

Board Strategic Planning Workshop Mercy Corps, Portland, Oregon

Thursday, May 19, 2016

Board members present: Susan Brodahl, Ken Canon, Heather Beusse Eberhardt (arriving late), Dan Enloe, Roger Hamilton, Lindsey Hardy, Mark Kendall, Debbie Kitchin, Alan Meyer, John Reynolds, Anne Root, Eddie Sherman, Steve Bloom (arriving late), Warren Cook

Board members absent: Melissa Cribbins

Staff attending: Mike Bailey, Sarah Castor, Scott Clark, Amber Cole, Kim Crossman, Chris Dearth, Sue Fletcher, Fred Gordon, Margie Harris, Betsy Kauffman, Steve Lacey, Ted Light, Dave McClelland, Debbie Menashe, Lori Miller, Spencer Moersfelder, Dave Moldal, Thad Roth, Mariet Steenkamp, Julianne Thacher, John Volkman, Sam Walker, Peter West

Others attending: Jim Abrahamson (Cascade Natural Gas), JP Batmale (OPUC), John Charles (Cascade Policy Institute), Julia Harper (NEEA), Holly Meyer (NW Natural), Kerry Shroy (Avista), Bob Stull (CR), Nick Viele (Facilitator)

Call to Order and Welcome

President Debbie Kitchin called the workshop to order at 8:00 a.m. Debbie thanked Ken Canon, members of the Strategic Planning Committee and staff for organizing and planning for this retreat. Every year, Energy Trust holds a strategic planning retreat to identify emerging challenges and opportunities, and assess the organization's strategic direction. The purpose of the retreat is not to make decisions, but to learn from staff, ask questions and engage in strategic discussion.

Context Setting and Agenda Review

Mark Kendall outlined the schedule and purpose for the retreat. The agenda includes reviewing progress to Energy Trust's five-year Strategic Plan by referencing the new 2015-2019 Strategic Plan Dashboard tool and reflecting on future challenges and opportunities. Energy Trust anticipates challenges ahead especially for the residential sector regarding cost-effectiveness and for the renewable energy sector regarding uncertain policy landscape. The board will also discuss the organization's direction and strategy for demand management, the potential impact of Oregon's Clean Energy Act and a staff proposal for more robust investment in educating consumers about energy efficiency and renewable energy benefits.

Nick Viele, retreat facilitator, summarized the schedule, which will include staff updates and requests for board input on potential changes to the organization's approach.

Opening Remarks

Executive director Margie Harris welcomed the board, staff and workshop attendees. She acknowledged the commitment of the board and the work of board members and staff in researching and preparing for the day.

To begin Energy Trust's 16th board strategic planning retreat, Margie reflected on how Energy Trust began, where the organization is today and potential opportunities for the future. At the first strategic planning retreat 16 years ago, the board reviewed the grant agreement with the OPUC plan and focused on hiring an executive director, hiring staff and gaining customer trust as a new entity in the market. At Margie's first retreat in 2002, the board discussed goals of its first strategic plan and crafted initial policies and programs, including an equity policy.

Looking back to 2005, Energy Trust's third full year of operation, the organization experienced growth in efficiency savings, incentives and demand for services. At that time, Energy Trust acquired record energy savings and exceeded annual expectations. Already, the organization claimed successful market transformation for LED traffic lights. Solar electric systems were installed at 73 homes. The first wind project was dedicated near Wasco. Similar to today, approximately 60 percent of annual electric savings and 40 percent of annual gas savings were delivered in the last quarter of the year.

As of today, Energy Trust is a well-established, well-respected and high-performing organization that delivers clean, affordable energy. 2015 was one of Energy Trust's top years for electric savings, the highest year ever for gas and a record-breaking year for new solar system installations. New construction of single family homes, commercial buildings and multifamily housing contributed to strong annual savings, along with new data centers, distribution centers and restaurants. More than one-third of all homes in Energy Trust territory exceeded the efficiency standards of current building codes.

Also in 2015, 20 percent of savings came from LEDs and Energy Trust completed its largest ever single gas project. Staff engaged irrigation districts to save energy and water, generate hydropower and boost economic investment in rural communities. Roughly 75 percent of all incentive applications were processed online. Costs to save and generate energy were the lowest ever. From 2002 to 2015, Energy Trust saved 548 average megawatts and 45.3 million therms and generated 119 aMW. To date, Energy Trust has invested \$1.3 billion to help customers ultimately save \$5.6 billion on their energy bills. Energy Trust's work prevented 17.4 million tons of carbon dioxide, equal to removing 3 million cars from our roads for a year. The organization exceeded all OPUC minimum performance measures and has gained recognition as a national and international leader.

Looking ahead 10 years to 2025, Energy Trust will be approaching the sunset date of public purpose charge investments. If not for a change in the statute, Energy Trust will wind down programs by that year end. States will be coming into compliance with the U.S. Environmental Protection Agency's Clean Power Plan. Oregon utilities will have 15 years remaining to deliver one-half of their energy from renewables. Energy Trust could be offering affordable energy storage, supporting products that help with demand response and grid management, claiming market transformation for net-zero buildings and/or supporting electric vehicle charging stations. There will be areas of uncertainty and new opportunities.

This year's agenda and packet are different than prior board retreats. In the past, the board focused on big organizational questions such as five-year strategic planning goals and planning for an executive director transition. Today, the agenda focuses on sharing thoughts and plans for the future. Questions, feedback and input are desired from the board.

This being her last board retreat, Margie shared parting thoughts about qualities Energy Trust should preserve and what the organization might do differently in the future. Energy Trust should maintain its culture, identity and focus on collaboration. Staff are committed to the mission and each other, welcome different perspectives, ask questions and speak out. Staff are accountable for and proud of their work, have high expectations and deliver results. They laugh with and enjoy each other. They collaborate and are transparent about results. Culture is key to Energy Trust's success.

What might Energy Trust do differently in years ahead? Change is coming, and with it new opportunities. Demographics are changing in Oregon, and Energy Trust serves increasingly more diverse customers. Energy Trust has developed a diversity vision and action plan. The vision includes diverse employees working together in a supportive culture. Energy Trust seeks to work with more diverse customers and contractors, which will result in more eligible customers participating in programs and benefitting from results. Staff identified three specific diversity initiative focus areas, including organizational development, market and customer insights and business operations.

As Energy Trust honors the past, staff are making room for a new and different executive director who will challenge staff and take the organization in new directions. Board members need to rally around and support the success of the next executive director. Margie expressed her commitment to supporting this executive transition.

Margie concluded by sharing personal reflections on her career. When she graduated from college in 1973, a professor suggested she apply her natural resources degree to the energy field. She soon experienced the large and complex and multiple dimensions of the field, including its global impacts on the economy and the environment. For 40 years, that conversation has manifested in Margie's career. Her accomplishments include helping craft the first energy conservation and solar legislation for the state of Oregon and designing and implementing local, state and regional energy policies and programs. For the last 15 years, Energy Trust has exceeded expectations and left a tangible imprint in every part of the state. Margie expressed pride in Energy Trust's accomplishments and confidence in passing a strong organization along to a new executive director.

The board thanked Margie for her tremendous leadership and contributions over the years, and reflected on Energy Trust's history of being responsive to changes and opportunities. Margie leaves a great legacy. The board noted that public purpose funding is set to expire at the end of 2025, and identified this as a strategic issue. The possibility of alternate funding strategies to support the work of the organization could be pursued should the public purpose charge expire.

Strategic Plan Progress Update

2015-2019 Strategic Plan Implementation Dashboard (Debbie Menashe)

Mark Kendall acknowledged general counsel/director of legal and contracts Debbie Menashe for coordinating the retreat agenda and content. Debbie thanked the strategic planning committee for its guidance creating the Strategic Plan Implementation Dashboard and requested board feedback on the usefulness of the tool. The dashboard provides highlights and progress indicators on achievement to the 2015-2019 Strategic Plan goals and strategies. The board can refer to briefing papers, quarterly reports and annual reports for additional details and information.

