energy Trust of Oregon Income Statement - Actual and Prior Yr Comparison For the Seven Months Ending July 31, 2017 (Unaudited)

		Jul	у		YTD					
	Actual	Actual Prior Year	Prior Year Variance	Variance %	Actual	Actual Prior Year	Prior Year Variance	Variance %		
REVENUES										
Public Purpose Funds-PGE	2,827,107	2,822,672	4,434	0%	23,202,928	21,726,299	1,476,629	7%		
Public Purpose Funds-PacifiCorp	2,154,685	2,154,805	(120)	0%	17,563,289	16,506,538	1,056,751	6%		
Public Purpose Funds-NW Natural	519,777	147,273	372,504	253%	14,345,276	9,985,109	4,360,168	44%		
Public Purpose Funds-Cascade	51,232	74,081	(22,849)	-31%	1,921,329	1,115,334	805,995	72%		
Public Purpose Funds-Avista	30,458	15600	14,858		614,418	78000	536,418			
Total Public Purpose Funds	5,583,259	5,214,431	368,828	7%	57,647,240	49,411,280	8,235,961	17%		
Incremental Funds - PGE	4,916,925	3,208,464	1,708,461	53%	37,495,525	24,954,129	12,541,396	50%		
Incremental Funds - PacifiCorp	2,581,999	2,328,725	253,274	11%	21,003,779	13,507,479	7,496,300	55%		
NW Natural - Industrial DSM	2000000	1,009,018	990,982		3,720,596	2,018,035	1,702,561	84%		
NW Natural - Washington	538367		538,367		1,082,467	768,840	313,627	41%		
Revenue from Investments	42,349	42,111	(5,414)	-13%	208,777	391,489	(188,364)	-48%		
TOTAL REVENUE	15,662,899	11,802,750	3,854,498	33%	121,158,385	91,051,252	30,107,132	33%		
EXPENSES										
Program Subcontracts	3,987,058	4,120,385	133,328	3%	32,101,941	30,249,833	(1,852,109)	-6%		
Incentives	3,986,263	5,273,803	1,287,541	24%	44,097,837	44,251,810	153,974	0%		
Salaries and Related Expenses	1,038,472	956,273	(82,200)	-9%	7,774,821	6,983,450	(791,370)	-11%		
Professional Services	427,518	507,344	79,826	16%	2,998,700	3,849,357	850,657	22%		
Supplies	3,202	1,746	(1,456)	-83%	18,910	15,968	(2,942)	-18%		
Telephone	6,365	5,291	(1,074)	-20%	32,822	35,197	2,375	7%		
Postage and Shipping Expenses	768	781	13	2%	6,579	6,567	(12)	0%		
Occupancy Expenses	74,176	73,878	(298)	0%	536,163	432,696	(103,466)	-24%		
Noncapitalized Equip. & Depr.	112,683	106,169	(6,514)	-6%	694,280	697,467	3,187	0%		
Call Center	10,164	10,856	692	6%	79,679	98,337	18,658	19%		
Printing and Publications	356	729	373		3,348	4,394	1,047	24%		
Travel	19,130	16,492	(2,638)	-16%	116,760	116,035	(725)	-1%		
Conference, Training & Mtng Exp	18,186	14,119	(4,066)	-29%	119,850	98,606	(21,243)	-22%		
Interest Expense and Bank Fees			0		1,678	1,621	(57)	-4%		
Insurance	8,803	8,607	(196)	-2%	61,459	59,140	(2,318)	-4%		
Miscellaneous Expenses	12,148	0	(12,148)	#DIV/0!	30,099	54,078	23,979	44%		
Dues, Licenses and Fees	13,837	6,619	(7,218)	-109%	121,500	64,317	(57,182)	-89%		
TOTAL EXPENSES	9,719,127	11,103,094	1,383,967	12%	88,796,424	87,018,876	(1,777,547)	-2%		
TOTAL REVENUE LESS EXPENSES	5,943,772	699,656	5,244,116	-750%	32,361,961	4,032,376	28,329,585	703%		

Energy Trust of Oregon Statement of Functional Expenses For the Seven Months Ending July 31, 2017 (Unaudited)

Efficiency Energy Expenses & General Customer Service Expenses Total Budget Variance Program Expenses	Var 5% 3%
Program Expenses	5% 3%
	5% 3%
Incentives 35,988,476 8,109,360 44,097,837 46,413,094 2,315,257	3%
Program Management & Delivery 31,821,035 280,906 32,101,941 32,101,941 33,066,060 964,119	
Payroll and Related Expenses 2,245,913 686,034 2,931,947 1,416,592 955,058 2,371,650 5,303,597 5,371,403 67,806	1%
Outsourced Services 1,650,079 448,001 2,098,080 281,549 476,522 758,071 2,856,152 5,224,879 2,368,727	45%
Planning and Evaluation 1,284,328 77,317 1,361,645 2,864 67,295 70,158 1,431,804 1,693,196 261,392	15%
Customer Service Management 190,903 68,197 259,100 259,100 321,344 62,244	19%
Trade Allies Network 203,326 11,087 214,412 214,412 231,024 16,612	7%
Total Program Expenses 73,384,060 9,680,903 83,064,962 1,701,005 1,498,874 3,199,879 86,264,842 92,320,999 6,056,157	7%
Program Support Costs	
Supplies 4,662 1,546 6,208 5,408 2,271 7,680 13,888 20,728 6,840	33%
Postage and Shipping Expenses 1,344 445 1,789 2,266 597 2,863 4,652 7,407 2,755	37%
Telephone 1,556 515 2,071 837 691 1,528 3,599 4,887 1,288	26%
Printing and Publications 546 95 641 2,269 128 2,396 3,038 8,951 5,913	66%
Occupancy Expenses 158,051 52,366 210,417 85,061 70,176 155,238 365,655 376,926 11,271	3%
Insurance 18,117 6,003 24,120 9,750 8,044 17,794 41,914 43,624 1,710	4%
Equipment 2,946 78,084 81,030 1,586 1,308 2,894 83,924 78,580 (5,344)	-7%
Travel 16,653 13,980 30,633 30,019 34,949 64,968 95,601 107,686 12,085	11%
Meetings, Trainings & Conferences 19,432 15,904 35,336 42,850 13,201 56,052 91,388 73,862 (17,526)	-24%
Interest Expense and Bank Fees 1,678 1,678 1,678 3,375 1,697	50%
Depreciation & Amortization 14,113 4,676 18,789 7,595 6,266 13,862 32,651 35,022 2,371	7%
Dues, Licenses and Fees 56,686 4,560 61,246 9,990 15,669 25,659 86,905 65,042 (21,863)	-34%
Miscellaneous Expenses 28,611 206 28,817 335 276 611 29,428 1,190 (28,238)	-2373%
IT Services 1,068,955 154,633 1,223,588 254,372 199,304 453,676 1,677,264 1,806,146 128,882	7%
Total Program Support Costs 1,391,673 333,012 1,724,685 454,016 352,881 806,897 2,531,582 2,633,428 101,846	4%
TOTAL EXPENSES 74,775,731 10,013,917 84,789,648 2,155,021 1,851,757 4,006,778 88,796,424 94,954,427 6,158,003	6%
OPUC Measure vs. 8% 4.7%	
Program Support Costs 1724 685	
Total Administrative Expanses 4,066,778	
Total Support and Administrative 5.731.463	

OPUC %

Total Utility Revenue (without Int Income)

4.7%

divided by

120,949,608

ENERGY TRUST OF OREGON Summary of All Units For the Seven Months Ending July 31, 2017

	ENERGY EFFICIENCY										
	PGE	PacifiCorp	Total	NWN Industrial	NW Natural	Cascade	Avista	Oregon Total	NWN WA	ETO Total	
REVENUES											
Public Purposo Funding	18 005 160	13 605 866	31 701 035	_	14 345 276	1 021 320	614 418	18 582 058	_	18 582 058	
Incremental Funding	37 /05 525	21 003 770	58 / 00 305	3 720 596	14,343,270	1,921,929	014,410	62 210 001	1 082 467	63 302 368	
Contributions	57,455,525	21,003,779	30,499,303	3,720,390				02,219,901	1,002,407	03,302,300	
Revenue from Investments											
TOTAL PROGRAM REVENUE	55,500,694	34,699,645	90,200,340	3,720,596	14,345,276	1,921,329	614,418	110,801,959	1,082,467	111,884,426	
FYDENSES											
Program Management (Note 3)	1 060 508	1 1/6 530	3 107 040	110 3/3	348 337	40 431	22 004	3 620 134	61 700	3 600 033	
Program Dolivory	15 348 377	0 124 422	24 472 800	170,343	2 740 164	355 530	162 251	28 211 467	273 830	28 485 207	
	10,540,577	10 073 305	24,472,009	860.632	2,745,104	376 851	226 862	20,211,407	504 227	20,403,237	
Program Eval & Planning Svcs	000 100	581 374	1 580 773	34 600	174 051	17 381	11 651	1 818 /58	81 613	1 000 071	
Program Marketing/Outreach	1 280 63/	787 270	2 076 004	15 5/6	375.043	27 238	25 258	2 510 080	29 580	2 5/0 560	
Program Legal Services	1,203,004	101,210	2,070,304	10,040	575,045	21,200	20,200	2,019,909	23,500	2,049,009	
Program Quality Assurance	16 147 00	8 898 00	25 045 00	_	3 341 00	408 00	137 00	28 931 00	-	28 931 00	
Outsourced Services	181 692	110 298	20,040.00	8 941	36 095	2 921	2 482	342 429	4 125	346 554	
Trade Allies & Cust. Svc. Momt	184 049	114 110	298 159	4 557	61,506	4 274	4 251	372 746	21 481	394 227	
IT Services	548 820	319 970	868 791	18 278	134 904	12 207	9,080	1 043 259	25,696	1 068 955	
Other Program Expenses - all	169 716	99 582	269 297	6 887	28 530	3 233	1 869	309 817	12 901	322 718	
TOTAL PROGRAM EXPENSES	40,209,183	23,265,859	63,475,040	1,531,496	7,446,630	840,474	466,835	73,760,479	1,015,252	74,775,731	
Management & Constal (Nates 1 & 2)	1 021 060	501 229	1 612 206	20 024	190.264	21 261	11 966	1 074 702	25 902	1 000 506	
Communications & Customor Svc (Notos 1 & 2)	878 146	508 112	1 396 259	30,924	169,204	18 356	10,000	1,074,703	20,000	1,900,000	
Total Administrative Costs	1 000 106	1 000 112	2 000 544	72 271	351 804	39 717	22 061	3 485 580	47 976	3 533 565	
Total Administrative Costs	1,900,100	1,099,440	2,333,344	12,311	551,654	39,111	22,001	3,403,303	47,970	3,333,303	
TOTAL PROG & ADMIN EXPENSES	42,109,289	24,365,299	66,474,584	1,603,867	7,798,524	880,191	488,896	77,246,068	1,063,228	78,309,296	
TOTAL REVENUE LESS EXPENSES	13,391,405	10,334,346	23,725,756	2,116,729	6,546,752	1,041,138	125,522	33,555,891	19,239	33,575,130	
	i	<u> </u>	<u> </u>	· · ·		· · ·	· ·	· · ·		· · ·	
NET ASSETS - RESERVES											
Cumulative Carryover at 12/31/16	6,507,279	644,839	7,152,117	1,028,150	1,485,656	-	68,620	9,734,531	283,171	10,017,701	
Net Assets Reattributed from prior year						(335,865)		(335,865)		(335,865)	
Change in net assets this year	13,391,405	10,334,346	23,725,756	2,116,729	6,546,752	1,041,138	125,522	33,555,891	19,239	33,575,130	
Ending Net Assets - Reserves	19,898,684	10,979,185	30,877,873	3,144,879	8,032,408	705,273	194,142	42,954,557	302,410	43,256,966	
Ending Reserve by Category											
Program Reserves (Efficiency and Renewables)	19,898,684	10,979,185	30,877,873	3,144,879	8,032,408	705,273	194,142	42,954,557	302,410	43,256,966	
Operational Contingency Pool	-,,	-,,	-,- ,2	-, ,	,,	, -	- , -	,,	,	-,,	
Emergency Contingency Pool											
TOTAL NET ASSETS CUMULATIVE	19,898,684	10,979,185	30,877,873	3,144,879	8,032,408	705,273	194,142	42,954,557	302,410	43,256,966	

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 Summary of All Units For the Seven Months Ending July 31, 2017

