Board Meeting Minutes – 110th Meeting

December 16, 2011

Board members present: Rick Applegate (by telephone), Joe Benetti, Ken Canon, Jason Eisdorfer, Dan Enloe, Roger Hamilton, Julie Hammond, Jeff King, Debbie Kitchin, Alan Meyer, John Reynolds, John Savage (OPUC ex officio-by telephone)

Board members absent: Julie Brandis, Bob Repine (ODOE special advisor)

Staff attending: Adam Bartini, Matt Braman, Kacia Brockman, Rachael Brown, Sarah Castor, Pete Catching, Scott Clark, Amber Cole, Kim Crossman, Fred Gordon, Hannah Hacker, Margie Harris, Marshall Johnson, Oliver Kesting, Nancy Klass, Ted Light, Elaine Prause, Pati Presnail, Thad Roth, Steve Lacey, Sue Meyer Sample, Kate Scott, Scott Swearingen, John Volkman, Peter West

Others attending: Jim Abrahamson (Cascade Natural Gas), Jeff Bissonnette (Citizens' Utility Board of Oregon), David Brown (Obsidian Finance Group), Joe Eberhardt (PGE), Jil Eiland (Intel), Todd Gregory (Obsidian), Juliet Johnson (by telephone), Don Jones, Jr. (Pacific Power), Nathalie Osborn, Lauren Shapton (PGE), Murali Varahasamy (Lockheed Martin), Andrew Volkman, Kendall Youngblood (PECI),

Business Meeting

President John Reynolds called the meeting to order at 12:04 p.m. The agenda was revised removing Resolution 615, Green Lane Energy generation construction loan from consideration at this meeting.

General Public Comments

There were none.

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 with minor changes to the minutes to be submitted by Rick Applegate

Moved by: Debbie Kitchin Seconded by: Roger Hamilton

Vote: In favor: 10 Abstained: 0

Opposed: 0

Consent agenda included two items:

1) *November 9 board meeting minutes*
2) *Amend Combined Heat & Power Policy (Resolution 612)*

RESOLUTION 612

AMENDING THE COMBINED HEAT AND POWER POLICY

WHEREAS:

1. **In 2002 and 2005, the board developed a policy for fossil-fuel combined heat and power (CHP) under the commercial and industrial energy efficiency programs.**
2. **The existing policy is functioning well, and requires relatively minor clarifications, including: that the policy applies to fossil-fueled projects, not renewable projects; and that Energy Trust may support fossil-fuel CHP projects in the residential, commercial or industrial sectors.**

It is therefore RESOLVED that the Board of Directors of Energy Trust of Oregon, Inc., hereby amends the Energy Trust CHP policy as shown in the attachment.

Moved by: Debbie Kitchin Seconded by: Roger Hamilton

Vote: In favor: 10 Abstained: 0

Opposed: 0

ATTACHMENT
4.11.000-P Fossil-Fuel Combined Heat and Power Policy

Introduction
Fossil-fueled combined heat and power (CHP) projects may have certain economic and environmental advantages, including potential energy efficiencies, which make them of interest to the Energy Trust.

Energy Trust currently supports only renewable energy CHP projects, small market transformation CHP projects, and the use of waste heat for limited purposes.
The Oregon Public Utility Commission has encouraged the Energy Trust to support CHP projects that reduce customers' on-site energy requirements.

Policy

a. In addition to incentives for other measures~~under current policy~~, Energy Trust should offer incentives for fossil-fuel CHP generation that is more cost-effective than the alternative resource and would be used on-site. Energy Trust will not offer incentives for fossil CHP power~~, not~~ for sale (other than utility buy-sell arrangements).

b. Energy Trust will use budgets and structures of existing ~~building and production efficiency~~ programs, and adjust incentives to reflect any higher level of risk compared to other ~~industrial~~ projects.
c. Energy Trust will evaluate projects using a cost-effectiveness methodology that is comparable to that used for ~~other industrial projects~~the same type of facility or dwelling, but which accounts for unique CHP features.
d. Energy Trust will limit eligibility to facilities that use Pacific Power or PGE electricity.
e. Energy Trust will provide no higher incentives for CHP projects funded through efficiency programs than comparable CHP projects funded through the renewable program.