Energy Goals (Fred Gordon, Betsy Kauffman)

Betsy Kauffman, renewable energy sector lead, presented on projected renewable energy achievements for the 2015-2019 Strategic Plan period. These conservative projections are based on expected projects in the renewable energy pipeline, mostly consisting of solar, hydropower and biopower projects. It is difficult to identify exact completion dates for large hydropower and biopower projects. Based on current analyses, Energy Trust expects to achieve the 2019 strategic plan goal of 10 aMW in 2017.

Fred Gordon, director of planning and evaluation, presented on expected efficiency achievements for the 2015-2019 Strategic Plan period. Energy Trust exceeded energy efficiency goals in 2015. For 2016, staff expect to achieve budgeted savings goals. Results for 2017, 2018 and 2019 are expected to be positive, and projected results are estimates and not guaranteed. These results do not take into consideration unknown market forces that could potentially influence results, especially for the residential sector. Energy Trust is confident it will meet 2019 strategic plan goals, and results will be influenced by future challenges and opportunities.

The board asked what factors unknown in 2014 enabled Energy Trust to anticipate exceeding the 2019 renewable energy goal in 2017. Betsy cautioned that the estimated date that Energy Trust will meet its renewable energy Strategic Plan goal is uncertain. In 2014, the pipeline of renewable energy projects was not as strong as it is today, which led staff to set a conservative 2015-2019 Strategic Plan goal. In addition, at the time Energy Trust created the Strategic Plan, Energy Trust expected federal Investment

Tax Credits, ITC, to expire at the end of 2016. However, the ITC was unexpectedly extended in late 2015.

The board asked what staff are learning now that they can apply to the next five-year strategic plan, which will be developed in 2018. Betsy explained that Other Renewables projects are large projects with long construction timelines, and therefore it is difficult to predict precise completion dates.

The board asked why Energy Trust expects less generation in 2017 than in 2016 and 2018. Betsy responded that there are no hydropower or biopower projects expected to complete in 2017, so the 2017 pipeline consists entirely of solar generation. Because large Other Renewables projects take a long time to develop and complete, projects that complete in 2017 would already be in Energy Trust's pipeline.

The board asked about the impacts of recent state and federal legislation on renewable energy generation, especially the Oregon Clean Electricity Act, Senate Bill 1547, with its requirement that the Renewable Portfolio Standard, RPS, increase to 50 percent of retail load by 2040.

Betsy responded that Energy Trust's ability to fund large-scale solar projects is limited by budget and above-market costs. RPS is not a driver of the small renewable energy projects supported by Energy Trust. RPS may influence wholesale power rates and general technology costs. However this is unknown and not incorporated into Energy Trust's renewable energy projections. Betsy added that new RPS does not exceed the current RPS requirement of 25 percent until 2025, when it increases to 27 percent. The impacts of the U.S. Environmental Protection Agency's Clean Power Plan are also not incorporated into Energy Trust's projections, as these are unknown given that the Plan is currently on hold. Fred added that the Clean Power Plan largely includes activities in which Energy Trust is already engaged.

The board noted that the nexus of energy and water benefits is an opportunity for Energy Trust, demonstrated by previous projects with biopower projects with wastewater treatment plants and hydropower projects with irrigation districts.

A recent large industrial gas-saving project also provided pollution control benefits. The board asked if new energy-saving opportunities exist to align with clean air efforts, and suggested Energy Trust coordinate with the Department of Environmental Quality to identify opportunities. Kim Crossman, industrial sector lead, responded that Energy Trust is currently working with the Oregon Department of Environmental Quality in addition to working with Program Delivery Contractors to engage with customers concerned about emissions control. Energy Trust staff have been involved with DEQ through a program called Economy, Energy and Environment, or E3. In addition, DEQ will begin distributing information about Energy Trust to help customers control emissions more efficiently. Staff are also researching best practices for energy-efficient emissions controls.

Comparison of the Northwest Power and Conservation Council Seventh Power Plan to Energy Trust Goals (Ted Light)

Ted Light, senior planning project manager, presented on Energy Trust's alignment with the Northwest Power and Conservation Council's Seventh Power Plan. Overall, Energy Trust predicts slightly less energy savings potential than the Seventh Power Plan. Ted acknowledged differences between Energy Trust projections and the Seventh Power Plan, adding none present concerns. Energy Trust and the Council use different assumptions when setting goals. For example, the Council counts savings from many codes and standards while Energy Trust counts savings only from actions for which it can directly claim influence. The Council also counts gross savings, which are uncorrected for free riders and other factors, while Energy Trust reports net savings.

Ted noted that Energy Trust overachieved the goals set for forth in the Council's Sixth Power Plan, and that trend is expected to continue through the Seventh Power Plan.

Ted described significant changes between the Sixth Power Plan and the Seventh Power Plan. The Seventh Power Plan emphasizes demand response and the value of energy efficiency during periods of peak power use. Emerging technologies are also key in the Seventh Power Plan. The Seventh Power Plan identifies energy efficiency as the largest resource needed to meet the Pacific Northwest's energy needs. The Plan also concluded that the region may not have enough energy capacity and therefore needs to develop demand response to meet peak power needs. A debatable conclusion is that the Plan found energy efficiency and demand response to be more economical than renewable energy investments.

Energy Trust estimates slightly less energy savings potential, as a percentage of load, than the Seventh Power Plan, especially for residential and commercial sectors. Energy Trust sees more potential than the Northwest Power and Conservation Council for industrial and agricultural sectors, which is offset by lower potential estimated for commercial and industrial sectors. Oregon may have more industrial businesses than the Pacific Northwest region as a whole.

Energy Trust's resource potential amounts to 17 percent of the Council's region-wide potential, and Energy Trust is on target to achieve these savings.

Ted described Energy Trust's and the Council's estimated pace of savings acquisition over the next 20 years. Energy Trust projects to start at a high pace of savings acquisition in year one, with a steeper decline in savings potential over 20 years.

Ted reviewed emerging technologies featured in the Seventh Power Plan, which include solid state lighting and controls, advanced power strips, embedded (not standalone) data centers, variable refrigerant flow and ductless heat pumps.

Demand response and emerging technologies were identified by the Council as areas of increasing importance. The Plan calls for the region to develop 600 megawatts of demand response resources to meet winter peak resource capacity by 2021. Capacity is the amount of generation the system can generate. Capacity represents a power plant's potential generation, measured in MW, not what the plants actually generate. Capacity is directly relevant to peak demand, which occurs at limited times. Energy is the amount of electricity (produced from capacity) customers actually consume over time, measured in megawatt hours or average megawatts.

The board asked about the difference between Energy Trust's Integrated Resource Plan, IRP, targets and Energy Trust's Strategic Plan. Ted explained that Energy Trust sets goals through two different processes, which include Energy Trust's annual budget process and also working with utilities every two years to develop IRP targets. Some of the differences between these goals and targets are due to timing.

The board asked about the difference between net and gross savings estimates. Ted estimates that net and gross savings should be roughly 10-15 percent different.

The board asked Ted to explain ramp rates. Ted explained that Energy Trust estimates ramp rates, which are rates of savings acquisition, based on what programs are currently doing compared to projections over the next few years to determine available potential. The Council applies ramp rates to individual measures based on market acceptance and adoption. Energy Trust looks at ramp rates at a higher level based on program performance.

Fred added that Energy Trust expects to reach market saturation for certain measures. Staff are trying to understand how discrete events like market saturation for single measures will impact program performance. The impact of current market impacts are not yet clear.

The board asked about Energy Trust's percentage of the region's achievement. Ted responded that Energy Trust accounts for about 20 percent by share of load. Energy Trust's resource potential amounts to 17 percent of the council's region-wide potential.

The board asked why the Seventh Power Plan emphasizes winter peak demand over summer peak demand. Staff responded that the region as a whole has larger peak energy needs in winter, though this varies based on utility territories. The winter peak is longer, with more hours total. Even if the summer peak increases, it still takes place over a shorter time period and is therefore less costly than winter peak.