PGE PacifiCorp Total Other All Programs Approved budget Change % Change REVENUES Public Purpose Funding 5,197,759 3,867,423 9,065,182 - 57,647,240 53,629,444 4,017,796 7% Incremental Funding 63,302,368 60,668,314 2,634,054 4% Contributions 208,777 208,777 160,000 48,777 30% TOTAL PROGRAM REVENUE 5,197,759 3,867,423 9,065,182 208,777 121,158,385 114,457,758 6,700,627 6% EXPENSES 208,777 121,158,385 114,457,758 6,700,627 6% Program Management (Note 3) 386,871 304,997 691,868 4,382,801 4,527,393 144,592 3% Program Delivery 163,117 111,956 275,073 28,760,370 29,101,287 340,917 1% Incentives 4,627,769 3,481,592 8,109,360 44,097,836 46,413,094 2,315,258 5% Program Legal Services <		RENEWABLE ENERGY				TOTAL			
REVENUES 5,197,759 3,867,423 9,065,182 - 57,647,240 53,629,444 4,017,796 7% Incremental Funding 63,302,368 60,668,314 2,634,054 4% Contributions 8 208,777 208,777 160,000 48,777 30% TOTAL PROGRAM REVENUE 5,197,759 3,867,423 9,065,182 208,777 121,158,385 114,457,758 6,700,627 6% EXPENSES 70gram Management (Note 3) 386,871 304,997 691,868 4,382,801 4,527,393 144,592 3% Program Delivery 163,117 111,956 275,073 28,760,370 29,101,287 340,917 1% Incentives 4,627,769 3,481,592 8,109,360 44,097,386 46,413,094 2,315,258 5% Program Eval & Planning Svcs. 43,951 33,365 77,318 1,977,389 2,985,073 1,007,684 34% Program Quality Assurance - - - 16,66 11/6,66 10/% Progra		PGE	PacifiCorp	Total	Other	All Programs	Approved budget	Change	% Change
Public Purpose Funding 5,197,759 3,867,423 9,065,182 - 57,647,240 53,629,444 4,017,796 7% Incremental Funding 63,302,368 60,668,314 2,634,054 4% Contributions 208,777 208,777 160,000 48,777 30% TOTAL PROGRAM REVENUE 5,197,759 3,867,423 9,065,182 208,777 121,158,385 114,457,758 6,700,627 6% EXPENSES 70gram Management (Note 3) 386,871 304,997 691,868 4,382,801 4,527,393 144,592 3% Program Delivery 163,117 111,956 275,073 28,760,370 29,101,287 340,917 1% Incentives 4,627,769 3,481,592 8,109,360 44,097,836 46,413,094 2,315,258 5% Program Eval & Planning Svcs. 43,951 33,365 77,318 1,977,389 2,985,073 1,007,684 34% Program Quality Assurance - - - 11,666 11,666 10% Program Legal Services 130,357 169,468 299,825 646,379 1,445,778 <td>REVENUES</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>	REVENUES								
Incremental Funding 61/01/100 61/01	Public Purpose Funding	5 197 759	3 867 423	9 065 182	-	57 647 240	53 629 444	4 017 796	7%
Contributions 208,777 208,777 160,000 48,777 30% TOTAL PROGRAM REVENUE 5,197,759 3,867,423 9,065,182 208,777 121,158,385 114,457,758 6,700,627 6% EXPENSES Program Management (Note 3) 386,871 304,997 691,868 4,382,801 4,527,393 144,592 3% Program Delivery 163,117 111,956 275,073 28,760,370 29,101,287 340,917 1% Incentives 4,627,769 3,481,592 8,109,360 44,097,836 46,413,094 2,315,258 5% Program Eval & Planning Svcs. 43,951 33,365 77,318 1,977,389 2,985,073 1,007,684 34% Program Legal Services - - - 11,666 11,666 100% Program Quality Assurance - - - 28,931.00 49,583 20,652 42% Other Program Expenses - all 101,824 76,555 178,380 501,098 478,920 (22,178) 5% <	Incremental Funding	0,101,100	0,001,120	0,000,102		63.302.368	60.668.314	2.634.054	4%
Revenue from Investments 208,777 208,777 208,777 160,000 48,777 30% TOTAL PROGRAM REVENUE 5,197,759 3,867,423 9,065,182 208,777 121,158,385 114,457,758 6,700,627 6% EXPENSES Program Management (Note 3) 386,871 304,997 691,868 4,382,801 4,527,393 144,592 3% Program Delivery 163,117 111,956 275,073 28,760,370 29,101,287 340,917 1% Program Eval & Planning Svcs. 4,627,769 3,481,592 8,109,360 44,097,836 46,413,094 2,315,258 5% Program Legal Services 4,627,769 3,481,592 8,109,360 44,097,836 46,413,094 2,315,258 5% Program Legal Services 43,5201 62,974 148,176 2,697,745 3,342,628 644,883 19% Program Quality Assurance - - - 28,931.00 49,583 20,652 242% Other Program Expenses - all 100,327 79,284 79,284	Contributions					,,	,,-	_,	.,.
TOTAL PROGRAM REVENUE 5,197,759 3,867,423 9,065,182 208,777 121,158,385 114,457,758 6,700,627 6% EXPENSES Program Management (Note 3) 386,871 304,997 691,868 4,382,801 4,527,393 144,592 3% Program Delivery 163,117 111,956 275,073 28,760,370 29,101,287 340,917 1% Incentives 4,627,769 3,481,592 8,109,360 44,097,836 46,413,094 2,315,258 5% Program Marketing/Outreach 85,201 62,974 148,176 2,697,745 3,342,628 644,883 19% Program Quality Assurance - - - 11,666 11,666 100% Outsourced Services 130,357 169,468 299,825 646,379 1,445,778 799,399 55% Trade Allies & Cust. Svc. Mgmt. 46,486 32,798 79,284 473,511 546,535 73,024 13% IT Services 86,943 67,655 178,380 501,098 478,920	Revenue from Investments				208,777	208,777	160,000	48,777	30%
EXPENSES Program Management (Note 3) 386,871 304,997 691,868 4,382,801 4,527,393 144,592 3% Program Delivery 163,117 111,956 275,073 28,760,370 29,101,287 340,917 1% Incentives 4,627,769 3,481,592 8,109,360 44,097,836 46,413,094 2,315,258 5% Program Eval & Planning Svcs. 43,951 33,365 77,318 1,977,389 2,985,073 1,007,684 34% Program Marketing/Outreach 85,201 62,974 148,176 2,697,745 3,342,628 644,883 19% Program Quality Assurance - - - 11,666 100% Program Quality Assurance - - - 144,577 799,399 55% Trade Allies & Cust. Svc. Mgmt. 46,486 32,798 79,284 473,511 546,535 73,024 13% Other Program Expenses - all 101,824 76,555 178,380 501,098 478,920 (22,178) -5%	TOTAL PROGRAM REVENUE	5,197,759	3,867,423	9,065,182	208,777	121,158,385	114,457,758	6,700,627	6%
Program Management (Note 3) 386,871 304,997 691,868 4,382,801 4,527,393 144,592 3% Program Delivery 163,117 111,956 275,073 28,760,370 29,101,287 340,917 1% Incentives 4,627,769 3,481,592 8,109,360 44,097,836 46,413,094 2,315,258 5% Program Eval & Planning Svcs. 43,951 33,365 77,318 1,977,389 2,985,073 1,007,684 34% Program Legal Services - - - - 11,666 100% Program Legal Services - - - - 11,666 100% Program Legal Services 130,357 169,468 299,825 646,379 1,445,778 799,399 55% Trade Allies & Cust. Svc. Mgmt. 46,486 32,798 79,284 473,511 546,535 73,024 13% IT Services 86,943 67,689 154,633 1,223,588 1,317,609 94,021 7% Other Program Expenses - all 101,824 76,555 178,380 501,098 478,920 (22,178) <td>EXPENSES</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>	EXPENSES								
Program Delivery 163,117 111,956 275,073 28,760,370 29,101,287 340,917 1% Incentives 4,627,769 3,481,592 8,109,360 44,097,836 46,413,094 2,315,258 5% Program Eval & Planning Svcs. 43,951 33,365 77,318 1,977,389 2,985,073 1,007,684 34% Program Legal Services - - - - 11,666 11,666 100% Program Quality Assurance - - - - 11,666 10,666 10% Outsourced Services 130,357 169,468 299,825 646,379 1,445,778 799,399 55% Trade Allies & Cust. Svc. Mgmt. 46,486 32,798 79,284 473,511 546,535 73,024 13% IT Services 86,943 67,689 154,633 1,223,588 1,317,609 94,021 7% Other Program Expenses - all 101,824 76,555 178,380 501,098 478,920 (22,178) -5% TOTAL PROGRAM EXPENSES 5,672,519 4,341,394 10,013,917 - <	Program Management (Note 3)	386.871	304,997	691,868		4.382.801	4.527.393	144,592	3%
Incentives 4,627,769 3,481,592 8,109,360 44,097,836 46,413,094 2,315,258 5% Program Eval & Planning Svcs. 43,951 33,365 77,318 1,977,389 2,985,073 1,007,684 34% Program Marketing/Outreach 85,201 62,974 148,176 2,697,745 3,342,628 644,883 19% Program Legal Services - - - - 11,666 100% Program Quality Assurance - - - 11,666 100% Outsourced Services 130,357 169,468 299,825 646,379 1,445,778 799,399 55% Trade Allies & Cust. Svc. Mgmt. 46,486 32,798 79,284 473,511 546,535 73,024 13% Other Program Expenses - all 101,824 76,555 178,380 501,098 478,920 (22,178) -5% TOTAL PROGRAM EXPENSES 5,672,519 4,341,394 10,013,917 - 84,789,648 90,219,566 5,429,918 6% ADMINISTRATIVE COSTS 144,473 110,241 254,515 2,455,55 2,455,55 </td <td>Program Delivery</td> <td>163,117</td> <td>111,956</td> <td>275.073</td> <td></td> <td>28,760,370</td> <td>29.101.287</td> <td>340,917</td> <td>1%</td>	Program Delivery	163,117	111,956	275.073		28,760,370	29.101.287	340,917	1%
Program Eval & Planning Svcs. 43,951 33,365 77,318 1,977,389 2,985,073 1,007,684 34% Program Marketing/Outreach 85,201 62,974 148,176 2,697,745 3,342,628 644,883 19% Program Legal Services - - - - 11,666 11,666 100% Program Quality Assurance - - - - 11,666 11,666 100% Outsourced Services 130,357 169,468 299,825 646,379 1,445,778 799,399 55% Trade Allies & Cust. Svc. Mgmt. 46,486 32,798 79,284 473,511 546,535 73,024 13% Other Program Expenses - all 101,824 76,555 178,380 501,098 478,920 (22,178) -5% TOTAL PROGRAM EXPENSES 5,672,519 4,341,394 10,013,917 - 84,789,648 90,219,566 5,429,918 6% ADMINISTRATIVE COSTS Mancarment & Conserpt (Mater 1 & 2) 144,472 110,241 246,515 2,460,552 214,531 12%	Incentives	4.627.769	3.481.592	8.109.360		44.097.836	46.413.094	2.315.258	5%
Program Marketing/Outreach 85,201 62,974 148,176 2,697,745 3,342,628 644,883 19% Program Legal Services - - - - 11,666 11,666 100% Program Quality Assurance - - - - 11,666 11,666 100% Outsourced Services 130,357 169,468 299,825 646,379 1,445,778 799,399 55% Trade Allies & Cust. Svc. Mgmt. 46,486 32,798 79,284 473,511 546,535 73,024 13% IT Services 86,943 67,689 154,633 1,223,588 1,317,609 94,021 7% Other Program Expenses - all 101,824 76,555 178,380 501,098 478,920 (22,178) -5% TOTAL PROGRAM EXPENSES 5,672,519 4,341,394 10,013,917 - 84,789,648 90,219,566 5,429,918 6% ADMINISTRATIVE COSTS 144,473 110,241 246,0555 2460,552 2460,552 2460,553 2460,553 2460,553 2460,554 344,534 12%	Program Eval & Planning Svcs.	43.951	33.365	77.318		1.977.389	2.985.073	1.007.684	34%
Program Legal Services - - - 11,666 11,666 100% Program Quality Assurance - - - 28,931.00 49,583 20,652 42% Outsourced Services 130,357 169,468 299,825 646,379 1,445,778 799,399 55% Trade Allies & Cust. Svc. Mgmt. 46,486 32,798 79,284 473,511 546,633 130,024 13% IT Services 86,943 67,689 154,633 1,223,588 1,317,609 94,021 7% Other Program Expenses - all 101,824 76,555 178,380 501,098 478,920 (22,178) -5% TOTAL PROGRAM EXPENSES 5,672,519 4,341,394 10,013,917 - 84,789,648 90,219,566 5,429,918 6% ADMINISTRATIVE COSTS 144,473 110,241 254,515 2,455,51 2,455,52 214,531 12%	Program Marketing/Outreach	85,201	62,974	148,176		2,697,745	3,342,628	644,883	19%
Program Quality Assurance - - - 28,931.00 49,583 20,652 42% Outsourced Services 130,357 169,468 299,825 646,379 1,445,778 799,399 55% Trade Allies & Cust. Svc. Mgmt. 46,486 32,798 79,284 473,511 546,535 73,024 13% IT Services 86,943 67,689 154,633 1,223,588 1,317,609 94,021 7% Other Program Expenses - all 101,824 76,555 178,380 501,098 478,920 (22,178) -5% TOTAL PROGRAM EXPENSES 5,672,519 4,341,394 10,013,917 - 84,789,648 90,219,566 5,429,918 6%	Program Legal Services	-	-	-		-	11,666	11,666	100%
Outsourced Services 130,357 169,468 299,825 646,379 1,445,778 799,399 55% Trade Allies & Cust. Svc. Mgmt. 46,486 32,798 79,284 473,511 546,535 73,024 13% IT Services 86,943 67,689 154,633 1,223,588 1,317,609 94,021 7% Other Program Expenses - all 101,824 76,555 178,380 501,098 478,920 (22,178) -5% TOTAL PROGRAM EXPENSES 5,672,519 4,341,394 10,013,917 - 84,789,648 90,219,566 5,429,918 6%	Program Quality Assurance	-	-	-		28,931.00	49,583	20,652	42%
Trade Allies & Cust. Svc. Mgmt. 46,486 32,798 79,284 473,511 546,535 73,024 13% IT Services 86,943 67,689 154,633 1,223,588 1,317,609 94,021 7% Other Program Expenses - all 101,824 76,555 178,380 501,098 478,920 (22,178) -5% TOTAL PROGRAM EXPENSES 5,672,519 4,341,394 10,013,917 - 84,789,648 90,219,566 5,429,918 6% ADMINISTRATIVE COSTS 144,472 110,241 254,515 2,455,52 2,455,52 2,455,52 2,455,52 2,455,55 5,429,918 6%	Outsourced Services	130,357	169,468	299,825		646,379	1,445,778	799,399	55%
IT Services 86,943 67,689 154,633 1,223,588 1,317,609 94,021 7% Other Program Expenses - all 101,824 76,555 178,380 501,098 478,920 (22,178) -5% TOTAL PROGRAM EXPENSES 5,672,519 4,341,394 10,013,917 - 84,789,648 90,219,566 5,429,918 6% ADMINISTRATIVE COSTS Management & Consent (Mater 1 & 2) 144,472 110,241 254,515 2,455,512 2,450,552 214,521 12%	Trade Allies & Cust. Svc. Mgmt.	46,486	32,798	79,284		473,511	546,535	73,024	13%
Other Program Expenses - all 101,824 76,555 178,380 501,098 478,920 (22,178) -5% TOTAL PROGRAM EXPENSES 5,672,519 4,341,394 10,013,917 - 84,789,648 90,219,566 5,429,918 6% ADMINISTRATIVE COSTS Management & Consent & Con	IT Services	86,943	67,689	154,633		1,223,588	1,317,609	94,021	7%
TOTAL PROGRAM EXPENSES 5,672,519 4,341,394 10,013,917 - 84,789,648 90,219,566 5,429,918 6% ADMINISTRATIVE COSTS 144,472 110,241 254,515 2,455,021 2,450,552 214,521 12%	Other Program Expenses - all	101,824	76,555	178,380		501,098	478,920	(22,178)	-5%
ADMINISTRATIVE COSTS	TOTAL PROGRAM EXPENSES	5,672,519	4,341,394	10,013,917	-	84,789,648	90,219,566	5,429,918	6%
Management & Constal (Notes 1 & 2) 144 172 110 241 254 515 2 155 021 2 460 552 214 521 129/	ADMINISTRATIVE COSTS								
144,175 $10,341$ $234,315$ $2,103,021$ $2,409,355$ $314,551$ $15%$	Management & General (Notes 1 & 2)	144,173	110,341	254,515		2,155,021	2,469,553	314,531	13%
Communications & Customer Svc (Notes 1 & 2) 123,884 94,814 218,698 1,851,757 2,265,313 413,556 18%	Communications & Customer Svc (Notes 1 & 2)	123,884	94,814	218,698		1,851,757	2,265,313	413,556	18%
Total Administrative Costs 268,057 205,155 473,213 4,006,778 4,734,866 728,088 15%	Total Administrative Costs	268,057	205,155	473,213		4,006,778	4,734,866	728,088	15%
TOTAL PROG & ADMIN EXPENSES5,940,576 4,546,549 10,487,127 88,796,424 94,954,427 6,158,003 6%	TOTAL PROG & ADMIN EXPENSES	5,940,576	4,546,549	10,487,127		88,796,424	94,954,427	6,158,003	6%
TOTAL REVENUE LESS EXPENSES (742 817) (679 126) (1 421 945) 208 777 32 361 961 19 503 330 (12 858 630) 66%	TOTAL REVENUE LESS EXPENSES	(742 817)	(679 126)	(1 421 945)	208 777	32 361 961	19 503 330	(12 858 630)	66%
		(142,017)	(073,120)	(1,421,343)	200,777	32,301,301	13,303,330	(12,030,030)	00 /8
NET ASSETS - RESERVES	NET ASSETS - RESERVES								
Cumulative Carryover at 12/31/16 7,543,333 7,376,941 14,920,276 8,935,944 33,873,921 32,329,685 1,544,236 5%	Cumulative Carryover at 12/31/16	7,543,333	7,376,941	14,920,276	8,935,944	33,873,921	32,329,685	1,544,236	5%
Net Assets Reattributed from prior year 335,865 -	Net Assets Reattributed from prior year				335,865	-			
Change in net assets this year (742,817) (679,126) (1,421,945) 208,777 32,361,961 19,503,330 12,858,631 66%	Change in net assets this year	(742,817)	(679,126)	(1,421,945)	208,777	32,361,961	19,503,330	12,858,631	66%
Ending Net Assets - Reserves 6,800,516 6,697,815 13,498,331 9,480,586 66,235,883 51,833,015 (14,402,868) 28%	Ending Net Assets - Reserves	6,800,516	6,697,815	13,498,331	9,480,586	66,235,883	51,833,015	(14,402,868)	28%
Ending Reserve by Category	Ending Reserve by Category								
Program Reserves (Efficiency and Renewables) 6 800 516 6 697 815 13 498 331 66 235 883 51 833 015 (14 402 868)	Program Reserves (Efficiency and Renewables)	6 800 516	6 697 815	13 498 331		66 235 883	51,833,015	(14 402 868)	
	Operational Contingency Pool	0,000,010	2,001,010	. 5, 100,001	4 480 586	00,200,000	01,000,010	(, .02,000)	
Emergency Contingency Pool 5,000,000	Emergency Contingency Pool				5.000.000				
TOTAL NÉT ASSETS CUMULATIVE 6,800,516 6,697,815 13,498,331 9,480,586 66,235,883 51.833,015 (14.402.868) 28%	TOTAL NET ASSETS CUMULATIVE	6,800,516	6,697,815	13,498,331	9,480,586	66,235,883	51,833,015	(14,402,868)	28%