Nominating Committee

Resolution 608 electing Anne Root to the Energy Trust board

Alan Meyer, chair of the Board Nominating Committee, introduced the resolution. Anne Haworth Root has indicated her desire to join the Energy Trust board of directors and expressed interest in joining in spring of 2012, when business matters are settled. Anne is the co-owner and general manager of EdenVale Winery and Eden Valley Orchards. She brings an agricultural background and southern Oregon perspective to the board.

RESOLUTION 608
ELECTING ANNE ROOT TO THE ENERGY TRUST BOARD OF DIRECTORS

WHEREAS:

1. **Dan Davis has resigned his position on the Energy Trust board. His term expires in February 2013.**
2. **The board nominating committee has reviewed candidates for the open board seat and nominates Anne Root, vintner and business person in Medford, to fill Mr. Davis's remaining term and complete a full successive term.**

It is therefore RESOLVED:

That the Energy Trust of Oregon, Inc., Board of Directors elects Anne Root to the Energy Trust Board of Directors to a term expiring February 2015.

As this resolution is moved by the Board Nominating Committee, no move or second is needed.

Vote: In favor: 10 Abstained: 0

Opposed: 0

President's Report

John Reynolds presented on the fourth annual energy-efficiency scorecard from the American Council for an Energy Efficient Economy (ACEEE), released fall of 2011. ACEEE ranked Oregon as the fourth most energy-efficient state. Massachusetts ranked first, beating California for the first time.

Oregon received 37.5 points out of a possible 50 points; first-place Massachusetts received 45.5 points. Oregon scored higher than Vermont and Wisconsin, comparable states to Oregon in that they have similar public purpose charges and third party delivery of efficiency programs. Even though Oregon placed fourth, the state received its highest score so far. For the Pacific Northwest as a whole, the region is doing well and saved 254 average megawatts (aMW) last year, the highest ever saved in a single year.

In addition to the ACEEE scorecard, a Clean Edge report (co-sponsored by the Portland Development Commission and Business Oregon), ranked Oregon as second in the nation in clean energy leadership, behind California. Oregon received the ranking due in part to its rich culture of early sustainability adopters and leading the nation in Leadership in Energy and Environmental Design, LEED®, certified green building projects per capita.

Margie Harris added that she recently learned that nonprofit Efficiency Vermont is establishing a small transportation group to explore transportation efficiencies, electric vehicles (EV) and battery storage in EVs.

Alan Meyer said the state rankings are even more impressive when you account for the lower electricity costs, which can create less of an incentive to conserve energy.

John Reynolds presented Resolution 611 appointing board members to committees.

RESOLUTION 611
BOARD COMMITTEE APPOINTMENTS

WHEREAS:

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

It is therefore RESOLVED:

1. **This resolution supersedes Resolution 580, adopted by the board at its May 4, 2011, meeting.**
2. **That the Board of Directors hereby appoints the following directors to the following committees for terms that will continue until a subsequent resolution changing committee appointments is adopted:**

Audit Committee	
	Julie Hammond, Chair
	Joe Benetti
	Julie Brandis
	Shirley, Cyr, CEWO
	John Reynolds (ex officio)
Board Nominating Committee	
	Alan Meyer, Chair
	Rick Applegate
	Roger Hamilton
	John Savage, OPUC (ex officio)
	John Reynolds (ex officio)
Compensation Committee *(formerly 401(k) Committee)*	
	Dan Enloe, Chair
	Joe Benetti
	Jeff King
	John Reynolds (ex officio)
Executive Director Review Committee	
	Roger Hamilton, Chair
	Julie Brandis
	Jeff King
	John Reynolds (ex officio)
Finance Committee	
	Dan Enloe, Chair
	Debbie Kitchin
	Anne Root
	John Reynolds (ex officio)
Policy Committee	
	Jason Eisdorfer, Chair
	Rick Applegate
	Roger Hamilton
	Alan Meyer
	John Reynolds (ex officio)
Program Evaluation Committee	
	Debbie Kitchin, Chair
	Ken Canon
	Tom Eckman, NWPCC
	Ken Keating, expert outside reviewer
	Alan Meyer
	Anne Root
	John Reynolds (ex officio)
Strategic Planning Committee	
	Rick Applegate, Chair
	Jason Eisdorfer
	Ken Canon
	Jeff King
	Bob Repine, ODOE
	John Savage, OPUC
	John Reynolds (ex officio)

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

Moved by: Debbie Kitchin Seconded by: Ken Canon

Vote: In favor: 10 Abstained: 0

Opposed: 0

Energy Programs

Authorize a contract with OPower (Resolution 616)

Peter West introduced Kate Scott, Energy Trust Homes Sector project manager and manager of the OPower contract and pilot.