The board asked if the differences between Energy Trust and Council projections are influenced by Montana and Idaho having acquired less energy efficiency than Oregon or Washington. Ted responded that Oregon's achievement is a key driver and whether it is the main driver is unknown.

The board asked about the relationship between load growth and efficiency required. Fred responded that efficiency helps mitigate load growth.

The board asked if the Council considers population growth, given growth in population from many people moving to Oregon. Ted responded yes.

The board asked about impact of projections for any power plant closures in Energy Trust service territory. Staff responded that Energy Trust relies upon utility load forecasts rather than developing its own load forecasts. Utilities are talking with their large customers to predict future loads, and those predictions are factored into their load forecasts. It is very difficult to predict large industrial plant closures. The board suggested Energy Trust can assume that plants will close in the next 15 years, and noted that the planning Council used ranges to predict and account for this uncertainty.

Staff described utilities also had difficulty forecasting large data centers recently built in Oregon. There are uncertainties that increase load and uncertainties that decrease load, and to some extent they balance each other out.

The board asked about surprising differences between the sixth and seventh power plans, commenting that the rapid emergence of LEDs is notable. Staff responded there are few new technologies in the Seventh Power Plan in which Energy Trust is not already engaged. Variable refrigerant flow is not yet incorporated into Energy Trust's work and will be soon. In creating the Seventh Power Plan, the Council took into account Energy Trust activities. Staff acknowledged they were surprised by the emphasis on demand response and capacity constraints when the seventh plan was released.

The board asked about the relationship between the Seventh Power Plan and IRP processes. How do IRPs inform the plan? Staff responded that load forecasts are part of IRP planning. The Council and utilities share measure assumptions and measure data.

The board asked about SEM and behavioral measures. To what extent does the Plan consider the persistence of behavioral measures? Staff responded it varies by sector and how much ongoing human intervention is needed. Persistence was a concern for the residential sector. A single intervention that continues to save energy over time has longer persistence than a strictly behavioral measure that requires repeated actions.

The board asked about the impact of increased renewable energy investments on energy efficiency. Staff replied that when renewable energy resources are added, utilities must build gas plants to back them up when renewable resources are not available. New gas plants would cause overall electricity

prices to decline and create cost-effectiveness challenges. New Oregon legislation states that priorities are “loaded” in order of energy efficiency, demand response and then renewable energy. The baseline for avoided costs is still being determined.

The board took a break from 10:32 a.m. to 10:46 a.m.

Emerging Energy Efficiency Resources Development (Mike Bailey)

Mike Bailey, engineering manager, presented the 2015-2019 Emerging Efficiency Resources Dashboard, depicting a very complicated process in a simple, linear graphic. The dashboard describes the work of both Energy Trust and NEEA, and shows how Energy Trust work intersects with and supports NEEA's work.

Energy Trust works on testing and implementation, while NEEA works on development and production. Energy Trust only works on products that are commercially available in the market. Energy Trust focuses on pilots and evaluations to determine if a technology can be delivered cost-effectively, which helps the organization include emerging technologies in its pipeline to ensure future energy savings. By 2019, NEEA expects to save 35 aMW as part of its work to support Energy Trust's pipeline. Energy Trust pilots fit into the middle of NEEA's pipeline, in the market assessment, strategy and development, and market development phases.

NEEA's gas market transformation initiatives began in 2015, with savings anticipated in the next NEEA funding cycle. The efforts are largely on track, and it is still too soon to expect results.

The board asked exactly where Energy Trust's work feeds into NEEA's pipeline, and noted that Energy Trust can support new technologies after NEEA's market assessment, strategy and testing and market development stages. A good example is heat pump water heaters, which NEEA took from the scanning to research phases. Energy Trust now provides incentives for heat pump water heaters. However, customers are not installing them as expected, so Energy Trust is again working with NEEA to address this market opportunity.

The board asked if the OPUC requested that 2015-2019 Emerging Efficiency Resource Dashboard be updated every year. Fred explained the OPUC's request for Energy Trust to provide an annual update and report for the OPUC showing Energy Trust pilot activities underway. In addition, this dashboard shows pilots and how they fit into the larger landscape of creating new resources.

The board asked how technical specifications, codes and standards impact Energy Trust's measure life calculations. Can Energy Trust no longer claim savings on a measure once it is required by code? Staff responded that if a technology becomes a code standard and NEEA has a strong case that Energy Trust influenced that standard, Energy Trust can claim some of those savings. Energy Trust works closely with NEEA to ensure new building codes and equipment standards are successfully adopted by the market.

Expanding Participation (Debbie Menashe)

Debbie Menashe presented on expanding participation, one of the strategies outlined to achieve Energy Trust's 2015-2019 Strategic Plan goals. Energy Trust is working to reach more customers to save and generate more energy. The diversity initiative is one part of Energy Trust's expanding participation strategy.

Energy Trust identified market research progress indicators for its expanding participation strategy. Staff compared aggregated market data to Energy Trust's actual customer participation in three project areas to understand penetration with various demographic groups. Based on this information, staff are now compiling a customer insights study and organizing focus groups. Subsequently, staff plan to apply this

analysis to program design. Energy Trust wants to learn why its programs may or may not be resonating with certain groups of people.

The board asked how Energy Trust defines demographic groups. Debbie explained that market research aggregators can analyze groups in many different ways. Energy Trust is looking at race, ethnicity, income, age and education level. Information is available at a block-by-block level of detail.

The board asked if Energy has requested PMC and Program Delivery Contractor input about the most important demographic groups to target. Staff responded that staff are tapping CLEAResult expertise and Margie has also reached out to Lockheed Martin and to trade ally contractors. Energy Trust is also gathering input from utilities and is just at the surface of understanding this research.

The board observed that market research is not always accurate. An important part of engaging new communities is building relationships with organizations that represent and serve those communities. Organizations often miss that step. The board encouraged Energy Trust to take this work a step further by building relationships with these communities and seeking different insights and perspectives. Staff responded that the research is a foundation for that relationship building, and the board encouraged staff to include more diverse participants and perspectives in these early conversations. Margie responded that Energy Trust is beginning with training and education for our staff and further commented that some of her outreach on the diversity initiative has engaged both organizations and individual leaders.

Staff described program design and execution progress indicators. One effort is to translate program materials, particularly for Spanish and Russian communities. A consultant helped Energy Trust plan to invest prudently and effectively. There are other ways to get messages across for different cultural audiences than just word-for-word translation. In addition, staff are using competitive solicitations to engage PMCs, PDCs and creative services agencies who have experience delivering programs to diverse communities.

The board suggested that Energy Trust can apply information about cross-cultural communications and translation to further improve its communications and marketing. Staff noted that this is the kind of innovation that results from the diversity initiative.

The board noted that engaging new participant groups can bring additional customer benefits. For example, energy efficiency support helps community members stay in their homes when housing and rent increase. A board question was asked about how Energy Trust can improve its market research efforts. Debbie M responded initial market research suggests the organization is not reaching all groups equally. Energy Trust will learn more through an upcoming customer insights study and customer focus groups.

The board asked when results of these efforts will be available and what additional information is expected to be shared in the future. Debbie M responded that in one year, staff can share program design and execution strategies specifically tailored based on this market research.

The board took a break from 11:30 a.m. to 1:00 p.m. for a board photo and lunch

Morning Recap

Nick asked board members to share general thoughts on presentations and discussions from this morning. The board noted its interest in the findings about Energy Trust's approaches to engaging diverse participants.

Commissioner Stephen Bloom arrived at 1:00 pm.

Strategic Plan Progress Update, continued

Key Process Improvements (Amber Cole, Mariet Steenkamp, Scott Clark)

Chief financial officer Mariet Steenkamp described Energy Trust's progress on improving key processes. Process improvement is a focus area for the organization because it supports efficient achievement of energy savings and generation. Process improvement opportunities were also identified in 2014 as part of Energy Trust's Management Review.

To identify areas for improvement, staff started by identifying four major administrative processes: energy project tracking; internal procurement and payment; customer information and customer services; and incentive processing. These are significant and repetitive processes for which it makes sense to identify and define improvement metrics. Because Energy Trust has a variety of diverse and semi-repetitive processes, time needed to track against performance metrics may exceed the value of efficiency for these processes.