Energy Trust of Oregon Program Expense by Service Territory For the Seven Months Ending July 31, 2017 (Unaudited)

		1 401110 1 01101		NWWN Industrial	NW Natural Gas	Cascade	Avista	Subtotal Gas	Oregon Total		ETO Total	TID Budget	variance	% var
Energy Efficiency														
Commercial														
Existing Buildings	13,749,568	7,733,985	21,483,553	605,386	1,467,652	305,913	130,114	2,509,065	23,992,618	424,421	24,417,039	25,609,261	1,192,222	5%
New Buildings	5,394,402	2,312,447	7,706,849	149,373	732,168	137,368	33,907	1,052,817	8,759,666		8,759,666	9,783,286	1,023,620	10%
NEEA	729,208	506,737	1,235,944		84,177	9,014		93,191	1,329,135	9,477	1,338,612	1,563,426	224,814	14%
Total Commercial	19,873,177	10,553,169	30,426,346	754,759	2,283,998	452,295	164,022	3,655,073	34,081,419	433,898	34,515,317	36,955,973	2,440,656	7%
Industrial														
Production Efficiency	9,025,754	5,274,569	14,300,323	849,108	256,552	98,445	15,846	1,219,950	15,520,273		15,520,273	15,785,861	265,588	2%
NEEA	193,427	134,415	327,842						327,842		327,842	127,877	(199,965)	-156%
Total Industrial	9,219,180	5,408,984	14,628,165	849,108	256,552	98,445	15,846	1,219,950	15,848,115	-	15,848,115	15,913,738	65,623	0%
Residential														
Existing Homes	3,146,850	2,744,443	5,891,292	-	3,183,410	81,315	238,503	3,503,228	9,394,520	241,433	9,635,953	11,589,367	1,953,414	17%
New Homes/Products	8,344,159	4,598,317	12,942,476	-	1,716,040	209,745	70,525	1,996,310	14,938,786	347,535	15,286,321	16,425,998	1,139,677	7%
NEEA	1,525,920	1,060,386	2,586,306		358,528	38,393		396,921	2,983,228	40,361	3,023,589	2,891,810	(131,779)	-5%
Total Residential	13,016,929	8,403,146	21,420,075	-	5,257,978	329,453	309,028	5,896,459	27,316,534	629,329	27,945,863	30,907,175	2,961,312	10%
Energy Efficiency Program Costs	42,109,289	24,365,299	66,474,584	1,603,867	7,798,524	880,191	488,896	10,771,483	77,246,068	1,063,228	78,309,296	83,776,886	5,467,591	7%
Renewables														
Solar Electric (Photovoltaic)	3.996.904	2.819.992	6.816.896						6.816.896		6.816.896	7.107.110	290.214	4%
Other Renewable	1,943,672	1,726,559	3,670,231						3,670,231		3,670,231	4,070,431	400,200	10%
Renewables Program Costs	5,940,576	4,546,549	10,487,127	-	-	-	-	-	10,487,127	-	10,487,127	11,177,541	690,414	6%
Cost Grand Total	48,049,864	28,911,848	76,961,711	1,603,867	7,798,524	880,191	488,896	10,771,483	87,733,195	1,063,228	88,796,424	94,954,427	6,158,003	6%

Energy Trust of Oregon Administrative Expenses For the Seven Months Ending July 31, 2017 (Unaudited)

		N	IANAGEMENT &	& GENERAL		COMMUNICATIONS & CUSTOMER SERVICE						
		QUARTERLY			YTD			QUARTER	LY		YTD	
	ACTUAL	BUDGET	REMAINING	ACTUAL	BUDGET	VARIANCE	ACTUAL	BUDGET	REMAINING	ACTUAL	BUDGET	VARIANCE
<u>EXPENSES</u>												
Outsourced Services	\$30,161	\$125,792	\$95,631	\$266,530	\$422,014	\$155,484	\$140,054	\$355,250	\$215,196	\$476,522	\$828,917	\$352,395
Legal Services	438	3,000	2,562	15,019	7,000	(8,019)						
Salaries and Related Expenses	184,805	666,179	481,374	1,416,592	1,549,417	132,825	125,051	429,351	304,300	955,058	1,001,820	46,762
Supplies	407	1,500	1,093	2,905	3,500	595	27	250	223	206	583	378
Postage and Shipping Expenses		625	625	1,543	1,458	(85)						
Printing and Publications	295	1,125	830	2,114	2,625	511		375	375		3,375	3,375
Travel	4,257	15,362	11,106	30,019	35,846	5,827	8,338	11,250	2,912	34,949	26,250	(8,699)
Conference, Training & Mtngs	10,587	24,462	13,876	42,850	38,079	(4,771)	1,956	3,125	1,169	13,201	7,292	(5,910)
Interest Expense and Bank Fees		375	375	1,678	3,375	1,697						. ,
Dues, Licenses and Fees	2,000	3,117	1,117	9,974	9,914	(60)	1,342	4,125	2,783	15,656	9,625	(6,031)
Shared Allocation (Note 1)	14,463	51,008	36,546	108,562	119,020	10,458	11,779	39,966	28,187	89,565	93,254	3,689
IT Service Allocation (Note 2)	41,624	118,042	76,418	254,372	273,918	19,546	52,863	92,488	39,625	199,304	214,619	15,315
Planning & Eval	1,985	1,492	(494)	2,864	3,386	523	67,295	35,057	(32,238)	67,295	79,580	12,285
TOTAL EXPENSES	291,021	1,012,080	721,059	2,155,021	2,469,552	314,531	408,704	971,237	562,533	1,851,757	2,265,315	413,559

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

Administrative Expenses 1st Month of Quarter








PINK PAPER

Energy Trust of Oregon Contract Status Summary Report

For contracts with costs through: 7/1/2017

Page 1 of 4

CONTRACTOR	Description	City	EST COST	Actual TTD	Remaining	Start	End
Administration							
	Administration Total:		13,326,404	4,577,156	8,749,248		
Communications							
	Commur	nications Total:	4,000,516	2,338,147	1,662,368		
Energy Efficiency							
Northwest Energy Efficiency Alliance	Regional EE Initiative Agmt	Portland	33,662,505	18,139,325	15,523,180	1/1/2015	7/1/2020
ICF Resources, LLC	2017 BE PMC	Fairfax	14,232,588	6,423,719	7,808,869	1/1/2017	12/31/2017
CLEAResult Consulting Inc	2017 HES PMC	Austin	6,540,508	2,758,119	3,782,389	1/1/2017	12/31/2017
CLEAResult Consulting Inc	2017 NBE PMC	Austin	6,207,078	2,799,373	3,407,705	1/1/2017	12/31/2017
Northwest Energy Efficiency Alliance	Regional Gas EE Initiative	Portland	6,200,354	2,256,871	3,943,483	1/1/2015	7/1/2020
Lockheed Martin Corporation	2017 MF PMC	Grand Prairie	4,586,068	2,086,861	2,499,207	1/1/2017	12/31/2017
Ecova Inc	2017 Products PMC	Spokane	3,907,587	1,691,192	2,216,395	1/1/2017	12/31/2017
Energy 350 Inc	PDC - PE 2017	Portland	3,144,460	1,642,851	1,501,609	1/1/2017	12/31/2017
CLEAResult Consulting Inc	2017 NH PMC	Austin	3,137,693	1,336,928	1,800,765	1/1/2017	12/31/2017
Intel Corporation	EE Project Incentive Agmt	Hillsboro	2,400,000	0	2,400,000	11/13/2015	12/31/2019
Portland General Electric	PDC - PE 2017	Portland	2,017,000	1,150,442	866,558	1/1/2017	12/31/2017
Northwest Power & Conservation Council	RTF Funding Agreement		1,825,000	989,020	835,980	2/25/2015	12/31/2019
Cascade Energy, Inc.	PDC - PE 2017	Walla Walla	1,784,368	888,665	895,703	1/1/2017	12/31/2017
RHT Energy Inc.	PDC - PE 2017	Medford	1,740,434	825,587	914,847	1/1/2017	12/31/2017
Evergreen Consulting Group, LLC	PE Lighting PDC 2017	Tigard	1,555,700	721,520	834,180	1/1/2017	12/31/2017
KEMA Incorporated	EB & SEM 15-16 Evaluation	Oakland	560,000	0	560,000	6/8/2017	5/31/2018
Clean Energy Works, Inc.	EE Incentive & Services Agmt	Portland	457,550	412,170	45,380	7/1/2014	12/31/2017
SBW Consulting, Inc.	PE Program Impact Evaluation	Bellevue	450,000	432,626	17,374	5/1/2016	7/31/2017
Michaels Energy, Inc.	New Buildings '14 Impact Evalu	La Crosse	328,000	327,997	3	5/23/2016	5/31/2017
Craft3	Loan Agreement	Portland	300,000	300,000	0	6/1/2014	6/20/2025
CLEAResult Consulting Inc	2017 HES WA PMC	Austin	285,746	123,771	161,975	1/1/2017	12/31/2017
ICF Resources, LLC	2017 BE DSM PMC	Fairfax	274,746	95,133	179,613	1/1/2017	12/31/2017
EnergySavvy Inc.	Optix Engage Online Audit Tool	Seattle	273,600	123,167	150,433	6/1/2016	5/31/2018
Pivotal Energy Solutions LLC	License Agreement	Gilbert	270,500	160,362	110,138	3/1/2014	12/31/2017
Balanced Energy Solutions LLC	New Homes QA Inspections	Portland	248,625	95,054	153,571	4/27/2015	12/31/2017
ICF Resources, LLC	2017 BE NWN WA PMC	Fairfax	246,200	98,110	148,090	1/1/2017	12/31/2017
Alternative Energy Systems Consulting, Inc.	PE Mobile App Scoping Tool	Carlsbad	229,830	216,776	13,054	6/1/2016	9/30/2017
Alliance For Sustainable Energy, LLC	Technical Services Agreement	Lakewood	104,989	89,215	15,774	10/30/2015	11/30/2017

R00407

Energy Trust of Oregon Contract Status Summary Report

For contracts with costs through: 7/1/2017

Page 2	2 of 4
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Alternative Energy Systems Consulting, Inc.	PE Review of Technical Studies	Carlsbad	100,000	0	100,000	5/22/2017	12/31/2017
1000 Broadway Building L.P.	Pay-for-Performance Pilot	Portland	88,125	58,750	29,375	10/17/2014	11/1/2018
CLEAResult Consulting Inc	Professional Services/Trans	Austin	81,688	59,735	21,953	10/15/2014	10/15/2017
WegoWise Inc	benchmarking license	Boston	77,472	32,832	44,640	6/15/2014	12/31/2018
KEMA Incorporated	EB & SEM Evaluation	Oakland	70,202	40,495	29,707	5/1/2017	5/31/2018
Evergreen Economics	Research Cannabis Market	Portland	69,530	2,978	66,553	6/23/2017	12/31/2017
Abt SRBI Inc.	Fast Feedback Surveys 2017	New York	66,500	22,168	44,332	2/1/2017	2/28/2018
Energy 350 Inc	Professional Services	Portland	64,062	19,528	44,534	12/10/2014	12/10/2018
Apex Analytics LLC	Nest Seasonal Savings Eval	Boulder	59,000	22,493	36,508	8/29/2016	12/31/2017
The Cadmus Group Inc.	Existing Homes Pilot Eval	Watertown	53,000	47,190	5,810	2/18/2016	12/31/2017
Green Motors Practice Group	Green Motors Incentive Funding	Boise	50,000	9,015	40,985	1/1/2017	12/31/2017
KEMA Incorporated	O&M & SEM Persistence Research	Oakland	45,000	9,754	35,246	12/1/2016	9/30/2017
MetaResource Group	Intel DX1 Mod 1&2 Megaproject	Portland	45,000	29,276	15,724	4/1/2015	12/31/2017
Navigant Consulting Inc	Evaluation Cosultant-DSM Proj.	Boulder	45,000	0	45,000	6/15/2017	6/1/2019
Research Into Action, Inc.	Evaluation MHR Pilot	Portland	45,000	3,720	41,281	5/1/2017	2/28/2019
Brightworks Sustainability LLC	Net Zero Fellowship Grant Agmt	Portland	37,000	0	37,000	4/5/2017	8/31/2018
Cadeo Group LLC	Evaluation Consulting	Washington	35,000	3,655	31,345	4/25/2017	12/31/2017
KEMA Incorporated	Billing Analysis Review	Oakland	35,000	3,351	31,649	3/15/2015	12/31/2017
The Cadmus Group Inc.	Air Conditioning Measures	Watertown	32,950	20,855	12,096	8/22/2016	8/22/2018
Northwest Energy Efficiency Council	Tool Lending Lbry Sponsorship	Seattle	30,500	30,500	0	9/21/2016	12/31/2017
Research Into Action, Inc.	Professional Services	Portland	29,590	29,570	20	9/1/2014	8/31/2017
Cadeo Group LLC	Retail Lighting Mkt Analysis	Washington	29,545	0	29,545	7/10/2017	12/31/2017
BASE zero LLC	Quality Assurance Services	Bend	27,325	19,719	7,606	3/1/2016	12/31/2017
Energy Center of Wisconsin	Billing Analysis Review	Madison	25,000	1,710	23,290	3/15/2015	12/31/2017
Northwest Food Processors Association	NW Industrial EE Summit 2017	Portland	25,000	0	25,000	1/1/2017	12/31/2017
Sustainable Northwest	Klamath Industiral/Ag Programs	Portland	24,992	18,744	6,248	1/1/2017	11/1/2017
Forrest Marketing	Indoor Cannabis MarketResearch	Portland	24,500	14,700	9,800	3/8/2017	9/30/2017
Consortium for Energy Efficiency	Perform. Benchmark Sponsorship		22,255	22,255	0	1/1/2017	12/31/2017
Consortium for Energy Efficiency	Membership Dues - 2017		21,448	21,448	0	1/1/2017	12/31/2017
Ecotope, Inc.	NB VRF Pilot Evaluation	Seattle	20,000	13,940	6,060	1/1/2016	7/31/2017
EES Consulting, Inc	Professional Services Agmt	Kirkland	14,800	5,850	8,950	10/1/2016	9/30/2018
Research Into Action, Inc.	Evaluation - APS Pilot	Portland	14,600	0	14,600	7/1/2017	12/31/2018
Flink Energy Consulting	Smart Grid Modeling	Portland	12,120	12,120	0	7/12/2016	12/30/2017
FMYI, INC	Subscription Agreement	Portland	11,150	5,150	6,000	4/25/2016	11/1/2017
American Council for and Energy Efficient Economy	Intelligen Effncy Sponsorship		10,000	10,000	0	4/4/2017	12/31/2017