Kate summarized the OPower pilot. The pilot is a behavioral energy savings initiative; planning began in mid-2010 and the pilot launched in 2011. The pilot delivers Personal Energy Reports comparing homeowner's energy usage to similar homes in surrounding neighborhoods. The 60,000 targeted customers are served by both PGE and NW Natural. Each report is cobranded with PGE and NW Natural and includes recommendations for lowering energy use.

Peter said in addition to the test group of 60,000 dual-served customers, there is a control group of 60,000 dual-served customers.

Kate said the goal of the pilot is to test if there are cost-effective savings through behavioral changes. She said deemed savings are estimated at 162 kilowatt hours (kWh) and 7 annual therms of natural gas per household, which would reduce energy by 1.4 percent and 1 percent, respectively. The deemed savings are based on historic savings OPower has achieved with other programs. Other pilot goals include educating customers on energy usage in their homes, raising awareness on Energy Trust programs and collaborating with the utility companies.

Ken: Were the deemed savings taken through the Regional Technical Forum (RTF).
Peter: The deemed savings were analyzed through Energy Trust's evaluations group; they set the savings conservatively, and we expect the realized savings to be substantial. The estimated 2 percent savings results were also drawn from a pilot conducted by Puget Sound Energy.
Debbie: The savings will also go through our annual true-up process.

Kate described the OPower contract. It was originally an 18-month term contract, which includes delivery of seven reports, and savings of 9,720,000 kWh and 420,000 therms to be claimed in 2011. All work under the original contract will be completed by February 2012. Today, the resolution is to extend the contract for another twelve months at $748,000, which will include delivery of six additional reports. The extension is being requested to learn more about this approach and to include a full heating season. The extension contract is anticipated to bring in an additional 9,720,000 kWh and 420,000 therms.

Ken: What are the savings forecasts after two years? How long do the savings continue?
Kate: Part of 2012 and 2013 would monitor persistence, to analyze if one or two years of reports are sufficient or if participants would benefit by receiving the reports for a longer time period. Puget Sound Energy is looking into persistence right now and we will watch for their analysis.

Roger: Are we evaluating what part of the report is driving behavioral change?
Kate: Yes, through the process evaluations reports we are doing with Opinion Dynamics Corporation (ODC). ODC just completed the six-month survey, where people self report on their activities.
Roger: How do you determine the savings?
Kate: We use billing analyses, and we compare the test group savings to what the control group is experiencing.

Kate described the timeline of the original contract and the proposed extended contract, including the planning phases, implementation, and analysis and evaluation.

Dan: The data are compelling but on a per-household basis the pilot is expensive. How are we going to address long-term costs, especially if there are other strategies to pursue? What is the long-term plan?
Kate: Staff looked at a few different scenarios analyzing cost effectiveness. The pilot does pass the cost-effectiveness test. Also, if the proposed extended contract is approved, the cost will decrease over the next 12 months.

John Savage: There are two potentials for this pilot that don't show up in the benefit-cost analysis that other programs nationwide are finding: there is a higher uptake of other efficiency programs, plus the initiative provides more real-time information.
Peter: Staff will analyze whether this is driving greater uptake in other parts of the Existing Homes program. This method allows us to engage customers in a new way, to get energy higher in the minds of residential customers. The pilot phase of an offering is always the most expensive step. Doing this for another year will allow us to determine if the savings will continue longer, and we will get the savings at a lower cost in the second year. We also need more time to determine uptick in activity in other parts of the programs.

Alan: I support the extension but am concerned about the cost. How can you be statistically confident you are getting 1 percent savings? When you start to extend this out past the first 60,000 customers, it will also be more difficult to find dual-served customers. Logistics will get complicated.
Peter: Aside from the 60,000 getting reports there is an additional 60,000 in a control group that are not getting the reports. The differences between the groups are how savings are being measured. Pacific Power has mentioned they are interested in doing something similar with some of their customers. There is a potential there, but with this pilot, we wanted to test how to communicate to customers that they can look across their choices, and see savings opportunities for both electric and natural gas.