Scott Clark, director of IT, described Energy Trust's efforts to improve energy project tracking. In 2015, Energy Trust processed 108,000 projects, a 10 percent increase from the prior year. To improve energy project tracking, Energy Trust replaced its former project tracking system with a new and easier-to-use system called Project Tracker. The new system is flexible, allowing improvements to be made in a matter of weeks rather than months. Project Tracker also enables staff to process projects more efficiently and easily. With so many projects, this small and simple change adds up to big savings. To measure this process improvement, Energy Trust assessed one program to set a baseline measurement.

Mariet described the organization's efforts to improve internal procurement and payment processes, such as procurement of goods and services and approval of documents. This includes all steps from purchasing an item to making a payment for that item. Energy Trust needs to implement an automated solution for tracking improvements to this process, and recently published a request for information to solicit solutions from software vendors.

The board asked Mariet to explain automatic procurement. Mariet responded that Energy Trust receives invoices from vendors. A staff person prints that invoice, routes the paper invoice internally for approval, then enters that invoice into an electronic system. Energy Trust wants to make this entire process electronic. This may include functionality to automate routing and processing.

Amber Cole, director of communications and customer service, presented Energy Trust's work to improve processes and systems for customer information and customer services. Amber noted that Energy Trust maintains very high customer service ratings of 90 percent or more. Two years ago, Energy Trust upgraded its Customer Relationship Management, CRM, system and continues to invest in the system by adding capacity to track relationships with stakeholders. Recently, Energy Trust upgraded its interactive voicemail response system to save time for customers and increase customer satisfaction. Since upgrading this system in April, Energy Trust has recorded a 20 percent decrease of time a customer spends trying to find needed information. To further track success, staff worked with the Existing Homes program to establish baseline measurements, which include reducing time for the customer and reducing time and resources for Energy Trust. Finally, Energy Trust completed a website usability study to understand how customers access and navigate its website. Staff learned that one-half of all users access the website through mobile devices such as smart phones and tablets. Staff are currently working to redesign the website, which will launch in the fall to be optimized for mobile users.

Mariet described work to improve processing of incentive payments to participants and trade allies. Work is beginning to evaluate the overall incentive processing system and to result in identifying and prioritizing improvements.

The board asked about how improvement is tracked and measured, and encouraged Energy Trust to pursue low-cost measurement methods. Staff responded that to measure success of the Project Tracker, staff captured information for one program over four months. Energy Trust does not plan to capture all data at all times.

The board noted that the goal is to improve efficiency, not to measure the efficiency improvement. The board reiterated the importance of making processes efficient not just for Energy Trust, but for customers.

The board asked if Energy Trust can quantify savings from these process improvements, such as in dollars or time. Staff responded that quantifiable cost savings are expected for the interactive voicemail response system improvements.

The board asked about another Management Review recommendation to simplify reporting. Staff responded that staff eliminated the stand-alone Q4 report and now delivers Q4 activity data as a shorter appendix to the annual report. In addition, subsequent to the Management Review, staff have worked to streamline the content development process for reporting. Feedback from program staff indicate that reporting is less time-intensive than it was in the past. Staff is looking for additional ways to streamline reports, including featuring less narrative and more graphics. Margie added that updates and quantification of process improvements are also noted in reports.

The board asked if Energy Trust is tracking demographic information from customers and suggested purchasing information on customers from a third-party. Staff responded that this is our approach.

The board expressed confidence staff will prioritize process improvements over measurement of process improvements and requested more information on finance improvements for the board Finance Committee.

The board asked if Energy Trust will survey customers on how they like these new systems. Amber responded that is possible and something staff will consider.

Board members appreciated anecdotal examples of process improvements.

Staff Engagement (Sarah Castor)

Sarah Castor, evaluation senior project manager, described Energy Trust's history of surveying staff to determine engagement since 2005. An engaged employee is one who is fully absorbed by and enthusiastic about their work and takes positive action to further the organization's reputation and interests. Drivers of employee engagement have been identified as an enabling workplace, work-life balance, work alignment, rewards and recognition, leadership and accountability, and future growth.

Each year, staff complete an anonymous survey with 46 statements. Staff rate each statement on a five-point scale from strongly agree to strongly disagree. Agree and strongly agree are considered engaged.

Sarah presented highlights from Energy Trust's 2015 staff survey, completed by 76 percent of staff. Over the last three years, employees were most engaged in areas of leadership and accountability and work-life balance. Employees were least engaged in future growth and rewards and recognition. To compare with other workplaces, Gallup reports that approximately 35 percent of U.S. employees are engaged.

Sarah described trends over time and survey themes. Employees appreciate Energy Trust's mission people and culture, challenging work, integrity and accountability, achievement, and opportunities for

training and development. Energy Trust could be improved by more opportunities for promotion and advancement, more coaching and mentoring and reduced administrative workload.

The board asked how staff would like to broaden the mission. Sarah responded that suggestions included mitigating climate change and greenhouse gas emissions. The board noted that broadening the mission could also create new opportunities for employee growth, learning and advancement.

Since 2015, Energy Trust took several actions to address survey responses. In 2015, Energy Trust engaged a consultant on company-wide career planning and professional development, including exploring concerns about fairness of promotions. Energy Trust has also encouraged staff and managers to discuss professional growth and development, and Energy Trust has invested in more staff training, including on supervision, cultural competency and conflict resolution. In addition, Energy Trust revised position descriptions across the organization and offered a new benefits plan option in 2016

The 2016 staff engagement survey is currently open and results are expected in June.

The board asked if notable events influenced survey responses in the past. Sarah responded that staff responded more positively to a question about receiving meaningful feedback from supervisor following a training for supervisors. Margie added that Energy Trust revamped its employee recognition program based on staff feedback.

The board asked if supervisors could see results for their supervisees. Sarah responded that results were reported in aggregate by programs and operational support functions to maintain confidentiality.

The board discussed why Energy Trust's grant agreement includes only investor owned utilities, investor owned utilities comprise the majority of Oregon's load. The board also acknowledged that Energy Trust added staff and budget dramatically after the passage of Senate Bill 838, and now has reached a plateau. That impacts employee growth opportunities.

Heather Eberhardt arrived at 2:00 pm.

New Opportunities for Collaboration (Debbie Menashe, Mariet Steenkamp)

Debbie M presented on the new opportunities strategy identified in the 2015-2019 Strategic Plan, including irrigation modernization, water savings, wood stove conversions, federal load repayment, carbon reduction, Nest thermostats demand response, and solar energy storage. Energy Trust is on track for all seven new opportunity initiatives highlighted for the board at the prior year's retreat except working on carbon mitigation projects proposed by NW Natural pursuant to Senate Bill 844. Energy Trust will continue to monitor opportunities for engagement with these carbon reduction efforts. The Strategic Plan dashboard organizes new opportunities into three categories: complementary initiatives, response to policy initiatives and load and demand management with utilities.

Mariet described potential work to get Energy Trust ready to pursue new federal funding opportunities. Energy Trust has systems in place to evaluate these opportunities, including ability to track federal funding and comply with federal funding regulations. Recently, Energy Trust staff were approached by external organizations asking if Energy Trust would like to pursue federal grants. It is important to evaluate Energy Trust's infrastructure and processes required to comply with federal funding regulations. The U.S. Office of Management and Budget recently issued uniform administrative guidance for nonprofits to receive federal funding. Staff will evaluate if Energy Trust can meet these requirements and will report back to the board.

The board asked how Energy Trust would pay for work to pursue federal grants given that our dollars are restricted for ratepayers. Mariet explained that this is as an opportunity to assess our systems and

processes more broadly to align with industry best practices, and one of the other outcomes is to identify alignment with uniform administrative requirements.

Debbie M added that Energy Trust received a request from the Clean Energy States Alliance to participate in an effort to support solar energy for low-income households. This would be an opportunity to leverage federal funding to support work Energy Trust is already doing, and to deliver more value for ratepayer dollars.