R00407

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

For contracts with cost through: 7/1/2017	S					Pa	age 3 of 4
American Council for and Energy Efficient Economy	EE & Wtr Consrv. Sponsorship		10,000	10,000	0	4/4/2017	12/31/2017
Bridgetown Printing Company	2017 Bill Insert	Portland	9,764	9,674	90	1/18/2017	12/31/2017
Evergreen Economics	NH Gas Fireplace Survey	Portland	9,020	7,525	1,495	4/12/2016	7/31/2017
The Leede Research Group Inc	Evaluation Consultant	Manitowoc	9,000	0	9,000	5/1/2017	12/31/2017
City of Portland Bureau of Planning & Sustainability	Sponsorhip - 2017	Portland	8,000	8,000	0	1/5/2017	12/31/2017
Northwest Energy Efficiency Council	BOC 2017 Sponsorship	Seattle	6,000	6,000	0	2/14/2017	12/31/2017
KEMA Incorporated	New Bldg Impact Evaluation	Oakland	5,000	4,798	202	5/1/2017	7/31/2017
Social Enterprises Inc.	GoGreen Sponsorship - 2017	Portland	5,000	5,000	0	3/21/2017	12/31/2017
The Cadmus Group Inc.	New Bldg Program Impact Eval	Watertown	5,000	3,790	1,210	4/20/2017	8/31/2017
	Energy E	Efficiency Total:	98,480,267	46,831,140	51,649,126		
Joint Programs							
E Source Companies LLC	E Source Service Agreement	Boulder	133,350	133,350	0	2/1/2014	1/31/2018
Portland State University	GIS Data Research		71,992	0	71,992	1/1/2017	9/30/2017
Structured Communications Systems, Inc.	ShoreTel Phone System Install		65,345	65,287	59	1/1/2017	12/31/2017
CoStar Realty Information Inc	Property Data	Baltimore	48,020	39,569	8,451	6/1/2011	5/31/2018
Grounded Research and Consulting, LLC	Education Background Research	Oakland	25,000	24,972	28	3/13/2017	6/30/2017
American Council for and Energy Efficient Economy	ACEEE Sponsorship - 2017		12,500	12,500	0	1/1/2017	12/31/2017
Navigant Consulting Inc	Resource Assessment Updates	Boulder	10,600	0	10,600	8/26/2016	8/26/2018
	366,807	275,677	91,130				
Renewable Energy							
Clean Water Services	Project Funding Agreement		3,000,000	2,013,106	986,894	11/25/2014	11/25/2039
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	1,000,000	0	10/25/2012	10/25/2027
Three Sisters Irrigation District	TSID Hydro	Sisters	1,000,000	1,000,000	0	4/25/2012	9/30/2032
Farmers Irrigation District	FID - Plant 2 Hydro	Hood River	900,000	900,000	0	4/1/2014	4/1/2034
Klamath Falls Solar 2 LLC	PV Project Funding Agreement	San Mateo	850,000	0	850,000	7/11/2016	7/10/2041
Old Mill Solar, LLC	Project Funding Agmt Bly, OR	Lake Oswego	490,000	490,000	0	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	438,660	3,000	10/27/2010	10/27/2025
Clean Power Research, LLC	PowerClerk License	Napa	383,068	380,398	2,670	7/1/2014	6/30/2017
SunE Solar XVI Lessor, LLC	BVT Sexton Mtn PV	Bethesda	355,412	355,412	0	5/15/2014	12/31/2034
Clty of Gresham	City of Gresham Cogen 2		350,000	334,523	15,477	4/9/2014	7/9/2034

For contracts with costs

Energy Trust of Oregon Contract Status Summary Report

Page 4 of 4 through: 7/1/2017 Farmers Conservation Alliance Outreach Activities Hood River 200,000 114,645 85,355 1/1/2017 12/31/2017 City of Astoria Bear Creek Funding Astoria 143,000 143,000 0 3/24/2014 3/24/2034 Agreement 1/1/2015 Solar Oregon 2015 Outreach Agreement Portland 123.300 82.300 41.000 4/30/2018 **BSA Enterprises Inc** Solar Verifier Services 100,000 75,956 24,044 8/1/2016 7/31/2018 Sisters Gary Higbee DBA WindStream Solar Verifier Services Eugene 100,000 65,273 34,727 8/1/2016 7/31/2018 Solar Luxurious Plumbing and Solar Verifier Services West Linn 100,000 85,050 14,950 8/1/2016 7/31/2018 Heating, Inc. Medford 100,000 82,898 17,103 8/1/2016 7/31/2018 RHT Energy Inc. Verifier Services Agmt -Solar SPS of Oregon Inc **Project Funding Agreement** Wallowa 75,000 74,513 488 10/15/2015 10/31/2036 Kendrick Business Services Small Business Support Albany 60,000 2,375 57,625 11/1/2016 6/30/2018 LLC Agmt Backfill for RE Staff 50,000 6/7/2017 11/30/2017 Future Resource Stragtegies, Salem 50,000 0 LLC 50,000 4.839 45,161 1/1/2017 12/31/2017 Kendrick Business Services **TA Business Development** Albany LLC Pittsfield 47,400 24,789 1/1/2017 11/30/2018 Kleinschmidt Associates **Evaluation Services** 22,611 OSEIA-Oregon Solar Energy 23,050 **Technical Training Course** 41,650 18,600 1/1/2017 4/30/2018 Industries Assoc Dev **Clean Energy States Alliance** 2017 CESA Sponsorship 39,500 39,500 0 7/1/2016 6/30/2017 Clean Energy States Alliance CESA Membership 17-18 39,500 0 39,500 7/1/2017 6/30/2018 24,954 46 ENERGYneering Solutions Inc Biopower & Hydro Sisters 25,000 12/6/2016 11/30/2018 Evaluations UO SRML Contribution -University of Oregon Eugene 24,999 24,999 0 3/9/2017 3/8/2018 2017 10,711 2/1/2016 1/30/2018 Wallowa Resources **Renewables Field Outreach** 24,999 14,288 Community Solutions, Inc. Robert Migliori 1,773 4/11/2007 1/31/2024 42kW wind energy system 24,125 22,352 Newberg Warren Griffin 3,895 10/1/2005 10/1/2020 Griffin Wind Project Salem 13,150 9.255 Chaolysti LLC Solar Trade Ally Summit Alameda 11,650 11,472 178 1/1/2017 7/31/2017 **Oregon Solar Energy** Sponsorship 2017 Portland 7,500 7,500 0 1/1/2017 12/31/2017 Industries Association Bonneville Environmental **REC/WRC Purchase 2016** Portland 4,860 2,430 2,430 1/1/2016 12/31/2017 Foundation 13,067,433 10,432,567 2,634,866 **Renewable Energy Total:** Grand Total: 129,241,426 64,454,687 64,786,739

PINK PAPER

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Financial Glossary

(for internal use) - updated May 31, 2016

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 unmodified or modified regarding specific items. Energy Trust strives for and has achieved in all its years an unmodified opinion.
- An unmodified 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 unmodified opinion regarding Energy Trust's financial statements.
- 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.

Project Tracking Projects Forecasting

Module developed in Project Tracking system (PT) 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 second 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 PT. 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 Strategic Energy Management programs, where some level of tracking of particular sites and participants is part of the program design.
- Lighting, hot water, and energy control devices through retailer buy down, on line fulfillment, and direct installation.

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 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 <u>direct contact</u> with the project or customer, individually or in groups, <u>and</u> 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 5

Policy Committee Meeting



June 22, 2017 3:30pm

Attending by teleconference Debbie Kitchin, John Reynolds

Attending at Energy Trust offices

Mike Colgrove, Phil Degens, Fred Gordon, Kate Hawley, Corey Kehoe, Debbie Kitchin, Erika Kociolek, Steve Lacey, Debbie Menashe, Thad Roth, Mariet Steenkamp, Julianne Thacher, Zabyn Towner, Mark Wyman

Policies for Review

Presentation on Proposal for Authorization to Amend Funds in Excess of \$500,000

Erika Kociolek said that in May 2016, Energy Trust entered into a contract with SBW Consulting, Inc. for an impact evaluation of the 2013-2014 Production Efficiency program. The original contract authorized funding not to exceed \$450,000. Energy Trust is increasing the number of custom projects to be evaluated. Due to this change, an additional \$90,000 in contract budget would be required. If added to the current contract budget, the additional scope budget would bring the total funding over the \$500,000 threshold and require board approval. Erika presented the reasons for the addition to the contract, and committee members present agreed that the amendment should move forward for approval to the full board. Debbie Kitchin asked if any work under the contract is delayed pending potential board approval. Erika advised the committee that the commencement of the additional project reviews can be comfortably scheduled after the board's July board meeting if the full board approves the amendment. Committee members asked that this contract amendment board decision be presented to the full board as part of the consent agenda at the July 26, 2017 board meeting.

Presentation on Proposal for Authorization to Amend the Regional Energy Efficiency Initiative Agreement with NEEA

In the current five-year funding agreement with the Northwest Energy Efficiency Association (NEEA), Energy Trust and other NEEA regional funders agreed to fund activities related to the 2015-2019 Electric Business Plan. Energy Trust's five-year commitment is currently \$33,662,506 and represents 19.961% of the total NEEA regional funding commitment. NEEA has proposed, and Energy Trust staff support, a supplemental funding commitment to fund a regional End Use Load Research Project (EULR). This EULR would involve continuous metering at approximately 400 residential sites and 100 commercial sites over five years. With EULR data, analysts will have better information on certain end uses. The total EULR budget will not exceed \$12,500,000, with Energy Trust's commitment in an amount not to exceed \$2,480,366 over five years. The authorized amount under this amendment exceeds \$500,000 and includes a commitment longer than two years. Energy Trust must obtain board approval and notify the Oregon Public Utilities Commission (OPUC).

Committee members asked whether all NEEA funders would be participating. Phil Degens said that the EULR funders do not include all of NEEA funders, but those most interested in end use load shapes. The ELCAP project was the most recent commercial building end use load study, and it was conducted in in 1989; the most recent residential end use study was conducted in 2012. Updated study information will provide updated regional load shape information. Other interested funders include Puget Sound Energy (PSE), Snohomish Public Utility District, and Bonneville Power Administration (BPA). Debbie Kitchin asked if all-weather zones were being utilized. Phil replied that they are not, but there is currently discussion looking at the I-5 corridor or Weather Zone 2 to study how load use changes at extreme events. Mike Colgrove said all of the original funders have been approached for additional commitment.

Mike also reported that he has meeting as part of the NEEA End Use Load group next week to discuss whether Portland General Electric (PGE) could be involved more directly and the committee members had no concerns about this approach by PGE.

Debbie Kitchin noted that a correction should be made in the "It is therefore RESOLVED" section, Item 1, to change the word "her" to "his" or "their".

Residential RFP Recommendation

Thad Roth previewed the presentation that staff will give at the July 26 board meeting recommending contracts for the management and delivery of the residential program in 2018. Thad gave a recap of the Request for Proposal (RFP) process and explained how the final recommendation was achieved. He solicited feedback on possible edits to the presentation.

John Reynolds suggest that the presentation include a slide that shows the savings and contract budgets anticipated for the proposed contracts. Thad responded that estimates continue to be refined, and that more detail will be provided in the full board presentation. Management Team and the Policy Committee received briefings on June 22. RFP respondents will be notified of the decision on June 26. The final selection information will be released publicly on July 21 when the board packet is distributed, and staff's recommendation to the board will occur at the July 26 meeting.

Policy on Information provided to contractors and bidders

Debbie Menashe said the Policy on Information Provided by Program Participants, Contractors and Bidders 4.17.000-P is up for its routine, three-year review. This policy has significant impact on Energy Trust's work, and because of its significance, Julie Glover of 6 Degrees Privacy Consulting, LLC was retained to review Energy Trust's policies on privacy issues. Julie provided suggested revisions to the policy based on her knowledge in the field. Among other things, Julie suggested that Energy Trust more clearly define the difference between private and personal information. She noted that references should be changed from "personal" to "personally identifiable" in the purpose statement and throughout the policy. The policy should also cross-reference the information available on the more detailed website privacy notice.

Debbie presented an initial draft of policy revisions based on Julie's suggestions and asked the committee for initial feedback. Committee members present indicated interest in clarifying the application of the policy to information collected from participants that is otherwise publicly available. With input from this meeting and other feedback gathered from Energy Trust staff and Oregon Public Utility Commission staff, Debbie will bring back a revised draft for Policy Committee review at the next meeting.

Update on Policy Research and Development for the Equity Policy

Thomas Bruner of Bruner Strategies, who previously worked with Energy Trust on the diversity initiative, will bring forward some additional recommendations and language to revise the organization's current Equity Policy which is up for its regular review this year. His recommendations come after consulting various local organizations, research groups and utilities. He will present his findings to Debbie Menashe by June 30 followed by presentations to the Diversity, Equity and Inclusion Committee and this committee on September 7.

Energy Trust has engaged Dani Ledezma, an equity and inclusion consultant, to work with the entire organization on an equity action plan to help guide work on budget and action planning for the year. She will also work with Margie Harris who will assist in forming a diversity advisory committee. Proposals for the focus and structure of a diversity advisory committee will be presented to the Policy Committee at its September meeting.

Brief Updates and Discussion

 Mike said that the Secretary of State audit entrance examination date is July 3. Mike and Mariet Steenkamp will call in to the meeting and John Volkman and Steve Lacey will attend in person. The Secretary of State's office has provided a list of Energy Trust staff who will participate in interviews on July 5 and 6. Mike will report to the board if anything unusual comes up in the meantime and this topic will be part of Mike's staff update at the July 26 board meeting.

- The Energy Trust Management Team retreat is July 17. The team will go through the learning topics recommended at the board Strategic Planning Workshop and will present a draft plan at the July 26 board meeting.
- Staff has been working to schedule a follow up meeting with Oregon Housing and Community Services (OHCS). The discussion will explore ways to collaborate and improve our mutual initiatives and tactics. Staff will also investigate if entering into a Memorandum of Understanding (MOU) with OHCS would be appropriate to assist Energy Trust in creating a separate low income policy. The collaboration meeting will occur on August 30.
- Legislative Update: Mike updated the committee on current legislative activities including bill provisions related to residential solar tax credits.

Adjourn

The meeting adjourned at 5:05 pm.

Next Meeting: Thursday, September 7, 2017, 3:30-5:00pm

PINK PAPER

Policy Committee Meeting



September 7, 2017, 3:30 p.m.

Attending by teleconference

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

Attending at Energy Trust offices

Mike Colgrove, Corey Kehoe, Steve Lacey, Debbie Menashe, John Volkman

Policies for Review

Policy on Information Provided by Program Participants, Contractors and Bidders 4.17.000-P Debbie Menashe said that the committee engaged in a short discussion on the first iteration of the policy at the June 22, 2017 meeting. Since that time, the draft policy has been reviewed by Energy Trust staff and staff of the Oregon Public Utility Commission (OPUC).

Debbie M. noted that the policy remains fundamentally the same since adoption. At the highest level, Energy Trust keeps customer information confidential, but it is shared with others who have agreed to keep it confidential and to use this information to assist with our work. We also share customer information in the aggregate; aggregated information is not confidential under the policy. Energy Trust shares more specific information about non-residential customers with government agencies. Information that is considered "public domain" is also not confidential under the policy. There have been few changes to the policy since adoption in 2005.

Considering all of the changes in information use over the last years, and in anticipation of its regular review this year, a policy consultant was engaged to review data governance and privacy in general and to bring the language up to date. The consultant examined the policy from the perspective of Generally Accepted Privacy Principles (GAPP) and as a result, made suggested changes that are included in the draft.

In order to align with GAPP, language was added in the purpose statement with explicit reference to "personally identifiable information," which is current language for the type of specific customer and participant information this policy addresses. From staff and consultant input, there also was a desire to clarify the concept of "public domain" in the public purpose statement, as there has been internal staff confusion on the use of that term. "Public domain" can be construed narrowly to apply to intellectual property only. The original intent of the language was not intended to be so narrow, and the proposed revise language is more clear that information that is otherwise publicly available is not considered confidential. Staff also provided input on how the policy affects their work and changes are proposed accordingly.

Debbie M. went on to explain that there were additional language revisions throughout the policy to be more explicit about how Energy Trust stores, retains and destroys the confidential information retained. In addition, staff input resulted in proposed changes that would expand the types of government entities to which information can be provided and to expand the type of information that can be provided in order to be more responsive.