John R: Are there concerns with the co-branding?
Peter: Yes, these are two competing utilities. But from the beginning, both utilities approached the initiative with open minds. Through the process, we found issues that needed to be respectfully negotiated. It's to their credit that both PGE and NW Natural saw past their marketplace positions to collaborate on this pilot. 2013 is still an unknown.

Debbie: There were comments on the budget from NW Natural on this pilot; have they changed their position that they wanted us to hold off on continuing the pilot until further evaluation?
Peter: What we originally proposed was expanding the pilot beyond the 60,000 initial pilot customers. That was where NW Natural was concerned and in the end we agreed with them.

Roger: Is each utility's attitude on the matter due to one being decoupled and the other not?
Peter: That didn't come up in discussions.
Margie: PGE is currently decoupled.

RESOLUTION 616

AUTHORIZING THE EXECUTIVE DIRECTOR TO SIGN A CONTRACT WITH OPOWER

WHEREAS:

1. **OPower provides Personal Energy Reports to consumers comparing their home's energy consumption to that of similar homes.**
2. **Experience to date suggests that the activity is saving energy at about the rate initially projected: 1.4 percent reduction in electric energy use, 1 percent reduction in gas.**
3. **At this savings rate, the project would be cost-effective, and would make a significant contribution to achieving Energy Trust's energy savings goals.**

It is therefore RESOLVED that the Board of Directors of Energy Trust of Oregon, Inc., hereby authorizes the executive director to sign a twelve-month contract up to $748,000 with OPower to continue to determine savings from providing 60,000 homeowners with reports comparing their home energy use to other homes.

Moved by: Roger Hamilton Seconded by: Dan Enloe

Vote: In favor: 10 Abstained: 0

Opposed: 0

Waive incentive cap and approve incentives for Intel D1X efficiency project (Resolution 614)
Dan Enloe excused himself from the ensuing discussion, citing a conflict of interest as he is an employee of Intel.

Dan Enloe left the meeting at 12:39 p.m.

Peter West introduced Kim Crossman, Energy Trust Industrial and Agricultural sector lead. Kim introduced Jil Eiland, Intel northwest regional corporate affairs manager. Kim said Energy Trust staff has primarily been working with Marty Sedler on this project; however, he is out of the state and Jil agreed to attend.

Kim described the project, as a mega-project because of its scale. Staff has been engaged with Intel since November 2010, on its new D1X Research Fabrication Facility in Hillsboro. Although Intel has had a strong commitment to energy efficiency, the company was looking into value engineering and ways to reduce unnecessary construction expenses. Intel approached Energy Trust to find ways to achieve energy efficiencies and learn about other potential measures.

Kim said the resolution seeks authorization from the board to waive program incentive caps for projects with incentives greater than $500,000, and allow the executive director to negotiate and execute an incentive agreement. The site will suspend self-direction for a minimum of three years. The incentive is available in the budget, and the project is expected to save energy at a lower cost per kWh than is usual for the Production Efficiency program.

Kim said the D1X project is one of the largest construction projects in Oregon history, is providing thousands of construction jobs, and will add hundreds of new employees upon completion.

Kim described the process for the project. It went through the Production Efficiency custom track process. It is in the third round of engineering review. The study was performed by a national expert in high-tech manufacturing, Integral Group, as the Allied Technical Assistance Contractor (ATAC). Integral Group developed the baseline and analyzed potential measures. The project will take about three years to complete and the incentives will be paid annually as measures are verified. If the project changes in a way that would reduce savings, the final incentive will be reduced correspondingly. In addition, there will be a third-party evaluation of the savings.

Kim told the board that staff is under a strict non-disclosure agreement on the project and few specifics can be disclosed publicly. Many of the recommended measures are on secondary systems, such as chilled water, compressed air and vacuum pumps. Staff projects conservative savings of at least 30 million kWh. Incentives would be up to $4 million.