The board asked if federal funding would include funding for program design and partnerships with other organizations. Debbie replied that this is likely but depends on the specific opportunity.

The board cautioned staff to consider that receiving outside funding puts us at risk of scrutiny from legislators who think Energy Trust may no longer need state-directed funding anymore. Staff noted that the grant agreement does permit Energy Trust to seek outside funding. This is not to pursue funding indiscriminately, but to prepare to take advantage of the right opportunity should it arise. The next step would be to put together a project team within the organization, with board support.

The board asked if staff asked the OPUC for input, and Debbie responded that Energy Trust has not yet requested specific input from the OPUC but will as the effort proceeds further.

The board requested boundaries about how much time and energy this effort would require and a description of potential benefits, and suggested staff put together a few brief sample proposals to evaluate the opportunities. Federal grant opportunities could help Energy Trust increase capacity to serve a new part of the market and staff should limit resources spent on this effort.

The board noted that Energy Trust is already pushing boundaries in several different areas, such as irrigation and industrial emissions mitigation. The benefit of receiving federal funding could be in creating partnerships with other organizations that expand our capacity, such as through matching funds with low-income organizations.

A board member approved of Energy Trust's strategic growth, especially in the area of renewable energy development. Another board member cautioned that seeking new funding sources while Energy Trust has significant funding reserves makes the organization vulnerable to scrutiny.

Debbie M added that Energy Trust has a process to scrutinize potential benefits before pursuing any new opportunities and examination of internal controls and systems will help Energy Trust be ready to evaluate future opportunities.

The board took a break from 2:25 p.m. to 2:40 p.m.

Strategic Issues in Energy Trust Programs

Energy Trust and Demand Response (Ted Light)

Senior project planning manager Ted Light described needs for demand response and how energy efficiency can support demand response efforts. Demand is the rate at which energy is delivered by a system or used by a customer at any given instant. Demand is measured in units of power, like kW or MW, whereas energy is measured in units that include a dimension of time, like kWh or MWh.

Utilities must meet energy demand at all times, including in mornings and evenings and during summer and winter when cooling or heating needs for homes and businesses are greatest. The timing of energy use is becoming increasingly important due to growing loads, constraints on the hydropower system and

increased renewable energy on the system. The hydropower system is constrained by low water years and requirements for fish. There is also increasing disparity for the price of power between peak and nonpeak periods.

For the first time, the Northwest Power Planning and Conservation Council has prioritized demand response in the Seventh Power Plan. Demand response is a variety of strategies to reduce customer energy uses during periods of peak demand or system constraints. Strategies can include increasing prices during peak times of use, offering incentives for customers to turn down or shut off equipment or having utilities directly control equipment through pre-arranged agreements with customers.

Demand response is widely and routinely used across the country. On average, the U.S. has enough demand response in place to meet 6 percent of peak loads. The Pacific Northwest has only enough demand response to meet 2-3 percent of peak load.

Technologies exist that provide both efficiency and demand response benefits. Nest thermostats have built-in energy efficiency functions, such as occupancy detection and improved heat pump operation. In addition, Nest offers services to utilities that support demand response efforts by trimming fractions of a degree from thermostat settings when customers will not notice. Rush Hour Rewards reduces demand by tuning thermostat automatically to reduce demand during peak periods. Portland General Electric offers incentives for customers that install Nest and enroll in the Rush Hour Rewards program.

Heat pump water heaters are another prominent technology offering energy efficiency and demand response benefits. Heat pumps are highly energy efficient, and they also have an easy-to-use vacation setting. A \$50 add-on enables Wi-Fi connection and demand response capability.

Demand response opportunities for commercial and industrial participants include engaging graduates of SEM, who are savvier about energy use than general participants, and installing controls that save energy and facilitate demand response participation.

Ted described synergies from combining energy efficiency and demand response efforts. Energy Trust can promote widespread adoption of equipment that utilities can later use to meet peak energy needs. Given that demand response efforts are new to the Pacific Northwest, Energy Trust could also play a role as an educator.

Ted described Energy Trust's existing efforts in support of demand response. In 2015, Energy Trust adopted load shapes from the Seventh Power Plan, improving Energy Trust's ability to report peak demand reductions caused by energy savings. Energy Trust now quantifies energy savings at a more granular level based on time of day and time of year use. Energy Trust also engaged with PGE on cross-program referrals. Pacific Power shared details about a demand response pilot with irrigators in Southern Oregon. Energy Trust is also working with NW Natural to quantify the value of natural gas saved on peak days or peak hours to eliminate adding new pipe infrastructure. Energy Trust staff are also having discussions with Bonneville Power Administration on how energy efficiency could help mitigate grid congestion issues on a transmission system. Energy Trust's next steps are to look at the Council's valuation of energy efficiency peak capacity benefit and to continue discussions with utilities.

The board emphasized that the Pacific Northwest is the last part of the U.S. to be concerned with demand response. Energy Trust's enabling legislation specifies it acquires cost-effective energy conservation only. The board would like direction from the OPUC supporting Energy Trust's demand response efforts.

The board discussed the concept that demand response is conservation because it reduces the need to build additional power lines and asked if recent interest in demand response is driven by hotter weather

and higher summer peak demand. Also, doesn't an effective demand response system require real-time meters?

Ted responded that the OPUC is primarily concerned with meeting the winter peak demand during critical water years. PGE and Pacific Power are more concerned with summer peaks. In answer to the second question, PGE already deployed smart meters and Pacific Power announced plans to install smart meters over the next few years.

The board commented that the region's need for 600 MW of demand response is huge, half of the capacity of Bonneville Dam.

A board member pointed out in response to the 2015 budget, the OPUC asked Energy Trust to explore and report on demand response efforts.

The board asked about best practices for demand response efforts across the U.S. Staff responded that Energy Trust is currently only looking at demand response efforts that overlap with its energy efficiency mission.

Renewable Energy Sector Strategic Issues and Opportunities (Betsy Kauffman, Dave McClelland)
Betsy summarized the impact of Senate Bill 1547 and the expanded Renewable Portfolio Standard, RPS, on Energy Trust. The bill increased the RPS to 50 percent of retail load by 2040. The majority of RPS requirements will be met by large projects outside of Energy Trust's purview. The bill also includes a mandate to set up community solar programs with low-income participation, as well as requiring 8 percent of aggregate capacity to come from small-scale community solar projects. It is unclear how this will impact Energy Trust or if this requirement has already been met for the state. OPUC rulemaking is still to come.

Betsy provided context for the RPS as a driver of renewable energy projects. The RPS is an effective tool at driving development of large solar and large wind projects and is not directly a driver of the types of project Energy Trust does: small solar, small wind, biopower and hydropower projects. The RPS is not aimed at driving broad participation or building resiliency at the local level.

The board asked about how to calculate "aggregate capacity." Dave McClelland, solar program manager, responded that retail load is around 5,000 to 6,000 aMW, and it is not yet clear what is meant by aggregate capacity. Betsy added that there are various ways to define aggregate capacity. How do you include gas plants that meet load in multiple states? Firm capacity? Nameplate capacity? Operating capacity?

Dave then described Energy Trust's solar program forecasting, which is driven by external policy and market factors. A year ago, Energy Trust anticipated the expiration of the investment tax credit, ITC, at the end of 2016, which would have increased the above-market cost for solar projects starting in 2017. In December 2015, however, the ITC was extended. It is now scheduled to stay at 30 percent through 2019 and then decrease to 26 percent in 2020 and 22 percent in 2021, expiring for residential solar at the end of 2021. The result is that above-market costs are now expected to decrease more quickly than originally anticipated.

Energy Trust's incentives help bridge the customer above-market costs, and it is not yet clear how the ITC extension will impact above-market costs for solar installations. In the last six years, Energy Trust saw an 8 percent annual reduction in average solar installation costs. Above-market costs will depend on the rate at which solar prices decline, whether the Residential Energy Tax Credit, RETC, expires as scheduled at the end of 2017 and potential changes to net metering. If the RETC expires, there will still be above-market costs through 2020. If the energy compensation is reduced to a lower resource value,

there could be as much above-market costs in 2020 as there were 5 years ago. Energy Trust will need to stay adaptable and flexible.