Debbie M. said the other revisions in policy are a matter of cleanup. JP Batmale of the OPUC is comfortable with the proposed revisions. Committee members had no questions about the proposed changes and supports moving the revised policy to the full board for approval. The proposed revised policy will be placed on the consent agenda for the September 27, 2017 board meeting.

Equity Policy 4.08.000-P

This policy is up for regular committee review and is under revision in the context of Energy Trust's Diversity, Equity and Inclusion (DEI) work. Debbie M. has reached out to other organizations for guidance and a review of their DEI policies, procedures and statements. Today's discussion is an opportunity for the committee to have an initial review and to provide feedback.

As background work for expanding the coverage of the current Equity policy into a more broad DEI policy, staff engaged consultants Lillian Tsai and Thomas Bruner to research similar work in other organizations. Their research did not identify any other board level policies, but many organizations have DEI statements that they publish publicly.

Energy Trust could be a leader in a board level policy and Thomas prepared three levels of recommended policies – minimum, recommended and aspirational. Debbie M. and Senior General Counsel John Volkman examined Thomas's recommended version and then revised the current DEI policy presented today. They did not adopt Thomas's recommended version verbatim and adhered instead to Energy Trust's general format for policies. They also utilized the Coalition of Communities of Color (CCC) guidance on an equity statement that leads with race.

Debbie M. asked the committee for their feedback and next steps. Ken Canon offered the following revisions:

- 1. Simplify the policy bullets by formatting in either numbers or letters
- 2. Incorporate stronger language with regard to serving all communities and to acknowledge our overall critical goals
- 3. Clarify that this policy is a statement to demonstrate that we focus on designing our programs to address the unique needs of those all those we serve

The committee discussed clarification of Thomas's aspirational recommendation. Debbie Kitchin wants to ensure that the policy is aspirational She would like to see that we include language on diversity in the board and other items that could be included in the policy that provides guidance from an aspirational aspect.

Debbie M. asked the committee to consider how we define diversity and how explicit the policy should be on this topic. Eddie Sherman said the language should be as specific as possible to make the case of purpose and to be inclusive of community groups, ethnicity and backgrounds. Guiding statements should call out what is accomplished on an annual basis to update our diversity outreach. Alan Meyer believes the policy should read in general terms as much as possible initially until we have sufficient supporting data. Debbie M. asked the committee to consider the section of the policy addressing the creation of a Diversity Advisory Council (DAC). She has had some initial feedback that establishing an advisory council may not be an effective strategy in this area, but given the outreach work that Margie Harris has already done, we would like to continue to explore this option. The committee agreed to leave that optional language in the policy. Ken suggested changing the review timeline for this policy to enable a more frequent review and update which would give the option to adopt the policy sooner.

Debbie M. said these comments will all be considered and incorporated in preparing a new draft for review with community members, the internal staff DEI team, and the management team. A revised draft will be presented to the committee at its November meeting.

Consent and Appointment of Member to Conservation Advisory Council (CAC)

Debbie M. proposed the appointment of Citizens Utility Board (CUB) lawyer Liz Jones to the CAC. CUB has not had representation on CAC for over a year and their presence on the committee is important. Liz joined CUB as staff attorney in September 2016. Prior to joining CUB, Liz was an Assistant Attorney General at the Minnesota Attorney General's office where she represented the Minnesota Public Utilities Commission in a wide variety of energy and telecommunications dockets. Liz also worked in tort and employment law with the Attorney General's office and clerked for a Federal District Court Judge after graduating from Hamline law school. Liz also serves on the board of directors of Renewable Northwest. Liz's work and experience with CUB will be a valuable addition to CAC discussions.

The committee approved the appointment.

Brief Updates and Discussion

• Mike will meet with the Organizational Review Project team to get perspective on the open Chief Financial Officer (CFO) position. He will report to the committee after receiving input.

- Mike reported that the Secretary of State audit is moving along.
- Roger Hamilton and Debbie Menashe will be absent from the October 5, 2017 committee meeting. John Volkman will preside in Debbie's absence.

Adjourn

The meeting adjourned at 4:32 p.m.

Next Meeting: Thursday, October 5, 2017, 3:30-5:00pm

Tab 6



Conservation Advisory Council Meeting Notes

August 2, 2017

Attending from the council:

JP Batmale, Oregon Public Utility Commission Warren Cook, Oregon Department of Energy Julia Harper, Northwest Energy Efficiency Alliance Don Jones, Jr., Pacific Power Garrett Harris, Portland General Electric Lisa McGarity, Avista (by phone) Holly Meyer, NW Natural Tyler Pepple, Industrial Customers of Northwest Utilities Allison Spector, Cascade Natural Gas Stan Price, Northwest Energy Efficiency Council

Attending from Energy Trust:

Adam Shick Mike Bailey Ryan Crews Hannah Cruz Lindsey Diercksen Sue Fletcher Andy Griguhn Fred Gordon Jackie Goss Kati Harper Susan Jamison Marshall Johnson Oliver Kesting Andrew Lunding Connor Morrow Jay Olson Thad Roth Kenji Spielman Cameron Starr Scott Swearingen Julianne Thacher Nicole Theodoulou Sam Walker Katie Wallace

Others attending:

Alan Garcia, NW Natural Lindsey Hardy, Energy Trust board (by phone) Rick Hodges, NW Natural Brian Lynch, Alternative Energy Systems Consulting Don MacOdrum Alan Meyer, Energy Trust board Lonny Peet, Nexant Blake Shelide, Oregon Department of Energy Kerry Shroy, Avista (by phone) Bob Stull, Ecova

1. Welcome, Old Business and Short Takes

Hannah Cruz convened the meeting at 1:32 p.m. The agenda, notes and presentation materials are available on Energy Trust's website at <u>www.energytrust.org/about/public-meetings/conservation-advisory-council-meetings/.</u>

Hannah reviewed the dates of the remaining 2017 Conservation Advisory Council meetings. Some dates have been changed to allow additional staff time to develop the Energy Trust 2018 Budget and 2018-2019 Action Plan. Revised meeting dates are Wednesday, September 13, Wednesday, October 25 and Friday, November 17. Hannah reviewed key dates for council members to learn about and provide input on Energy Trust's 2018 Budget and 2018-2019 Action Plan.

Julia Harper joined the meeting at 1:40 p.m.

2. Residential Sector Request for Proposals Results

Thad Roth, residential sector lead, reviewed the results of and next steps for the residential sector request for proposals for a Program Management Contractor and Program Delivery Contractors. The

board of directors approved the staff recommendation for a residential PMC, Retail Midstream Promotions PDC and EPS Whole-Home New Construction PDC.

Thad reviewed the current structure of the residential sector, as well as the revised new structure to be implemented beginning January 1, 2018. The new structure better matches available energy-efficiency resources, and enables the sector to more flexibly and nimbly adapt to changing markets.

Holly Braun: Will there still be three programs, but the PMC will manage all three programs? Thad Roth: Yes, and the two PDCs will also deliver savings for specific measures. The PDCs will provide subject matter expertise for retail lighting and EPS.

Holly Braun: So one PMC will do everything except for EPS and retail? The PMC will do all measure development, customer service, marketing and outreach?

Thad Roth: Yes. The PMC and PDCs will work in close coordination as will be required in the contract scopes of work.

Don Jones, Jr.: The retail PDC will work with the PMC on measure development and determining savings opportunities and appropriate incentives? Thad Roth: Yes.

Thad described a robust response to the RFP, including four PMC proposals, two PDC retail responses and three PDC EPS responses. Scoring criteria included cost and energy savings; strength of proposal; strength and cohesion of team; collaboration; and diversity, equity and inclusion. The review team included Energy Trust staff, a representative from Northwest Energy Efficiency Alliance and a diversity and equity representative.

The board approved the staff recommendation for a PMC contract with CLEAResult, a PDC Retail Midstream Promotions Contract with Ecova, and a PDC EPS Whole-Home New Construction contract with TRC.

Thad reviewed next steps. Transition contracts will be signed by September 1. Onboarding and transition tasks will occur by November 15. Key relationships will be transferred by December 15, and 2018 and 2019 contracts will be signed by December 22.

Don Jones, Jr.: Can you please summarize the board's thought process on recommendations? Thad Roth: Board members were comfortable with the RFP process and supported the results. Alan Meyer: The concept of simplifying the program makes sense, and the RFP process was well run. We trust staff to make good decisions.

Don Jones, Jr.: With the new contract structure, are there any activities currently performed by Energy Trust staff that can be transferred to a PMC or PDC?

Thad Roth: Managing one PMC contract is expected to take less staff time than managing three PMC contracts. We also anticipate the cost of total program delivery to decline with the new structure and contracts.

3. Quarter Two Highlights

Thad Roth presented highlights from quarter two and early projections for 2017 annual results, with input from Oliver Kesting, commercial sector lead, and Lindsey Diercksen, senior industrial program manager. Official quarter two results will be submitted to the Oregon Public Utility Commission on August 15, 2017.

Thad Roth described overall energy-efficiency results through June 2017 for the organization. Energy Trust exceeded historical savings in Portland General Electric and Pacific Power territories, and expects savings in these territories to exceed year-end goals. In natural gas utility territories, savings are in line with historical savings. Energy Trust expects to meet goals in Cascade Natural Gas and Avista territories, and to achieve roughly 94 percent of goal for NW Natural territory. Staff is coordinating with NW Natural on strategies to close the savings gap. Trends included strong lighting savings across sectors and strong new construction. A large megaproject is expected to contribute industrial savings by year-end.

Lindsey Diercksen noted that more industrial customers installed energy-efficient lighting so far in 2017, which is in part due to the growing cannabis market. Lighting in cannabis facilities is expected to represent about one-quarter of all industrial lighting savings in 2017.

Oliver Kesting shared that the commercial programs are on track to meet year-end goals. New commercial construction has been notably strong, with 100 more projects enrolled in Q2 2017 compared to Q2 2016.

Don MacOdrum: Is lighting primarily responsible for Energy Trust expecting to overachieve on electric savings in 2017?

Thad Roth: At this point in the year, yes, lighting and a strong new construction market are driving savings.

4. Factors Impacting 2018 Measure Development and Budget

Fred Gordon, director of planning and evaluation, and Adam Shick, senior planning project manager, shared updates to Energy Trust's avoided costs, Energy Trust's standard annual measure reviews and impacts of the upcoming expiration of the state Residential Energy Tax Credit (RETC). This analysis informs development of 2018 measures and budget, and information on specific measure impacts is preliminary until the 2018 annual budget is drafted and could change.

Most measures are expected to be cost-effective for 2018, but some measures will be impacted by updated avoided costs, RETC expiration, new codes and standards, expiring cost-effectiveness exceptions from the Oregon Public Utility Commission and changing market conditions.

Avoided costs of energy efficiency represent the value of energy savings to the utility system, and are used to determine cost-effectiveness. Energy Trust held a stakeholder workshop in May to discuss improvements to the method that is used to calculate avoided costs, and Conservation Advisory Council members were notified of the meeting. Energy Trust updated avoided costs in June, and the new avoided costs will be used in 2018 measure and program planning.

Key components of electric avoided costs include energy price forecasts, avoided transmission and distribution capacity deferral value, avoided generation capacity deferral value, a regionally accepted 10 percent conservation credit and a risk reduction value. Electric avoided cost updates were influenced by decreasing forecasts for future electric prices, higher generation capacity deferral values and lower transmission and distribution deferral values. Energy Trust is evaluating its current method used to value peak reduction, which currently undervalues savings from measures where a lot of the savings are coincident with peak and overvalues savings for measures with low peak coincidence.

Following the updates, electric avoided costs decreased for all load profiles and all measure lives. Measures with shorter lives were affected more. Energy Trust will not know the full extent of the impact on Energy Trust's program offerings until after measure and 2018 budget development are complete.

Don MacOdrum: Are electricity costs going down? Fred Gordon: Electricity costs are low now, and will go up, but will not go up as high as we had previously expected.

Tyler Pepple: How do you calculate the value of avoided risk from the market? Adam Shick: The value is provided by the utilities. It represents reduced exposure to price risk of purchasing electricity now rather than later when prices may change. Don Jones, Jr: This value is from Pacific Power's Integrated Resource Plan. Fred Gordon: Many of our avoided cost inputs are from utilities' integrated resource planning processes and are reviewed by stakeholders through that process.

Key components of gas avoided costs include gas price forecasts, supply and distribution capacity costs, Oregon carbon policy adder, risk reduction value and the 10 percent regional conservation credit. Line losses are not applied to gas avoided costs. Updated gas price forecasts have decreased, and NW Natural provided separate avoided cost values for distribution and supply capacity savings.

Julia Harper: Where will gas prices go relative to what they are today? Fred Gordon: Gas prices are forecast to increase, but they are now lower than utilities had previously forecast, and the future prices are also lower than previously forecast for a long time. There is a crossover point where forecast prices are higher than the previous forecast, about 20 year out. This reflects a methodology improvement. We previously took 20 years of utility gas price forecasts, and then held the value constant in real terms for the rest of the life of measures. We discovered that some utilities forecast further out, and we used that data, which turned out to include prices above the values we had previously extrapolated.

Adam Shick: We need a 70-year forecast of prices, because Integrated Resource Planning considers resource purchases in a 20-year period, and some measures have up to a 50-year life.

Fred Gordon: The values beyond 30 years have only a modest influence on the overall price because the discount rate used in establishing value reduces the value more in later years.

JP Batmale: What is the source of the carbon policy adder? Adam Shick: This is an input from the utility. It's consistent with IRPs. Holly Braun: It has to do with future regulatory compliance cost.

Key outcomes for gas updates are that gas avoided costs have decreased for measures with lives less than about 20 years and gas avoided costs have increased for measures with lives greater than about 20 years. Energy Trust will not know the full extent of the impact until after measure and budget development are complete.

For measures that don't pass the Total Resource Cost (TRC) test, Energy Trust has a few options: narrow or re-structure the measure, submit the measure to the OPUC for a cost-effectiveness exception, consider a pilot or stop offering an incentive for the measure. These are program design decisions, made in consultation with Planning and Evaluation staff.

Holly Braun: Does the pilot option have to stand alone? For example, wouldn't you do a pilot to determine if narrowing or restructuring a measure is the best approach? Fred Gordon: If it's a new measure, we don't know because we don't have enough data.

In July, the Oregon legislature discontinued the state Residential Energy Tax Credit (RETC). When there is a tax credit, Energy Trust can deduct that from the cost of the energy-efficiency measure in the Total Resource Cost test. This means that tax credits help some measures achieve cost-effectiveness. The RETC was available for heat pump water heaters, tankless gas water heaters, storage gas water heaters, gas furnaces, direct vent gas fireplace, air-source ducted heat pumps, ductless heat pumps and residential solar systems. Without the RETC, the cost of the energy-efficiency measures used in the benefit/cost test will increase, making it more difficult for some measures to pass the test.

JP Batmale: Will Energy Trust have a better understanding of estimated impacts of RETC by September?

Fred Gordon: Yes. We'll also address this later in the presentation. It will take us longer to analyze larger and more complicated measures.

Other factors influencing cost-effectiveness are codes and standards, including an Oregon residential code update, a change in the rating system for water heater efficiency and a possible commercial code update with uncertain timing. In addition, some measures have OPUC cost-effectiveness exceptions that are set to expire, such as residential gas tank water heaters, multifamily windows and some residential new construction measures.

Holly Braun: It sounds like most measures are getting harder to pass.

Fred Gordon: This is true for electric measures but not always for gas measures.

Holly Braun: But all of these factors are pointing in the same direction of making measures less costeffective, correct? Could you start by analyzing the measures that are impacted by RETC first, then evaluate the measures that are impacted by the other factors?

Fred Gordon: We have to do it all at once to understand the real impact. There are many factors that interact in complex ways.