Kim described the resolution requirements:

- The site will not self-direct for at least three years.
- Incentives budgeted at $2 million per year for 2012 and 2013. If the project experiences construction delays, incentive payments could extend into 2014. The savings are in PGE territory, where the Production Efficiency program seeks to grow savings by 25 percent each year to meet IRP goals.
- Incentives for the project are budgeted at $0.13/kWh for first year, less than $0.008/kWh levelized cost. This is 25 percent lower than the Production Efficiency program average of $0.17/kWh first year, $0.01/kWh levelized cost.

Kim said the first step is for board approval and then staff will negotiate a contract with Intel.

Debbie: Welcome Jil. We are privileged to have you here today; Jil is a great representative for Intel, including hosting President Obama. Jil, what is the impact of this facility on Oregon in terms of jobs and how much are you spending to develop the facility?

Jil: We are proud of Oregon being the site of Intel's next development fab, where Intel's global research and development will be focused. I apologize for the lack of specificity around the construction, we don't want to overpromise or under-deliver. Last year, we announced the Invest in America program with a goal to invest $7 billion in the U.S. Three-quarters of Intel's manufacturing is in the U.S., but three-quarters of revenue comes from outside the U.S. Since coming to Oregon, Intel has invested $2 billion, providing thousands of jobs. Between the Hillsboro fab and an Arizona fab, there are between 6,000 and 8,000 construction jobs.

Jeff: How is a baseline established when a project has yet to be constructed and the design is not quite finalized?
Kim: Establishing of the baseline is about two-thirds of the study effort for this project. This is why we went out to Rumsey and Associates (now called Integral Group), who are doing the design for cutting-edge fabs across the country, and did research for the California Energy Commission to create a baseline for California chip fabs. For this project, program and evaluation staff is working with Intel. It also helps that we are evaluating their secondary systems, compressed air systems, chilled water and cooling, rather than trying to address primary process equipment. These secondary systems are common in industry, and are in our area of expertise. The baseline is still being tuned, and where needed, staff will make conservative assumptions. In a new construction environment, project analysis looks at what would have been built otherwise and what the project owners built before. Our New Buildings program faces these challenges, too.

Jeff: What are the life-time assumptions for levelized cost?
Kim: For Production Efficiency custom-track measures, we use a 15-year measure life. This recently changed from 10 years after an evaluation showed longer persistence than we estimated.
Jeff: Are the 15 years a program-wide average?
Kim: The equipment itself lasts for 20 years or more. Lighting has a shorter measure life, but there's not as much lighting in this project. Staff feels 15 years is conservative.

Jason Eisdorfer joined the meeting: 12:55 pm

Alan: I'm comfortable with the size of the project and working with Intel. But there is only a three-year commitment for Intel not to self-direct on this facility.
Fred: The three years is an Energy Trust policy requirement established by the board. The board can review that requirement, but preferably on a forward-looking basis for potential application to later projects.

Peter: We do apply existing policy requirements to projects, so new requirements are forward-looking. For this project we are following the standard approach of the policy. If we need to change it, we would need the Board to revisit the policy before the next project.
Kim: We don't know that after three years Intel will choose to self-direct. They are doing more energy efficiency now that they are working with us. The Production Efficiency program is seeing a trend of large industrial customers electing to stop self-directing.

Ken: How large is the load when the fab is built?
Kim: I don't have that at hand, but it's in the study.

Ken: Are you confident the site boundaries are well defined?
Kim: Yes.

Fred said staff is following the self-direct policy. When the policy was set, the Board concluded a three-year suspension of self-direction would strike an appropriate balance between ensuring that incentives go to those who help fund the Energy Trust, and taking advantage of savings that benefit ratepayers as a whole.

Jason: We amended the resolution to cap the incentives and cost savings.
Kim: I was concerned that setting a hard number for the final amount of savings in the resolution could hurt us, since we don't know what measures they will implement in the end, especially as we have not yet contracted with Intel. Instead, we propose a "not to exceed" incentive total and a limit on incentive cost/kWh.
Jason: I'm okay with that.