Betsy summarized current OPUC dockets, noting increased focus on renewable energy generation. Energy Trust is closely watching five dockets. Outcomes of these dockets could affect program design and incentive levels.

Dave described the solar programs study UM 1758. House Bill 2941 asked the OPUC to review all current policies that provide incentives for solar projects, including Energy Trust, net metering, RETC, voluntary utility grant programs, Renewable Portfolio Standard and others. The legislature asked the OPUC to make a recommendation to continue, modify or discontinue each of these programs. No public criteria has yet been published by the OPUC, and a report is due to the legislature in September.

Dave described the resource value of the solar docket, UM 1716, which has been going on for about a year. UM 1716 aims to determine the resource value of solar, including elements such as energy and capacity values and avoided emissions. The OPUC sought input from stakeholders and is expected to make a final decision and close the docket by the end of 2016. SB 1547 directly references this decision as the compensation rate for subscribers to community solar projects.

Betsy described a review of Energy Trust's renewable energy programs requested by the OPUC, given recent market changes like the ITC extension and increased RPS. As a result, Energy Trust will re-evaluate the renewable energy strategic plan to explore maximizing a range of values. This project will kick-off in June at the Renewable Energy Advisory Council meeting.

Betsy described an OPUC review of Energy Trust and voluntary funds, which includes determining whether a project can receive Energy Trust incentives and Pacific Power Blue SkySM or PGE Clean Wind funding. A decision is expected in fall 2016. In the interim, Energy Trust will cease providing incentives for solar projects that receive Blue Sky or Clean Wind funding.

Betsy presented on Energy Trust's potential alignment with public interest and investment in community resilience. The costs of solar and storage are falling, and some Oregonians are interested in planning to sustain energy and infrastructure in the event of a natural disaster, such as an earthquake. Energy Trust may be able to help communities achieve resilience through deployment of solar systems and batteries. This effort comes with challenges, such as the need for financing, increased costs of wiring a subpanel for existing buildings and lack of experience and institutional knowledge. On the east coast, projects can sell grid services to the utilities, and this is not an option in Oregon.

Energy Trust staff are engaged in conversations with cities about several project opportunities. This is part of a larger dialogue about how Energy Trust can provide additional value through renewable energy projects. Betsy described the collaboration between Energy Trust and PGE developed at a recent Rocky Mountain Institute workshop.

The board was happy to hear that Energy Trust is thinking about its renewable energy role. SB 838 gave Energy Trust a goal of installing 8 percent of the state's energy from small renewable energy projects. Now that the 8 percent is mandated, what is Energy Trust's role? Betsy replied that even with an 8 percent mandate, small rooftop solar projects would not be feasible without Energy Trust support. The board noted the OPUC needs to raise these questions.

The board stated Energy Trust has a role in funding renewable energy projects, and asked if staff approached the governor to discuss opportunities to support community resilience efforts. Are there broader opportunities for Energy Trust to support this effort? Betsy replied that the governor's office has not been engaged. Conversations have begun with the cities of Portland, Coos Bay and Talent.

The board noted that \$4 per watt for solar still seems high. Dave responded that this average price per watt includes both PGE and Pacific Power markets. The PGE market is more competitive, with costs around \$3.50 per watt. The board noted that large projects can generate more energy for less money than small projects, but these large project do not result in local infrastructure. The most challenging solar projects are the ones between small and large, like at church or school rooftops, where customers cannot purchase a system on their own and there is no financing option. The board expressed skepticism about community solar because the owner will claim the RECs, not the individual investors. Staff noted this is also an issue for Energy Trust customers, because Energy Trust retains some RECs when it provides an incentive.

Dave continued that if there are no above-market costs for solar in a few years, Energy Trust will need to figure out how to transition out of the solar market. Dave noted there are more above-market costs for small commercial projects, and Energy Trust spends roughly twice on commercial projects compared to what it spends on residential projects. If there are no residential above-market costs, Energy Trust may be able to invest more in the commercial sector.

The board asked about solar costs in Energy Trust's market compared to other markets. Are prices higher in Oregon because we have incentives? Equipment costs are declining, but are installation costs declining? Staff responded that Energy Trust's soft cost reduction efforts are intended to quantify and reduce those non-equipment marketing and installation costs.

Staff continued that while larger solar projects are cheaper per kWh, there are benefits to broad participation and building the industry. There are also efficiencies to generating energy exactly where it is used. Large scale solar projects generally do not have above-market costs and do not need Energy Trust incentives.

The board noted the need for a stable market for large solar projects, which are heavily influenced by tax credits and policies. Staff responded that one of Energy Trust's goals is to provide stable, predictable incentives for the market, even if incentives are gradually reduced as costs climb.

The board added that Oregon residents have fixed price net metering, not time-of-day net metering. Customers who install storage could, theoretically, save money by moving to a time-of-day plan, but that Commissioner Bloom stated the OPUC currently has eight active dockets on SB 1547 alone, and staff are very busy evaluating and addressing current legislation. He noted an additional need to ensure natural gas safety during an earthquake, which the state has been working on for a long time.

The board commented that Energy Trust can use data from recent natural disasters to inform these decisions and recommended that staff study what other communities are doing.

Public Comment

Holly Meyer, NW Natural, asked how Energy Trust will coordinate with community action agencies and other entities to reach diverse customers, as Energy Trust does not work directly with low-income customers. Margie replied that Energy Trust currently coordinates with community action agencies to serve residential customers, and nothing prevents the organization from doing more work to benefit low-income customers and communities.

Closing Comments

The board observed potential opportunities for Energy Trust to broaden its approach, and wants to ensure that Energy Trust has support from the OPUC before pursuing these opportunities. The board also thanked staff for the informative briefings and was impressed with Energy Trust's progress toward

its 2015-2019 Strategic Plan goals. Energy Trust goes above and beyond to continuously improve its operations. Energy Trust should always check in on its core mission before continuing to adapt.

The board liked the retreat location and appreciated learning about and discussing a variety of topics, including continuous improvement, stakeholder engagement, demand response and renewable energy and resilience. The board thanked each other for robust discussion and staff members for careful preparation. The board appreciated the Strategic Plan dashboard tool.

The board acknowledged what almost happened in the legislature, noting that it is important Energy Trust continue to concentrate on non-solar Other Renewables opportunities like the irrigation modernization efforts.

The board suggested Energy Trust connect its resiliency and low-income efforts, as low-income populations are often hit hardest by natural disasters.

The board adjourned for the day at 4:30 p.m.

Board Strategic Planning Workshop Mercy Corps, Portland, Oregon

Friday, May 20, 2016

Board members present: Susan Brodahl, Ken Canon, Heather Beusse Eberhardt, Dan Enloe, Roger Hamilton, Lindsey Hardy, Mark Kendall, Debbie Kitchin, Alan Meyer, John Reynolds, Anne Root, Eddie Sherman, Warren Cook, Stephen Bloom

Board members absent: Melissa Cribbins

Staff attending: Mike Bailey, Kathleen Belkhat, Shelly Carlton, Amber Cole, Kim Crossman, Sue Fletcher, Fred Gordon, Margie Harris, Marshall Johnson, Betsy Kauffman, Steve Lacey, Scott Leonard, Debbie Menashe, Lori Miller, Spencer Moersfelder, Pati Presnail, Thad Roth, Mariet Steenkamp, Julianne Thacher, John Volkman, Peter West,

Others attending: Jim Abrahamson (Cascade Natural Gas), Julia Harper (NEEA), Holly Meyer (NW Natural), JP Batmale (OPUC), Bob Stull (CLEAResult), Kerry Shroy (Avista), Sarah Frederickson (CLEAResult), Elaine Prause (OPUC), John Franklin (NW Natural), Jason Eisdorfer (Oregon Public Utility Commission), David Kelleher (Ecova), Don Jones (Pacific Power)

Welcome and Day One Recap

Nick asked board members to share reflections and observations from day one. The board expressed interest in learning more about OPUC dockets regarding recent legislation and receiving clear guidance.