Holly Braun: Will all of this analysis will done in time for 2018 budgeting?

Fred Gordon: Yes, analysis of most of the important measures will be complete. We are presenting this information to you early in preparation for when the budget and action plans are drafted and presented for your feedback.

Measures that may be at risk of not being cost-effective in the 2018 program year include packaged terminal heat pumps; whole home heat pumps; ductless heat pumps for multifamily, new homes and existing homes; gas tank water heaters; multifamily windows; some new homes incentives and residential furnaces. This is a preliminary list that could, and most likely will, change as analysis completes and programs determine their 2018 action plans.

Allison Spector: Will there be insights from the new standard practices manual with a new set of guidance on valuation of demand-side management, including looking at different ways to look at test inputs? Will this guidance influence Energy Trust?

Fred Gordon: Energy Trust has not thus far received new guidance from the Oregon Public Utility Commission based on the new National Standard Practice Manual written by the National Efficiency Screening Project. The OPUC will host cost-effectiveness workshops in the fall. We think the scope will include the issues of how to value peak that were discussed early in this meeting. Beyond that, there are many potential issues to discuss about cost-effectiveness and I'm not sure which ones will be included in the workshops.

JP Batmale: The OPUC has been talking with the State of Washington. Washington is not sure which of the recommendations it will adopt from this manual. The OPUC plans to look at components of the avoided cost methodology and bring more stakeholder inputs to the process.

Garrett Harris: Was the forecast you showed us earlier in the meeting during the dashboard presentation—specifically the 2018 pipeline forecast—adjusted to account for these avoided cost updates?

Fred Gordon: No, the cost-effectiveness analysis will only impact 2018. It will not impact 2017. Regarding the 2018 pipeline, no, we have not yet made any adjustments to forecasts as a result of updated avoided costs since we do not yet fully understand the impact of the updated avoided costs.

Alan Meyer: At the Renewable Energy Advisory Council this morning, there was discussion about RETC potentially returning in February 2018. Is it possible RETC energy-efficiency incentives could be added in 2018?

Fred Gordon: It's speculation at this point. We have to work with legislation that has become law and be prepared to adapt if policy changes.

Don MacOdrum: Energy Trust should do the analysis based on RETC going away so legislators can see the full impact of discontinuing the tax credits.

Fred Gordon: During the 2017 legislative session, some attempts to extend RETC included solar tax credits only, not efficiency tax credits. Even if something passes in February 2018, the timing of implementation would still be unknown.

Don MacOdrum: I was referencing legislative work sessions that will be held in the fall to address next steps.

Warren: This is not part of the Oregon Department of Energy's plan. We will implement the RETC sunset as the legislature determined.

Lonny Peet, Nexant: With all of these factors influencing measure cost-effectiveness, what are Planning staff doing to assess long-term energy savings forecast and longer term viability of EE programs?

Fred Gordon: It's a challenge to estimate emerging technologies, but we are looking at potential new opportunities. We have included technologies that are not yet certain, with a reduction in overall savings to reflect that not all will succeed. We are considering markets that we haven't previously thought we could reach.

Adam Shick: We also know we need to improve our electric avoided cost methodology, and we intend to work on that. In the future, when we can better evaluate the capacity of measures, we may see more value, at least for the generation capacity deferral component of avoided costs.

For the next steps, Energy Trust will complete measure development and updates in August and September. Staff will share updates with the council at September and October meetings.

Hannah Cruz: Is the level of detail and early, in-progress information from this presentation helpful? Allison Spector: I appreciated it. It's important for our resource planning.

Holly Braun: I agree. It's important to know very early because we plan our promotions so far in advance.

Julia Harper: Thanks for not walking us through the detailed formulas.

Fred Gordon: These avoided costs will be used to work with our supply curves and may influence future integrated resource plans.

Hannah Cruz: Would the council like to have received any additional information to review prior to the meeting?

Holly Braun: Staff at NW Natural are curious about why RETC doesn't have a more straightforward impact on measures. Could you apply the RETC expiration as a first step to get a sense of direction? Fred Gordon: That's what we've tried to provide today. There are other factors, such as moving measures upstream, that make some measures more cost-effective.

Holly Braun: Thanks. Previously I didn't hear that there were any other factors to make measures more cost-effective.

5. Sector Trends Analysis

Sector leads presented trends from 2009 to 2016 based on working savings, which do not have evaluation factors applied. The analysis will inform program budgeting for 2018.

Oliver Kesting presented commercial sector trends. The commercial sector achieved record gas and electric savings in 2016, as well as record project completions. Since 2009, the number of Existing Buildings and Existing Multifamily projects more than doubled. The sector has seen steady growth in Existing Buildings participation and offerings, and strong performance for Existing Multifamily. The New Buildings program is driven by the market and new construction cycles.

JP Batmale: What drove the Existing Buildings increase in 2016, was there a large project? Oliver Kesting: Not necessarily, the volume of projects was the main reason for higher savings.

Oliver presented commercial incentive cost trends. Incentive cost per kilowatt hour increased for Multifamily and Existing Buildings. Incentive cost per therm declined compared to 2012 for all programs. Incentive cost per kWh and therm declined for New Buildings. Existing Buildings incentive cost per therm increased since 2014. Existing Buildings gas incentive costs for Existing Buildings peaked in 2012, which was due to large custom projects.

Conservation Advisory Council Notes

Market trends impacting the commercial sector included increasing codes and standards, which have been influenced by Energy Trust. This means Energy Trust needs to innovate and find more advanced program offerings. Savings opportunities are shifting from large to smaller projects. All programs are serving more small- and medium-sized customers. Since 2009, the average savings per commercial sector project have dropped by about one-half, illustrating the trend toward smaller projects. Lighting continues to drive new participation and savings in all commercial programs, given declining LED costs, a booming economy and a strong Trade Ally Network. Very large projects can influence results, such as projects with data centers.

Stan Price: Are declining savings per project driven by the number of small projects increasing or the number of large projects decreasing?

Oliver Kesting: It's a combination of both.

Stan Price: Are customers doing smaller projects?

Oliver Kesting: There are a lot more customers participating. We're not seeing as many large projects as a percentage of the total. I don't have on-hand the data to compare the total number of large projects in 2009 vs 2016.

Existing Buildings is expanding Strategic Energy Management to smaller customer sites and sites outside of the Portland Metro area. LEDs are driving big savings, but street lighting opportunities are declining. Custom projects continue to be strong. Standard incentives, especially foodservice, continue to grow. The program is focused on diversifying and recruiting trade allies.

New Buildings trends included more standard measures, which is driving down incentive costs. With Market Solutions, the program is installing more measures at smaller sites and getting deeper savings with these participants. There are more than 70 projects enrolled in Path to Net Zero. Custom building designs are becoming more sophisticated and baselines are rising, increasing costs for custom projects.

Existing Multifamily trends include low vacancy rates. This means customers have more consistent cash flow but also more competing priorities. The program is shifting focus to smaller properties. Standard track savings are up. Customers are interested in LEDs. Savings from direct installation of energy-efficient products are declining due to reduced measure savings, but still represent a significant source of savings.

JP Batmale: What's the trend in delivery costs?

Oliver Kesting: Delivery costs are increasing as we do more smaller projects and increase our effort to reach non-metro customers.

Holly Braun: You're representing LED trends as positive, but the cost-effectiveness presentation presented them as potentially declining.

Oliver Kesting: This is a look backward, and we have achieved a lot of savings from LEDs. LEDs may not offer as much energy-efficiency opportunity in the future.

Holly Braun: Is there more information on Existing Multifamily specifically? Oliver Kesting: Yes, it's in the trends report.

Lindsey Diercksen presented trends for the industrial and agricultural sector. Lindsey summarized recent sector highlights, including the launch of a new Continuous SEM offering, new market development with indoor agriculture, strong lighting growth and increasing LED conversions, and growth of participation from small- to medium-sized businesses. As project sizes decline, it takes more projects to achieve the same level of savings as in prior years.

The industrial gas portfolio continued to be influenced by large projects, which are difficult to predict. A lot of standard track gas savings come from greenhouse upgrades.

As the program reaches small- to medium-sized customers, the number of projects has increased while the average project size for electric savings has decreased. This means electric incentives are getting more expensive. Gas continues to be lumpy, with low project volume and large cost-effective projects. The volume of standard projects has increased significantly since 2009.

Savings from indoor cannabis production have increased significantly since the legalization of marijuana in Oregon. Savings from cannabis production facilities in 2017 are expected to contribute more than double the savings in 2016. The program expects the cannabis savings to continue to grow and eventually level out, becoming more predictable. LEDs have been rapidly adopted by industrial customers—from less than 20 percent of lighting savings from LEDs in 2013 to almost 90 percent in 2016. A lot of LED opportunities remain for industrial customers. The program is evaluating the potential for integrating lighting controls into lighting projects.

JP Batmale: Would Energy Trust go back and evaluate completed projects to see if they want to add controls?

Lindsey Diercksen: Yes, but with LEDs the wattage controlled per fixture is less and possibly not cost effective when upgrading to an integrated control system.

Tyler Pepple: What's the difference between an occupancy sensor and a vacancy sensor? Lindsey Diercksen: Both will turn off the lights when a room as been unoccupied for a certain amount of time. An occupancy sensor will turn the lights on automatically when a person enters the area; a vacancy sensor requires a person to manually turn on the light in the space. The type of sensor depends on how the space is used.

The first projects industrial customers engaged in were by far prescriptive projects and lighting upgrades.

JP Batmale: There's a dramatic drop in cost of gas incentives from 2009 to 2016. Why is this? Lindsey Diercksen: This has to do with very large projects with low run-rates.

Thad Roth presented trends for the residential sector. The analysis was based on residential efficiency technologies. Electric savings have increased over time, especially for lighting, HVAC and new construction. Savings declined for appliances resulting from Energy Trust's success in market transformation and removing inefficient refrigerators from the market. NEEA has contributed roughly 20 to 40 percent of residential savings in the last few years.

Electric water heating savings are from showerheads and faucet aerators as well as water heaters. The program had limited success in the heat pump water heater market, and is now promoting midstream incentives to increase heat pump water heater savings. Savings from showerheads are also expected to decline because of market saturation. Gas water heater savings are primarily from showerheads and faucet aerators.

Tyler Pepple: If you assume you'll reach market saturation for LEDs, will LEDs no longer contribute to Energy Trust savings at some point?

Thad Roth: Yes. We claim savings based on Energy Trust's influence on the market.

Residential gas savings have been more variable. Gas savings were bolstered by weatherization and federal American Recovery and Reinvestment Act funds in 2011 and 2012. The primary drivers for gas savings have been market transformation and new construction, which represent roughly 45 percent of residential gas savings. This reflects the robust economy.

Cameron Starr: When you look at air and duct sealing, does that include single-family and manufactured homes?

Marshall Johnson: Through 2012, it includes both single-family and manufactured homes. After 2012, it is single-family homes only.

Electric HVAC savings have increased, especially for ductless heat pumps. Savings from ductless heat pumps seem to have plateaued and are under some cost-effectiveness constraints. Gas HVAC savings, while small, increased significantly in 2016 due to midstream and downstream gas fireplace incentives. There are also new opportunities with smart thermostats and Nest Seasonal Savings.

Don MacOdrum: What is Seasonal Savings?

Marshall Johnson: It's a thermostat optimization algorithm that Nest can deploy to thermostats installed in homes. It makes minor temperature adjustments to help customers save energy. Don MacOdrum: Is that demand response?

Garrett Harris: Demand response is about reducing energy during short windows of time when energy use peaks, such as on hot weather days. This technology does both demand response and energy efficiency.

Savings Within Reach offerings for moderate-income customers have transitioned over time from weatherization to HVAC systems, such as ductless heat pumps and gas furnaces. The number of Savings Within Reach HVAC upgrades grew from a handful in 2009 to 300 in 2015 to more than 800 in 2017.

In 2016, roughly 4,500 homes have been built with EPS. This is due to a strong new construction market, engagement with builders and increases in energy savings per home. New construction gas savings are comprised of both new EPS home construction and market transformation, which reflect Energy Trust's influence on building codes.

Holly Braun: Since the residential building code didn't change for six years, what code have you influenced through market transformation?

Thad Roth: Codes changed in 2008 and 2011. Energy Trust claims savings for homes built after code changes that did not participate in EPS.

6. Public Comment

There were no public comments.

7. Meeting Adjournment

The meeting adjourned at 4:25 p.m. The next scheduled meeting of the Conservation Advisory Council is September 13, 2017. Topics will include potential measure changes, rough drafts of program budget action plans and corrective strategies to reduce PGE large customer expenditures.

Holly Braun: This was lot of information, but it's helpful as we start to think about the budgets. When you present budget concepts, can you reference the trends reports to help us make the connections?

Hannah Cruz: Thank you, we'll consider that suggestion.

PINK PAPER



Renewable Energy Advisory Council Meeting Notes

August 2, 2017

Attending from the council:

JP Batmale, Oregon Public Utility Commission Jason Busch, Pacific Ocean Energy Trust Kendra Hubbard, Oregon Solar Energy Industries Association Michael O'Brien, Renewable Northwest Adam Schultz, Oregon Department of Energy Frank Vignola, University of Oregon Dick Wanderscheid, Bonneville Environmental Foundation Peter Weisburg, The Climate Trust Erik Anderson, Pacific Power

Attending from Energy Trust:

Gwen Barrow Hannah Cruz Sue Fletcher Matt Getchell Fred Gordon Jeni Hall Andy Hua Jed Jorgensen Betsy Kauffman Dave McClelland (phone) Dave Moldal Cameron Starr Jay Ward Rachel Wilson Lily Xu

Others attending:

Jeff Bissonnette, Oregon Solar Energy Industries Association Meghan Craig, Oregon Solar Energy Industries Association Peter Greenberg, Energy Wise Alan Meyer, Energy Trust Board of Directors Julie O'Shea, Farmers Conservation Alliance John Reynolds, Energy Trust Board of Directors Jason Zappe, Portland General Electric

1. Welcome, introductions and updates

Betsy Kauffman convened the meeting at 9:30 a.m. The agenda, notes and presentation materials are available on Energy Trust's website at: <u>https://www.energytrust.org/about/public-meetings/renewable-energy-advisory-council-meetings/</u>.

2. Announcements

Jed Jorgensen announced results of a survey sent out to advisory councils on the budget process. Energy Trust has provided a handout that outlines the budget process and key dates for this year. The Renewable Energy Advisory Council wants to talk about its role in shaping the budget. Formal outreach to the council will begin in September.

Jason Busch announced that the Ocean Wave Energy Trust (OWET) is now the Pacific Ocean Energy Trust (POET). The organization's annual conference is coming up in September, and will include a track on offshore wind.

3. Small and community-scale wind incentives

Energy Trust recommends discontinuing incentives for small and community-scale wind, except under limited circumstances. Jed presented an overview of how the small-scale wind program began in 2005. Program managers thought that community-scale installations of wind turbines could become a market in Oregon. The market hasn't materialized. The only interest is from a coastal county interested in a wind installation for resiliency in case of a Cascadia earthquake. John Reynolds: I find it ironic that in the face of a major earthquake, something tall with weight on top is considered safe.

Jed Jorgensen: I don't know if turbines are stable or whether the resiliency aspect makes sense on the coast. More generally, we look at other benefits beyond power and revenue, and we look at markets to see if there is a desire to explore.

Peter Greenberg: Is there a reason why communities would favor wind over solar? Jed Jorgensen: No. We think solar would be favored.

Michael O'Brien: Are you thinking this municipal project would be the last one? Jed Jorgensen: The intent is to leave the wind incentive open for municipalities.

Betsy Kauffman: This project is an unusual one and an exception. We're not expecting to be flooded with municipalities looking to do wind projects.