RESOLUTION 614
WAIVING PROGRAM INCENTIVE CAP AND APPROVING INCENTIVES FOR THE INTEL D1X EFFICIENCY PROJECT

WHEREAS:

1. **The Energy Trust Production Efficiency program has worked with Intel to identify comprehensive energy saving measures for a new facility in which to develop advanced technologies. It is expected to be the largest construction project in the Portland metro area.**

2. **Energy efficiency aspects of the project were reviewed through standard Energy Trust processes for complex custom-track industrial projects, including a technical energy analysis study commissioned by Energy Trust and carried out by a nationally-recognized expert in high tech manufacturing efficiency.**

3. **The project's energy savings will cost less than the average custom project. The incentive for the project is budgeted at $.13/ first-year kWh, a levelized cost of < $.008/ kWh; while custom capital projects average $.17/ first-year kWh, or ~ 1 cent levelized.**

4. **Energy Trust funding would be contingent on Intel's agreement to suspend self-direction at this site for at least three years.**

5. **Funds for this project are in the 2012 and 2013 budgets, and the project is not expected to displace other custom projects in PGE territory.**

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

1. **Waives the Production Efficiency Program's incentive cap for purposes of this project; and**

2. **Authorizes the executive director to negotiate and sign an incentive agreement with Intel to fund up to $4 million in incentives over multiple years at a rate of not more than 13 cents per first-year kWh in savings.**

Moved by: Debbie Kitchin, as amended Seconded by: Jason Eisdorfer

Vote: In favor: 10 Abstained: 0

Opposed: 0

Dan Enloe rejoined the meeting at 1:07 p.m.

Funding for Christmas Valley solar PV project (Resolution 613)

Peter introduced Kacia Brockman, Energy Trust renewable energy senior program manager. Kacia said the Christmas Valley solar electric project was brought to Energy Trust by PGE. Kacia introduced Joe Eberhardt, PGE senior originator and analyst, and David Brown of Obsidian Finance Group, the project developer.

Kacia described the location of Christmas Valley, one of the sunniest areas in Oregon. Staff is here to request an incentive of up to $5 million for the 5 megawatt project.

Kacia said PGE sought out a resource and is negotiating a power purchase price to bring it into its network. In this case, PGE is looking at this project to help meet its solar capacity requirement, which must be met by 2020. This project will bring PGE into compliance for the mandate seven years ahead of schedule. Energy Trust participation helps move the project forward now instead of later.

Kacia said the incentives for the project will come from the 2012 solar budget. This is the best use of the program funds for PGE as there are no other projects on the near horizon competing for the dollars. Because the project is located in Christmas Valley, the project produces more solar electric capacity than Energy Trust would typically get from a solar system in PGE territory.

Kacia described project details. The developer is Obsidian Finance Group, which owns the land, has permits in hand, and is negotiating with a system operator to own and operate the project in the long-term. The project will have a 25 year power purchase agreement with PGE. It is located in Midstate Electric Co-op territory and the power will be wheeled to PGE through a Bonneville Power Administration transmission line. Due to the additional sun in Christmas Valley compared to PGE territory, revenues from power sales will offset the cost of wheeling

by two to one. The project also has a Business Energy Tax Credit precertification, which is now rare; this is a great financial benefit and boosts staff confidence that the project will complete in 2012, which is the Business Energy Tax Credit completion deadline.

Kacia said staff is bringing the project to the board earlier than usual, and therefore some project specifics, such as system size are still unknown. Kacia asked for flexibility from the board on a few items, including final modules, inverters, system size, and whether or not trackers are used.

Kacia said the modules and inverters installed will affect the capacity of the system. Kacia said Energy Trust looks at $watts_{DC}$ (nameplate capacity) while PGE looks at $watts_{AC}$ (operating capacity). There's an inherent loss in converting between the two. A single $watt_{DC}$ equals roughly 0.8 $watts_{AC}$; a single $watt_{AC}$ system is roughly 1.25 $watts_{DC}$. The project will be no more than 5 $megawatts_{AC}$. We are not sure yet what this will be in $watts_{DC}$. Obsidian said the 5.8 $megawatts_{DC}$ referenced in the resolution may change.

Roger: There's also capacity factor and systems generally peak in the wintertime.
Kacia: Systems here have about 15 percent capacity factor; and in Christmas Valley its 20 percent capacity factor.
Joe Eberhardt, PGE: Solar has a lower capacity factor compared to wind technology, which may be what you are referring to.

Roger: This is an interesting project, and shows the declining cost curve of solar PV.