Strategic Issues in Energy Trust Programs, continued

Residential Sector Strategic Issues and Opportunities (Thad Roth, Marshall Johnson)

Thad Roth, residential sector lead, presented on strategic issues and opportunities for the residential sector.

In Energy Trust's 2015-2019 Strategic Plan, several challenges were noted for the residential sector, including measures that are no longer cost-effective, rising products standards, measure saturation and market transformation. These challenges are the result of Energy Trust's success in transforming the

market. Energy Trust's challenge is to redirect efforts on new opportunities while capturing current opportunities.

In recent years, Energy Trust maintained cost-effective residential programs by reducing program costs, streamlining processes and capping weatherization incentives. Staff also created new savings opportunities by expanding measure offerings within the current program structure.

The residential sector is now assessing savings potential, including measures with declining opportunities, measures with sustained or increasing opportunities, or new measures expected to provide savings. Savings from some measures are expected to decline in the next few years, such as lighting. Savings from water heating and heating and cooling equipment may maintain or increase in the next few years.

Staff are also currently assessing residential program structure. Currently the sector includes three programs: Existing Homes, New Homes and Products programs. This structure may not be optimal for promoting specific technologies in the future. Staff aim to assess the extent of restructuring needed and organize programs around technologies, in an effort to decrease costs and reduce duplication of measures across programs.

Energy Trust expects to move toward mid- and upstream engagement and away from customer-facing incentives. This strategy is expected to reduce program costs and improve cost-effectiveness, but it will change the way Energy Trust engages with consumers and residential customers. Energy Trust will still have a role in educating customers through its website to engage with customers, online purchasing tools and point-of-purchase materials in stores.

Changes may impact savings forecasts and program budgets, internal staff roles, PMC contracts and external stakeholders. Staff will complete a savings analysis in June 2016, create an assessment of program structure by September 2016 and develop a transition plan in 2017. Implementation is expected in 2018. These changes are expected to impact savings and budget starting in 2017.

The board asked when customers will see program changes. Staff responded that changes have already begun for some measures, such as for water heating and smart thermostats. Many of these changes are behind the scenes, and impact how we measure benefits and costs and how we allocate them to residential programs. The greatest impact will be on internal staff and PMCs. Energy Trust's program structure is not likely to be visible to customers.

The board asked for early notice of measures that may discontinue. Staff responded that the board will learn more through reviewing the budget for 2017. The board will also learn more as Energy Trust renews or changes PMC contracts. Energy Trust rebids PMC contracts periodically, and the board is involved in that process.

The board asked if staff program changes will impact cost-effectiveness. Staff responded that restructuring programs will allow Energy Trust to continue to support market adoption of efficient gas water heaters at a lower cost.

Homes program manager Marshall Johnson described Energy Trust's OPOWER efforts as an example of evolving residential program delivery to include behavioral savings. Energy Trust issued OPOWER's personal energy reports to customers of PGE, Pacific Power and NW Natural and measured the persistence of behavioral energy-saving efforts over several years. Staff learned that providing these reports does save energy and those savings are not cost-effective.

The board asked if the efforts would have been cost-effective if delivery costs were cheaper. Marshall responded yes, and cost-effectiveness is also impacted by how long the savings last.

Energy Trust later conducted several pilots to test Nest thermostats, discovering Nest can deliver cost-effective savings in homes with heat pumps and gas forced-air furnaces. In November 2015, Energy Trust launched an incentive for customers who install smart thermostats. Because customers perform the installation, the program delivery costs are minimal. In November and December 2015, Energy Trust received 500 incentive applications leveraging PGE promotional efforts.

The board asked how much a Nest thermostat costs. Staff responded that a Nest thermostat costs roughly \$250.

The board asked how many energy savings from Nest thermostats break out by fuel? Marshall estimated 80 percent of savings are gas and 20 percent are electric.

Marshall described a 2016 pilot to test automated behavior controls. Energy Trust will work with Nest to deploy an algorithm to slightly modify temperature and schedules for each season. Set points will be adjusted by 0.7 to 1.3 degrees when Nest thinks customers will not notice. Energy Trust will compare billing analysis to run-time reports from Nest. Key research questions are about the quantity and duration of energy savings and satisfaction of customers.

The board asked if Energy Trust will continue to track and study customers after the pilot, and staff responded that could be possible.

Energy Trust can deploy the pilot annually through Nest. Savings potential could be as much as 10 percent of residential sector gas savings in 2017 and 13 percent of residential gas savings in 2018. Nest provides opportunities to save energy from both heating and cooling costs.

The board asked if Nest will know specifically which customers participate, and staff responded that Nest will provide unique identifiers so Energy Trust can track individual sites.

The board noted that Energy Trust estimated less potential from behavioral measures than in the Seventh Power Plan and there seems to be huge opportunities for behavioral savings from smart controls like Nest thermostats. Marshall responded that the Council is looking at electricity only, and most of the Nest savings is for gas customers. Three-quarters of residential heating systems in Oregon are gas.

The board asked about a demand response device for heat pump water heaters mentioned in Ted's presentation. Marshall responded that this is a potential future technology. Staff cautioned that Energy Trust needs to test new measures before offering them, and the board is interested in pursuing faster pilot approaches to learn more.

The board asked if the algorithm is one-size fits all or if it is tailored to the individual. Staff responded that the algorithm is customized somewhat based on occupancy information and local weather data.

A board member shared a positive experience installing a Nest thermostat and participating in PGE's demand response program and asked about additional strategies to market Nest to diverse communities. Staff responded that Energy Trust could pursue Nest thermostat installations in high-potential savings areas as a direct installation offer. There could also be an opportunity to partner with low-income agencies to support direct install efforts.

The board asked if the baseline in a heat pump heated home is a night setback thermostat, and staff responded that the control group homes did have programmable thermostats. Nest saves more energy than other programmable thermostats.

The board asked if independent rating bodies exist so Energy Trust doesn't have to conduct specific pilots for new technologies. Marshall responded that Energy Trust works with ENERGY STAR and the Consortium for Energy Efficiency to share pilot results. Standard certification for smart thermostats will not be available for more than a year. Marshall noted Energy Trust is interested in a faster, provisional approach to conducting pilots or leveraging efforts from other entities.

The board asked about installation costs. If a customer paid a contractor to install Nest, it would cost more and reduce the cost-effectiveness of the measure. But the savings are the same. Why does Energy Trust care how the customer installs the measure if the energy savings is equal? Staff noted it is important to consider the various sources of residential savings and total participant costs are used in measuring portfolio Total Resource Costs. Weatherization are still real savings, even though they are more expensive. Energy Trust designs programs with a variety of offerings. Cheaper savings sources balance more expensive savings sources. Staff added that lighting and showerheads have a lot of non-energy benefits and help offset higher cost measures. There are also non-energy benefits from smart thermostats.

Energy Trust as Educator *(Amber Cole)*

Communications and customer service director Amber Cole presented a proposal for Energy Trust to engage in more educational work, and requested board interest, thoughts, concerns and suggestions.

Education helps build knowledge, understanding and skills. At Energy Trust, staff focus on educating market allies and eligible customers to fulfill the organization's mission and purpose, such as by teaching industrial and commercial customers Strategic Energy Management. Sometimes education has a direct relationship with participation in energy programs, sometimes the relationship is less direct. Sometimes participation comes immediately, sometimes it takes more time to see results in savings or generation.

Awareness is the first step in participation. Education helps build awareness of opportunities, particularly for customers unfamiliar with energy efficiency and renewable energy. Education is currently part of our work where it can directly and in the short term lead to participation and engagement. Energy Trust efforts are less focused on educating customers when education promotes energy savings or generation indirectly or over a long time period.