Jed continued presenting the history of Energy Trust's small and community-scale wind program. Only five turbines have been installed since 2012. Wind is not operating like a standard program. At minimum, we need to treat wind projects like other custom projects and manage on a custom basis. Other states report similar issues. Our proposal is to save the staff time spent managing calls related to small wind. When people call, we tell them that it won't be a good model for them because a wind installation is more expensive and less reliable than a solar system. We'd like to institutionalize this advice. We'd like to post our experience with wind on the website and continue providing information for customers, but not incentives.

Jason Busch: I have no qualms with the premise of this argument. I do have heartburn about Energy Trust directing customers to one resource over another. Energy Trust is careful not to recommend natural gas over other energy sources. It's better to lay out facts than to give recommendations.

Jed Jorgensen: People install one type of turbine in New York that we think is reliable, but it doesn't make sense to build a program around that. We would tell a customer that if they really want to do this, this is the turbine to install. This is how to maintain it. We ask people if they are really up for what the technology requires and if it will meet their needs.

Jason: I'm not sure what I'm hearing. Are you suggesting a binary option? Are you saying you would either not do it at all or keep it where it is now? Or are you still open to doing a wind project? Jed Jorgensen: The proposal is to not provide incentives. We are flexible in how we handle inquiries and navigate communications. We would direct people who have general interest to explore solar.

Dick Wanderscheid: For the one turbine being installed in Oregon, what's the incentive? Jed Jorgensen: Incentives are usually between \$20,000 and \$50,000. A typical installation costs about \$100,000. We have a hard time even recommending that turbine because the financial math is not there for a customer when compared to solar cost and output.

Alan Meyer: I'm thinking along the same lines as Jason. It's a fine line to walk. We don't want throw dollars away on projects that are not cost-effective. Rather than not covering wind, it would be more desirable to say we're not covering non-cost-effective projects when there are more cost-effective options available. If someone found a way of doing a project that would be cost-competitive with our other projects, I believe we're still obligated to provide funding.

Jed Jorgensen: Our legal team feels that we don't have an obligation under 1149 to provide incentives.

Alan Meyer: We provide information that allows customer to make better decisions. In the end, if a project is cost-competitive, I think we're still obligated. Wind is included in the list of resources we're obligated to provide above-market cost support for.

Frank Vignola: There is some advantage to wind because solar happens during certain times year and wind happens at other times.

Betsy Kauffman: You're correct. But there is a difference between the large projects we see in the Columbia Gorge and a wind project at a home or farm. There are resources that can support those large projects that are not applicable to the small ones. They rely on economies of scale. We understand the desire to give people choices, but we're trying to make responsible use of ratepayer money and be responsible to people who call us for information. This is about the way we allocate staff time and the responsible recommendations we make to customers. When know about another technology that can do the same job for a homeowner with significantly less cost, we feel it's our responsibility to recommend that technology.

Erik Anderson: The lessons Energy Trust has learned could be put into a question and answer resource explaining the comparative economics between small wind and solar. We could keep the door open without suggesting that we have a standard offer for small wind projects. The standard service we would provide would be our knowledge and years of experience. I'd be wary of rolling back that expertise and not sharing information. Having someone on staff who knows about problems a customer could run into seems valuable.

Betsy Kauffman: There is a precedent for us no longer doing certain things. This wouldn't be first time.

Michael O'Brien: Who's building a turbine in September? Are they out of state? Jed Jorgensen: The owner is a sheet metal fabricator who has ability to install it themselves. They have a fleet of small turbines.

John Reynolds: I think we're doing the right thing by saying solar is a readily available alternative, so people don't waste time on other unviable sources.

4. Irrigation modernization program update

Julie O'Shea of the Farmers Conservation Alliance, which operates the irrigation modernization initiative, provided an update on the program's accomplishments and plans.

Alan Meyer: At this point, are irrigation districts covering cost? Or is this a free service to them? Julie O'Shea: To get enough districts onboard, we started by providing services at no cost to them. Now that we have proof of concept, we're working with districts to provide some of that match and other sources to fund or finance. We're working toward creating enough efficiency within a system to reduce the overall cost, such as scaling up to be able to order materials for all districts and get the cost down.

Peter Greenberg: What does 100 percent paid mean?

Julie O'Shea: It means paid up to the delivery of the strategy. Once a plan is drafted, districts may be able to access federal funding. We're getting districts in position to be shovel-ready and have the right permitting in place. When the funding comes, they are able to act on that funding package. We work with districts not eligible to do debt financing.

Adam Schultz: This is an amazing story. Where do we go from here? Do you envision extending Energy Trust's contract with Farmers Conservation Alliance?

Jed Jorgensen: We're working with Farmers Conservation Alliance to put program and delivery mechanisms in place so that we can eventually provide project development assistance just like we would on other projects, with a 50-50 match. We see getting to that point within the next 2 to 3 years.

John Reynolds: With Colorado interested in replicating this model, what role would Energy Trust play with non-Oregon funds to help Colorado achieve results?

Jed Jorgensen: We haven't contemplated this. Colorado is calling the Farmers Conservation Alliance, not Energy Trust.

John Reynolds: To what extent are the tools provided here transferable?

Jed Jorgensen: When we first set up the contract with the Farmers Conservation Alliance, the idea was that delivery models would be open for other states to use. We're not trying to license this as concept.

Julie O'Shea: In California, groundwater is a major issue. That's different from Oregon. A lot of elements can transfer from Oregon to California, but other nuances would need to change. We're harvesting all-stars to show who's been able to come up with solutions. We've spent years working directly with the irrigators to get these projects in the ground. Some have funding to implement but don't have strategies. They need someone to help them map it out.

Jason Busch: Are you familiar with the U.S. Department of Energy's Rapid Power Toolkit for hydropower? They see opportunities there. They're at the point of looking at methodologies and how to move forward. They have funding. You could insert your methodologies.

Michael O'Brien: Energy Trust did a good job in laying out the story and recommendation. What's the next step in terms of resolution? It's an important topic in terms of setting precedent for the future. Jed Jorgensen: Based on today's feedback, we got the sense that we could move forward with the proposal. We can pull back from offering small wind incentives and shift our website content to change the conversation. We will still provide the public with educational resources. That's not a challenge for staff. We'll also keep watching in case something shifts.

Michael O'Brien: Does everyone agree with that?

There were no disagreements.

5. Solar strategy for 2018

Jeni Hall presented information on the Renewable Energy Tax Credit (RETC) expiration that will take place on December 31, 2017. Without this tax credit, above-market costs for residential solar will increase in 2018. Energy Trust requested input from council members regarding their priorities for Energy Trust's support for the solar market after expiration.

Peter Greenberg: Do you know roughly what the current payback is for solar? Kendra Hubbard: Payback is currently 5 years.

Jeni Hall: The scenarios we're comparing show roughly the same capacity installed. The question is about whether we should change our traditional funding allocation of about 60 percent residential and 40 percent commercial.

Peter Greenberg: What is the typical payback is for commercial projects? How many commercial projects are required projects due to the 1.5 percent for solar rules on public facilities?

Dave McClelland: The question on 1.5 percent projects was also brought up by Oregon Solar Energy Industries Association (OSEIA). We will have to look into that. The 80 percent commercial scenario
in the presentation is similar to the average incentive and payback this year. Average projects have about a 10-year payback. In the 80 percent commercial scenario, we were constrained by abovemarket costs. Even if we had unlimited funds to put into commercial projects, the number of projects we could support is constrained because larger projects now have little above-market costs.

Dave McClelland: All of this is modeling is based on typical conditions in the past, and 2018 may not be a typical year. We also haven't gone through our budget process yet and don't know how much budget can be allocated to solar in 2018.

Jeni Hall: Right now, the questions are about what role Energy Trust should have in the market and about the high-level split between commercial and residential support.

Jason Busch: Does Energy Trust have an opinion on which scenario results in the maximum capacity installed or the effect on the price of solar in state?

Dave McClelland: One thing that surprised me in the modeling was that the scenarios are not dramatically different in capacity or generation. We went in with the assumption that pushing commercial would result in more capacity. It's true, but not significantly. Regarding the effect on pricing, after the Business Energy Tax Credit went away, one thing we noticed in the commercial market was an overall reduction in cost, although that was also influenced by global cost-reductions for solar equipment. On the other hand, we've noticed that when the residential market slows down, costs tend to increase, perhaps due to higher overhead per project. There is correlation, but we're not sure what's the driver and what's the result.

Betsy Kauffman: I'm going to ask people to explain their recommendations on the commercial and residential funding split. John, what's your rationale?

John Reynolds: Nationwide, low-income renters spend 9 percent of their income on electricity while others spend 3 percent. If we invested in community solar, maybe we could find a way to reach the rental market, which has been tough to penetrate.

Meghan Craig: I'm also thinking about a non-traditional idea. Rather than incentivizing per system, I'm thinking about a new program to reduce soft costs across the state. The funding could go into designing a new program that would take some of burden off contractors and municipalities. The program could provide support for staff time, technical assistance and website or platform. The funding could go toward many ratepayers and trade allies. It would focus on lead generation, campaign management and marketing benefits for solar. It would ultimately be a statewide solar program that used economies of scale instead of one campaign. Municipalities could apply to an request for proposals or request for qualifications. They would need resources to access Energy Trust funding and bring it into their communities.

Betsy Kauffman: So the idea would be that after RETC expires, we would redesign our program rather than boosting incentives to do one house at a time?

Meghan Craig: Yes, that money could go toward a new program design to allow more trade allies to participate with funding put out by Energy Trust.

Jeni Hall: Energy Trust is working with Solar Oregon right now to do a focused Solarize effort and apply our resources in more structured way. We're gauging customer interest.

Peter Greenberg: One possibility along the same lines is a group-buy program. Energy Trust could facilitate buying a big batch of panels and getting better price. Of course, the federal trade case could change that in a few months.

Kendra Hubbard: In your strategic planning, have you thought of ideas or scenarios that are not based on an installed incentive, but on how Energy Trust could play a part in the future of solar?

Betsy Kauffman: Do you mean moving away from a house-by-house incentive toward other ways of supporting the market?

Dave McClelland: Until recently, we expected that the residential market might have no abovemarket costs next year. Conditions have changed. If we are in a situation where there are no abovemarket costs (and we will be approaching that in the commercial sector) that raises the question of the role of our program, and what is the best value the program can provide. That is another conversation and one that we'd like to engage with the Renewable Energy Advisory Council and receive more feedback.

Adam Schultz: Assuming your numbers are right across each scenario, it doesn't seem like sliding the scale between commercial and residential would impact capacity. Expiring tax credits may not be permanent. I'm thinking about not rocking the boat too much while waiting to see what's coming.

Michael O'Brien: The biggest bang for our buck seems to come when a slight amount of extra weight is added to the commercial side. There have been large transformations in the residential sector, and now there is potential for doing more in the commercial sector.

Erik Anderson: If the goal is to get as much installed as possible, there's more potential on the commercial side. I don't understand the value of incentivizing residential more than commercial projects. There are efficiencies for non-residential. Let's get the most installed with the limited funding we have.

Betsy Kauffman: We have always put a value on providing incentives for a portfolio of technologies. Our goal has been to create wide participation and to support as many types of technologies as are a good use of ratepayer money. Because of that, it's important to us for a residential customer to have the ability to participate. We're also balancing to make sure we have enough money for hydropower, biopower and geothermal project. Erik, someone else in your company had a strong opinion that Energy Trust should not be raising incentives in response to RETC expiration.

Erik Anderson: The solar industry in Utah is robust without incentives. The cost of solar is cheaper there, and much more solar is being installed in Utah than in Oregon. Are we still in market development here? Is it time to be concerned about how incentives are necessary for the market to function? In our service territory, we see that incentives might not be necessary. We can't make up the difference, so we might not need to worry about it and can see how it plays out. There is money available for subsidizing or helping renewables along other paths, like targeted solar deployment to meet other needs that provide better ratepayer benefits. Or we could figure out a way to incent the additional cost of smart inverter installations. We could start laying the groundwork for solar 2.0. We could re-focus funds to solve problems like that, and get out of the residential incentives game. We're not convinced that six-year paybacks are a driving factor when longer paybacks in places like Utah work fine. Why are we meddling with an old model to keep it going when there are new models out there?

Kendra Hubbard: Does Energy Trust take a stance on favoring a few over many? Has thought been given to the amount of reach Energy Trust has?

Betsy Kauffman: Wide participation has always been a value. We value market growth and transformation, so we're trying to build an industry of installers. Certain market impacts require volume. We're trying to create that volume to build the market.

Peter Greenberg: In Utah, has lower cost driven the solar industry? Or is the cost similar? Would we be in same place if we removed the incentive?

Erik Anderson: The focus is on above-market cost driving solar uptake. We have flat, static, robust costs that have been consistent over the past five years. In Utah, the 14-year payback period has higher growth.

Betsy Kauffman: The amount of money we get each year is fixed. There is only so much year-toyear growth that we have the budget to support. Jason Zappe: The cost per watt is not drastically different. Oregon caught up to Utah.

Jeff Bissonette: OSEIA did a state-by-state breakdown and found that Utah had 1,500 megawatts installed at end of 2016, while Oregon had 226 MW installed. Oregon is a more developing industry, and has had a strong incentive environment. No one is saying that has to go on forever, but changing overnight hasn't worked out in most other states that have seen sudden change in incentives. If we want to make a change, let's have a glide path. The legislature worked out a six-year year package that reduced over years. We surveyed our membership about this, and found a strong feeling that residential shouldn't be abandoned for commercial or vice versa. They want a status quo approach for now. Some big things are uncertain. People are thinking about the trade case. In community solar, no one is sure what will happen as rules are implemented. There is a

possibility of going to the legislature in February and trying to get the deal we had back on table.

Jed Jorgensen: We've always run the solar program as way of supporting the market. We set up a budget for residential and commercial. We offer incentives throughout the year and adjust as costs come down. This year, we're managing an increase in demand. We'll continue ratcheting down our incentives so that when we get to the end of the year, incentives will be low. RETC will expire, leaving a big chunk of above-market costs uncovered. We can't make up the RETC. Does that translate to not raising incentives, or to something else? Should we manage our incentives to keep the market operating, therefore raising our incentives at the end of the year? Should we hold it?

Frank Vignola: Look at the budget. With fewer systems, see how much we have to spend. Look at other things to reduce soft costs. One thing consider is purchasing bulk permits. Also keep in mind that storage is coming, and we have to have some money for that.

Jeff Bissonette: The industry recognizes that Energy Trust can't make up for the loss of RETC. No one expects it to. Contractors are thinking about it in terms of the immediate future—the first quarter or first half of next year—and beyond. They are balancing heavy demand from the expiration with what can be reasonably installed by April 1. Our members are saying that it would be helpful to have a little more from Energy Trust in the first quarter or first half of the year to be able to plan, and then see where we are. If there's a trade case, we'll know the outcome after late September. If the trade commission says there was injury to the market and it needs to be remedied, we'll know. To help in planning for the first few months of the year, it makes sense to increase incentives a little bit. There is also interest in seeing how we can make up that gap. Energy Trust could come up a little bit to see if installers come down. Some people think installers can come down, and others aren't sure.

Jason Zappe: We should get back to whatever is most cost-effective. We don't have a preference either way for residential or commercial, but prefer whatever is the best use of funds.

Kendra Hubbard: Over last few years, what has been the average size of commercial project that comes through Energy Trust? Is the approximate number of projects realistic? Jen Halli: The current average is 60 kW. We are capping the commercial incentive at 250 kW for PGE and no larger than 100 kW for Pacific Power.

Kendra Hubbard: How does residential and commercial come into play with Energy Trust's effort around energy and storage?

Jen Hall i: We are listening and learning. We have a limited pilot going on.

Kendra Hubbard: Does storage fit into the projected capacity on the handout? Betsy Kauffman: Yes.

Kendra Hubbard: Will storage change or impact how Energy Trust is allocating funds? From a price perspective, those projects are more expensive.

Betsy Kauffman: I will take that into consideration.