Kacia pointed out proposed changes to the resolution language removing the 5.88 MW_{DC} and instead referring to 5 MW_{AC} and authorizing staff to negotiate an incentive up to $5 million.

Alan: I would feel more comfortable if the language were revised to relate the incentive and the project size.
Peter: We could add "at a dollar per $watt_{AC}$."

Kacia: The incentive will be paid when the project is commissioned. The project will be the largest single-site solar installation in the state. It is located in one of the sunniest parts of Oregon, which is typically out of reach because it's not in our service territory. It would wheel power from a co-op, leverage one of the few remaining Business Energy Tax Credits, and the Renewable Energy Advisory Council showed strong support.

John R: Many renewable resources are in places we can't serve; it's nice to see a utility do this so we can take advantage of solar resources outside of our service territory.
Joe Eberhardt: PGE service territory is constrained, it moves north from Salem along the I-5 corridor. We find for all our resources, renewable energy and fossil, that they are largely out of our region. This is a business model we are comfortable with and have to live with.

Ken: When will you know about the tracking mechanisms? This adds 20 percent?
Kacia: Yes. The trackers would increase energy production by approximately 20 percent. We will know this in the next month. The project will have to start construction by the end of the

second quarter, and needed commitment now since the next board meeting isn't until March 2012.

Joe described capacity factors across the state.

Ken: Say more about the dust from mowing the sagebrush.
David Brown, Obsidian Finance Group: Dust is the primary concern of residents in the area; the plan is to only mow the vegetation and not disturb the topsoil except where access roads are needed. In addition, soil that has been disturbed will be replanted.

Julie H: How will you keep the panels free of debris due to the mowing?
David: There will be regular maintenance scheduled a few times a year.

Julie H: What about fire risk mitigation?
David: The entire property will be fenced with a mowed buffer on each side of the fence.

Roger: How large is the land area?
David: 60 acres.

Roger: Can you raise the capacity factor with storage? Which I think you can do with solar thermal by storing energy in daytime for nighttime use.
David: Storage is still not cost effective. The idea with storage is to energize the storage overnight with low-cost hydro and use it to deal with passing clouds during the day and for peak periods.

Julie H: How much power is this? What are the equivalents so I can visualize? If we weren't doing solar, what would you be doing and what's the difference in cost?
Peter: With trackers, it would be a 10 million kWh project, which is enough energy to power about 1,000 homes.

Roger: What is the price per kWh?
Kacia: The power purchase agreement is still under negotiation.
Peter: We can get you the cost/kWh from our analyses.

Joe Eberhardt: To answer Julie's question, the project is interesting to PGE as it helps us meet our solar capacity requirement.

Julie H: How has the interaction gone with Midstate Co-op?
Peter: It took some time before Midstate fully understood the project. They have approached this project pretty positively and creatively.
David: Midstate's attitude is enthusiastic; it is extremely curious about how solar development can benefit the utility and their member customers.

Julie H: How confident are you that the project will complete by 2012?

David: I am confident. We are three years into it so far, and if we don't make 2012, we won't make it. Most of my fellow solar developers are not in Oregon anymore. PGE and Energy Trust are both very responsive.

Julie H: The panels are available, and the land and labor?
David: Yes, our biggest supporter is IBEW, which has 40 percent of its members not working right now.

Joe B: Can you talk more about the fire issue?
David: There is fire equipment in Christmas Valley, which is nine miles away. The brush is relatively short and any fire would be hot and move quickly. We could lay the panels flat if there was a fire. One unknown is if water runoff from the panels will allow new vegetation to grow.

John R: I like that they aren't removing everything and then building, unlike a project outside Las Vegas. I'm more impressed with this approach.

Roger: Are sage grouse or other endangered species an issue?
David: This area is confirmed to be outside all mapped sage grouse territory.

Dan: This is the most cost-effective solar proposal I've seen come through.

Julie H: What about vandalism?
David: There will be security cameras installed.

Ken: How far is the nearest public road?
David: The site is right off Christmas Valley Highway, and there will be a setback of 60 feet to reduce impact from the road.