Staff see three main customer benefits to expanding Energy Trust's educational efforts beyond what is currently offered. First, education provides customers with a baseline of stable and consistent access to information so that a customer is more interested in participating when they are able. Second, education supports the 2015-2019 Strategic Plan objective of expanding participation. Third, education develops customer readiness in an increasingly complex energy landscape, which may include electric vehicles, demand response and community solar.

Amber presented a few examples of current education work. One example is LivingWise kits and curriculum provided to sixth grade students in schools. The kits include light bulbs, showerheads and faucet aerators for children to take home and install with their families, along with educational activities used in the classroom. In the future, these products may no longer deliver savings or the product mix may change, but this educational vehicle and connection to many schools and families may be important to continue. Other examples are kilowatt energy monitors available in public libraries with educational materials and modest sponsorships for community energy workshops. These have the potential to motivate customers and do not always result in immediate or measurable energy savings.

Amber proposed four ideas for potential expansion to educational work. First is expanding support for community and partner-driven initiatives, such as through community workshops with nonprofits or governments. Another is to resume or expand activities previously offered as a vehicle for acquiring program savings. A third idea is partnerships with educational institutions, such as energy curriculum or student internships. Recently, Oregon Tech asked Energy Trust to provide support for graduate student energy-efficiency capstone projects. Energy Trust has partnered with Blue Mountain and Lane community colleges to deliver building operator certification training, and we may want to work with community colleges to deliver other educational content leading to potential engagement with our programs. A fourth idea is a broad educational campaign to increase customer knowledge of energy efficiency and renewable energy options. Utilities could be an important partner in this area.

Other organizations offer education, such as utilities and ENERGY STAR. Amber noted that Efficiency Vermont has dedicated efforts that lead to education rather than savings, such as an energy literacy program in K-12 schools. They contract with an implementer, the Vermont Energy Education Program, to deliver curriculum in schools. The goal is an educated citizenry able to participate in programs and make wise energy decisions. Efficiency Vermont also has a consumer education section of its website and promotes its call center and online chat tool as a source of unbiased third-party expertise. This goes a step beyond what Energy Trust currently markets and provides.

Energy Trust needs to consider what are the reasonable costs and scope for education activities, including treatment of costs in our budget, evaluation options and parameters, and how to maximize benefits. Energy Trust's grant agreement with the OPUC allows some latitude to engage in education programs, and Energy Trust could explore this further. Amber asked if the board supports further exploration of education efforts.

The board acknowledged value in education efforts, and discussed the importance of ensuring that Energy Trust is true to its charter for both market transformation and achieving local conservation. The board noted that Energy Trust has largely delegated market transformation to NEEA.

The board commented would be great if Energy Trust can get customers to save energy without giving them incentives, but that would be difficult to measure, and measurement is important for accountability.

The board asked about the goal of these potential efforts and requested a specific proposal about benefits, costs and goals. How is education different from general marketing and outreach? Amber responded that the scale and the level of investment is different than our current efforts in general marketing and outreach. Similar to yesterday's discussion about whether Energy Trust should invest time in becoming ready to accept federal grants, Energy Trust is seeking direction from the board on whether or not it should put resources into developing such a proposal.

The board added that Energy Trust currently has room for staff and administrative spending, and that may not always be the case. Increasing administrative costs for education work means the organization may have less flexibility in the future. Delivering core programs is more important than education efforts.

The board noted it is difficult to separate education from marketing. Resiliency, self-sufficiency and climate change have emerged very recently as salient issues. The millennial generation needs to be engaged. The Oregon Climate Change Research Institute in Corvallis has a program that addresses resiliency education. The board urged staff to consider the importance of motivating and leveraging interest in broader climate and resiliency issues.

Amber noted that Energy Trust does market research and adjusts marketing messaging to resonate with customers. For example, during the 2008 recession, Energy Trust marketing focused on cost savings. Marketing is trying to get someone to apply for an incentive. Education is work that may lead customers

to be more receptive to incentive offerings. Education can also help develop a future energy efficiency workforce.

The board indicated that partial scholarships for energy management college programs could directly relate to commercial and industrial savings and would not have to be included as administrative costs.

Kathleen Belkhat, senior project manager, added that Energy Trust currently supports Building Operator Certification and energy management certification through community colleges. These programs are small, with 12 people enrolled in the energy management certificate and a few dozen people enrolled in Building Operator Certification.

The board noted that much of Energy Trust's work is transactional. Pursuing education is about broadening Energy Trust's voice, trust and recognition, and building goodwill that helps customers engage in future energy transactions. The exposure to new markets is very valuable. How does Energy Trust identify the best markets and the most targeted opportunities? Where does marketing end and education begin? Education is how we transform perspectives for longer lasting change.

The board noted that successful organizations evolve and grow. Changing our scope to include education is a bold move and staff should make this decision deliberately. Where does education get Energy Trust in 2025 or in 2040? Is that where Energy Trust wants to be?

The board stated support for education because it builds up Energy Trust as a trusted information resource and prevents consumers from having bad energy-efficiency experiences with scam contractors. Education could be a strategy to reach new communities.

The board expressed that educational efforts should be viewed with a diversity and equity lens, and expressed interest in more people of color joining the board and participating in Energy Trust programs. This is critically important for success. The board encouraged staff to reach out to community-based organizations that know and have deep relationships with their communities. Energy Trust could track engagement over time from customers who participate in education efforts. Energy Trust should see how Vermont Energy tracks and measures the effectiveness of its educational initiatives.

The board requested that educational efforts link back to specific programs and strategic goals.

The board encouraged Energy Trust to target education to children ages 8 through 12 as a marketing strategy. Amber responded that the 6th grade LivingWise curriculum is currently broadly deployed with 200 schools a year, but it will likely be phased out of programs in the future as savings claimed from light bulbs and faucet aerators decrease. The board suggested that if programs can't justify education expenses because it impacts their cost-effectiveness, Energy Trust should consider including education in overhead expenses.

Amber concluded her remarks by thanking the board for their thoughts and direction on this topic. This guidance will be helpful in formulating a proposal as staff moves forward with 2017 budget planning.

The board noted that all utility customers in our territory will need a water heater sometime in the next 10 years, and education seems like a simple way to prepare everyone to make an efficient choice when faced with that decision.

Public Comment

Jason Eisdorfer, program director at the OPUC, expressed the OPUC's interest in hearing more concrete description of changes to the residential sector. Discussions about moving the market further upstream

raises questions, including questions about measurement of savings. Also to be discussed is at what point do Energy Trust activities blur with NEEA activities? Jason emphasized that Energy Trust should maintain relationships with residential customers.

Julia Harper of NEEA, stated that NEEA is supportive of Energy Trust's residential sector moving to a midstream incentive approach. Preliminary conversations are already happening between NEEA and Energy Trust about leveraging platforms in place. Julia added that NEEA's education efforts are targeted to specific contractors, installers and inspectors. NEEA does not do broad consumer education, so there is no conflict with Energy Trust.

Summary of Next Steps

General counsel and policy director John Volkman indicated he will email the list of next steps to board members and ask for corrections or additions by the end of next week. At that point, staff will take the list to the Strategic Planning committee to identify actions. The board agreed reviewing detailed next steps over email is the best approach.

Closing Comments

The board appreciated opportunities to learn from and engage with staff, finding it useful for to discuss the scope, depth and breadth of potential changes to Energy Trust programs. This helps board members understand the organization and prepares board members to give useful feedback during the budgeting process.

The board appreciated the physical setup of the room and the mix of content, including both status and progress updates and opportunities to provide input about strategic issues.

The board thanked Margie, Debbie M and staff for supporting the retreat and Strategic Plan committee.

Margie reflected that this was one of the best retreats for content, physical space, board discussion and engagement. She thanked the board for thoughtful participation on all topics. She also thanked the Strategic Planning committee and staff for preparing for the retreat.

Adjourn

The workshop adjourned at just before 12:00 p.m.

The next regular meeting of the Energy Trust Board of Directors will be held Wednesday, June 8, 2016, at 12:15 p.m. at Energy Trust of Oregon, Inc., 421 SW Oak Street, Suite 300, Portland, Oregon.

/s/Alan Meyer

Alan Meyer, Secretary