Jeni Hall: There is also the question of how or whether we budget for pilot efforts.

Kendra Hubbard: Speaking for OSEIA, we'd like see half residential and half commercial. Commercial projects are important to getting the most bang for your buck.

Jen Halli: Our second question is about timing and how we engage with the market. Regardless of the residential-commercial split, we have to decide how we go to market with that decision. There is a possible future where Energy Trust waits to see what happens in February. Does it make sense for Energy Trust to not do anything and wait until we have more information? It's the lower risk approach, but it might not align with our strategic goals. The other option is to be proactive and make a decision as soon as the budget allows, and communicate with contractors to give them certainty as soon as possible to provide transparency. There may also be an option somewhere in the middle.

JP Batmale: What is the current baseline for communications?

Jeni Hall: The current baseline is to communicate our incentives as far into the future as we can. We publish this in a report each week, so contractors can use the information to have conversations with customers. They quote prices to customers that include the cost of installing now and the cost of waiting.

JP Batmale: At what point do we establish the tiers and communicate out for next year? Dave McClelland: We typically do this late in the year and plan for a year ahead. After the budget is established, we do preliminary work with the budget to land on numbers, nail down incentive rates and look at above-market costs. We announce these as early in the year as possible. This year, we moved very quickly through tiers, so we had to be flexible in reallocating funds and changing incentives and eligibility.

Jeni Hall: With RETC expiring at the end of this year, contracts need to be in place by December 31. Projects must be installed by April 1. Contractors can get that one last signature needed by June 1. We expect sales to slow down starting this November after contractors have filled their pipelines through April.

Alan Meyer: In the last few years, we've reduced incentives as the years go on. Have we looked at whether there is a correlation between reduction and number of projects? Is the incentive really causing people to install solar? The level of commitment as incentives go down is an indication. Dave McClelland: While modeling, we looked back over the last six years. We plotted demand compared to the number of applications in each period compared to the payback available at the time. As you'd expect, the better the payback, the more people install. It's not a linear relationship, but more of an upward curved relationship as payback gets shorter. What's been different in the commercial market is that it goes flat and then spikes. When it reaches a tipping point, everyone wants to do it. When the payback gets longer, the market slows down. The market can be unpredictable, but people do act rationally to some degree.

Betsy Kauffman: In these three scenarios, the number of projects in the door changes. In the first one, we offer a 14-year payback and get 1,000 projects. At the other end, we offer 36 cents a watt with a 17-year payback and get 500 projects. This is based on data going back years. Dave McClelland: The value of RETC for a typical 6-kW system is \$1.00 per watt. For each watt, you save about 10-11 cents per year; so, the RETC expiration is adding about nine years of payback for residential customers.

Matt Getchell: Because we've had a stable incentive framework and reduce incentives over time, contractors can expect that to start when the year ends even if we don't announce it. For the last two to three years, where we ended is where we started. It's predictable in that way. This year, Energy Trust incentives will end at a lower amount than they have before. Do we need to reset them? Betsy Kauffman: Or do we need to give the market some time?

Kendra Hubbard: The direct incentive is impactful as it lowers the sticker price for the customer.

Peter Greenberg: Shut down the residential program from the end of the year until after the legislative session. If you are a residential customer and don't install before the end of the year, you won't do it in the conditions at the beginning part of next year. Betsy Kauffman: So you're saying we should wait and see.

Jeff Bissonette: I'm tilting toward wait-and-see. Most people think we should hold steady for as long as we can to see what happens. However, if we have the ability to increase incentives even a little, contractors can sell systems in the first quarter to first half of 2018. The last half of 2018 could look much different than the first half. If there is a change and we bump up incentives a little bit to help, we can see how it works.

John Reynolds: I agree. There are two big decisions we're hoping to answer: the trade case and possible RETC renewal. If resolved quickly, it's better to wait and see.

Erik Anderson: If Jeff thinks the plan to go to back to the legislature has legs, it's only a six-week session, so we should know by March. Three months doesn't seem crucial. Maybe we should wait to see what happens rather than reconfiguring the program and over-incenting in April.

Kendra Hubbard: Energy Trust programs can be changed based on what happens with the trade case and RETC. The idea is to be transparent. We should also consider how it affects workload for Energy Trust staff. What's the biggest reward with the least harm?

Frank Vignola: I think Energy Trust should communicate as early as possible. It can change as the situation changes, but you should communicate something either way by the end of the year. Michael O'Brien: I agree that having a message early is essential to provide continuity. Jason Busch: I agree that creating continuity is important. I erred on the side of being nimble to keep continuity for the industry. With that said, I would defer to those working day-to-day with the companies at the heart of this.

Jeff Bissonette: On the legislative front, because it is a six-week session, there is a limited number of bills that can be introduced. The bills that are introduced aren't guaranteed to pass, but we can at least get a strong indication in November or early December about whether we're on the agenda. By January you will have a bill.

Jeni Hall: Has Senator Haas indicated he's willing to back a bill and a working group on this? Jeff Bissonette: There is a working group forming. The idea is that we had a good deal with solar, and there's no reason to change it. With Haas, we're waiting to see the next revenue forecast. If the forecast is positive, it would add more money to the bottom line. If not a good forecast, it would be a harder discussion. The forecast comes out later this month.

Peter Greenberg: If we start by offering bigger incentives, and then the legislature retroactively passes a tax credit, the people who installed at the beginning of 2018 will get more money than people who wait. If the legislature doesn't pass a tax credit, those people will miss out. People don't normally want to install in January anyway with the rain.

Meghan Craig: The workforce is already considering what to do with the change in RETC. Do they hire more people to work on the commercial side? Do they lay people off? The quicker we can give certainty to the industry, the better. A contract signed in January could go into April or May. If we say to wait until April or May, there won't be a pipeline of projects in the spring. We need to communicate that the incentives will change. Waiting to communicate would hurt the workforce. Matt Getchell: We do have the ability to be flexible and look at all scenarios. If there is a possibility of a tax credit passing retroactively, we can include terms in incentive agreements to disallow combining with other incentives. We can cancel incentive reservations and ask people to reapply at a new rate.

Kendra Hubbard: I appreciate this working session. It's a great way to get more participation and get more visibility into things.

Jeff Bissonette: No matter what happens—if we are successful in achieving tax credit legislation or not—Energy Trust still delivers a lot of value to the industry and ratepayers. Complaints on solar are much smaller here, trade allies are held to high standards, and Energy Trust is able to play that role and deliver that value because they deliver incentives. Without incentives, it will be harder to deliver that value to customers. The value is more than the incentives, but when that tool is unavailable because of lack of above-market cost, is there a way that we continue to provide the value Energy Trust brings? One way or another as cost come down, we will need to consider this point.

6. Public comment

Erik Anderson: The Blue Sky Community grant window has opened. We're interested in more creative projects, such as with storage or electric vehicle components. We'll score projects higher that have a research and development opportunity or new thinking. Applications are due to Pacific Power on September 29, 2017.

Peter Greenberg : I recently cleaned my solar system and got a 6.5 percent increase in energy generation. Would you consider a \$50 incentive for homeowners to wash their solar panels? Jeni Hall: That is something to consider. We've seen contractors offer annual servicing agreements.

7. Meeting adjournment

Betsy Kauffman adjourned the meeting at 12:49 p.m. The next scheduled meeting of the Renewable Energy Advisory Council is on Friday, September 15, 2017.

Tab 7



Energy Trust of Oregon Glossary of Key Terms and Program Descriptions

Updated April 2017

Key terms

Allied technical assistance contractors: Allied technical assistance contractors provide technical analysis and studies to help industrial customers identify energy-efficiency upgrades.

Avoided cost: The amount of money that an electric utility would spend for the next increment of electric generation it 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 gets paid for power sold to the utility.

Benefit/cost ratio: Energy Trust ensures investment in cost-effective energy efficiency based on the Total Resource Cost Test benefit/cost ratio and the Utility Cost Test benefit/cost ratio. Together, the tests assess the value of the energy-efficiency investment compared to a utility supplying the same amount of energy, and determine whether energy efficiency is the best energy buy for a utility and for all utility customers.

Total Resource Cost Test: This is the main test that determines whether Energy Trust can offer an incentive for a project. Benefits include the value of energy savings to the ratepayers of the utility system over the expected life of the energy-efficiency resource (otherwise known as the avoided cost of energy), and in some cases benefits also include quantifiable non-energy benefits, such as water savings and operations and maintenance benefits. Costs include the total cost of the energy-efficiency resource, including Energy Trust incentives and the project cost paid by the participating customer.

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. Benefits include the value of energy savings to the ratepayers of the utility system over the expected life of the energy-efficiency resource (otherwise known as the avoided cost of energy). Costs include the cost of the Energy Trust incentive.

Multnomah County Property Fit initiative (formerly Commercial Property Assessed Clean Energy): Started in Q3 2015, the pilot provides 100 percent of funding to commercial property owners that complete comprehensive energy-efficiency and renewable energy projects, with standard incentives from Energy Trust and long-term loans from the Portland Development Commission repaid through energy savings or electricity production.

Cost-effectiveness: The OPUC has a definition that refers to 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.

Demand response: A load management strategy, it is the reduction in electricity consumption by end-use customers from their normal pattern of consumption during times of peak energy use, when wholesale electricity prices are high and/or when system reliability is jeopardized. Customers are often compensated for participating in demand response programs.

Energy Saver Kit: Customers of Portland General Electric, Pacific Power, NW Natural and Cascade Natural Gas can order free Energy Saver Kits from Energy Trust's website, including energy-saving LEDs, showerheads and faucet aerators.

EPS[™]: Builders can receive cash incentives for new homes constructed to EPS energy performance requirements, indicating low energy consumption, utility costs and carbon footprint. The score helps homebuyers assess and compare the energy use and costs of similarly sized homes.

Irrigation modernization: A collaborative effort by Energy Trust and Farmers Conservation Alliance, irrigation modernization connects irrigation districts and farmers with tools to invest in modern irrigation infrastructure, saving water and energy, improving habitats for fish and generating clean energy through small-scale hydropower systems installed in pipes.

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 a measure.

LivingWise kits: LivingWise kits and curriculum are delivered to sixth-grade students in Oregon schools. Energy Trust provides free LivingWise science curriculum to teachers, and offers energy-saving LEDs and showerheads for students to install in homes.

Market solutions: Tailored market solutions incentive packages help businesses make quick decisions and achieve deeper energy savings when constructing small restaurant, grocery, multifamily, office, school or retail buildings less than 70,000 square feet.

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.

Megaproject: Large commercial or industrial projects receiving more than \$500,000 in Energy Trust incentives for energy-efficiency upgrades are considered megaprojects. These projects are reviewed and approved by Energy Trust's Board of Directors.

Midstream incentive: Midstream incentives are provided to distributors and to retailers, with savings passed onto customers. Downstream incentives are provided directly to customers.

Path to Net Zero: The Path to Net Zero offering provides increased design, technical assistance, construction, and measurement and reporting incentives to new commercial construction projects that aim to exceed energy code by 40 percent through a combination of energy-efficiency and renewable energy features.

Pay for Performance: The Pay for Performance offering for commercial customers offers incentives for capital and operations and maintenance improvements over a multiyear period to help achieve additional energy savings for more comprehensive projects.

Program Management Contractor (PMC): Company contracted 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. Contracts are rebid on a regular basis.

Program Delivery Contractor (PDC): Company contracted 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. Contracts are rebid on a regular basis.

Project development assistance: Incentives and support for early-stage development of Other Renewables projects helps build a pipeline of future renewable energy projects.

Retrocommissioning: A systematic process for identifying less-than-optimal performance in commercial equipment, lighting and control systems and improving the energy efficiency of these existing systems.

Savings Within Reach: Owners of single-family or manufactured homes who meet moderate-income qualifications can receive enhanced Savings Within Reach incentives for qualifying projects.

Strategic Energy Management: Energy Trust helps industrial and commercial customers reduce energy use and save money through behavioral and low-cost operations and maintenance improvements.

Verifier: Trade ally verifiers provide technical guidance and inspection to home builders, ensuring that homes rated with EPS save energy through energy-efficient windows, HVAC, appliances and weatherization.

Program descriptions

Existing Buildings. The Existing Buildings program offers energy-efficient improvements for existing commercial buildings of all sizes. Incentives are available for custom projects, including capital upgrades and operations and maintenance improvements; standard upgrades; lighting upgrades; and energy management offerings with tools, training, technical assistance and Strategic Energy Management offerings to help customers reduce energy use through behavioral and operations improvements.

Existing Multifamily. The Existing Multifamily program serves existing multifamily buildings with two or more units, including market-rate housing, affordable housing, homeowners associations, individual unit owners, and assisted living and campus living facilities. The program offers standard incentives for water heaters, HVAC equipment, weatherization, appliances and foodservice equipment; free in-unit installation of LEDs, showerheads

and faucet aerators and distribution of advanced power strips; custom incentives for capital improvements; incentives for lighting upgrades in common areas; and incentives paid to distributors to reduce costs of efficient lighting and equipment for customers.

New Buildings. The New Buildings program supports design and construction of high-performance commercial buildings and major renovations of all sizes and building types. Staff engage with building owners, developers, business owners and design professionals to provide standard prescriptive incentives, market solutions incentive packages and custom incentives. Tailored market solutions incentive packages help businesses make quick decisions and achieve deeper energy savings when constructing small restaurant, grocery, multifamily, office, school or retail buildings less than 70,000 square feet.

Production Efficiency. The Production Efficiency program offers technical assistance and incentives to industrial and agricultural businesses, including incentives for custom projects, standard lighting and equipment upgrades delivered by trade allies, and an industrial Strategic Energy Management offering to help customers achieve persistent energy savings through behavioral and operations and maintenance improvements.

Existing Homes. The Existing Homes program serves single-family homeowners, renters and owners of existing manufactured homes with energy-saving recommendations, referrals to qualified trade ally contractors, cash incentives for heating and water heating equipment, smart thermostats, insulation and windows, and LEDs, showerheads and faucet aerators delivered through kits. Enhanced Savings Within Reach incentives are available for moderate-income residents.

New Homes. The New Homes program works with trade ally builders, subcontractors and verifiers to construct energy-efficient homes that exceed code through construction of EPS-rated homes and prescriptive incentives for individual equipment.

Products. The Products program offers cash incentives for residential ENERGY STAR qualified products, including lighting, clothes washers and showerheads. The program also provides energy-saving kits to food pantries to deliver to their clients, and distributes showerheads through water bureaus and districts. In addition, the program encourages the sale of energy-efficient new manufactured homes.

Solar Electric. The Solar program aims to create a vigorous and sustainable market for solar energy by offering cash incentives that lower above-market costs for small solar projects, educating consumers, creating and enforcing quality standards and ensuring a robust network of qualified trade ally contractors. Staff review incentive levels regularly and gradually reduce them to manage budget and respond to decreases in solar costs. The Solar program supports installation of standard solar systems on residential and commercial properties, and also large custom projects if funding is available.

Other Renewables. The Other Renewables program provides project development assistance and incentives that lower above-market costs for projects that generate renewable energy from hydropower, biopower, wind and geothermal resources. Project development assistance supports early-stage development and helps build a pipeline of future renewable energy installation projects. In 2016, staff focused on projects that provide a wide range of benefits, including biogas projects generating energy from anaerobic digestion of organic waste and hydropower projects at irrigation districts.

Northwest Energy Efficiency Alliance. NEEA is a nonprofit organization working to maximize energy efficiency to meet our future energy needs. Michael Colgrove, Energy Trust executive director, serves as a board member. NEEA is supported by and works in partnership with Bonneville Power Administration, Energy Trust and more than 100 Northwest utilities for the benefit of more than 12 million energy consumers. NEEA uses the market power of the region to accelerate innovation and adoption of energy-efficient products, services and practices. NEEA has delivered market transformation savings under contract to Energy Trust since 2002.