Jeff: It's excellent that you are moving to this new area. Also, rating in AC rather than DC helps clearly reflect performance of systems. This is a new area for solar PV development, with perhaps considerable potential for future development. Will we be able to follow up with how this project performs?
Kacia: We will get some analysis from PGE.
Peter: All our contracts require reporting and allow Energy Trust site access to do inspections and an evaluation overtime.

REVISED RESOLUTION 613

AUTHORIZING FUNDS FOR CHRISTMAS VALLEY SOLAR PV PROJECT

Whereas:

1. **Portland General Electric (PGE) desires to purchase energy from 5~~.88~~ megawatts (MW_{AC}) of solar photovoltaic generating capacity in Christmas Valley, Oregon, to count toward its state Renewable Energy Standard and Solar Capacity Standard mandates.**

2. **This project has already secured Business Energy Tax Credit precertification, a major barrier to renewable energy projects in Oregon.**

3. **Total project cost is estimated to be $22,336,411, which staff considers reasonable for a project of this size and design.**

4. **The above-market cost on a net-present value basis over 25 years is estimated to be up to $5,558,004.**

5. **Staff recommends an Energy Trust incentive of up to $5 million~~$0.85/watt~~, representing approximately 90 percent of the above-market cost, and PGE supports this incentive level.**

6. **Energy Trust will receive 100 percent of the Renewable Energy Certificates (RECs) for the project, and will assign those to PGE.**

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

1. **An incentive of up to $5,000,000 at no more than $1.00 per Watt$_{AC}$ for a ~~5 MW,~~ ground-mounted solar photovoltaic facility up to 5 MW$_{AC}$ in Christmas Valley, Oregon.**

2. **Energy Trust to assign the RECs from this project to PGE for the benefit of its ratepayers and for compliance with PGE's renewable energy generation and solar capacity obligations to the state.**

3. **The executive director to negotiate and sign an agreement consistent with this resolution.**

Moved by: Jason Eisdorfer Seconded by: Julie Hammond

Vote: In favor: 11 Abstained: 0

Opposed: 0

Green Lane Energy generation construction loan (Resolution 615) was removed from the agenda.

Meeting break at 1:50 p.m.; meeting reconvened at 2:03 p.m.

Draft 2012-2013 Action Plan and Draft 2012 Budget

Margie Harris and Sue Meyer Sample presented on the proposed final action plan and 2012 budget. Margie said she will focus on the changes to the presentation from the November board presentation. She said the budget process went smoothly this year, especially with the help of Sue Meyer Sample and Pati Presnail. She referenced the stakeholder comments and our response to those comments. Margie said this presentation takes into account Debbie

Kitchin's suggestions to highlight where growth is expected in the budget compared to last year and to link proposed actions more specifically to budget themes.

General overview

2011 mitigation overview

Margie reviewed the status of the bonus incentive mitigation strategy, offered due to the change in the Business Energy Tax Credit.

- 900 projects are expected to receive a bonus incentive; bonus projects up across all utilities
- Projects represent about $2.6 million in incentives; programs have paid $160,886 so far
- Deadline to qualify for the bonus was completion by December 15, 2011
- Close-out of projects will continue into early January 2012
- Approximately 500 projects are lighting projects
- One large industrial Cascade Natural Gas project was rescued by the bonus

Jason: Is this what you were hoping for?
Margie: This exceeds our expectations without jeopardizing the budget.

Year-end forecast

Margie showed a year-end forecast chart that was unchanged from the November board presentation. But based on best current information, she said we expect to land between stretch and conservative goals across all utilities for energy efficiency. Staff expected to exceed stretch efficiency goal for Pacific Power and be within 90-95 percent of stretch for the other three utilities. Final numbers will be a product of the bonus incentives which are driving projects to complete, and will be available around February.

2011 forecast changes

Margie said energy efficiency revenue was reduced by $1.7 million, primarily from PGE. The minor reduction in efficiency expenses, $35,000, is slightly offset from an increase in renewable energy expenses, $1.2 million. The net effect is carryover is expected to be reduced by about $2.9 million. Margie said the numbers will change based on final year-end closure.

Roger: Why was efficiency revenue reduced in PGE?
Margie: It's the difference between actual revenue and projected revenue. Revenues were adjusted to reflect actual receipts through November.

2012 budget at a glance

Margie said total changes from the November board presentation are reductions of less than $2 million due to a decline in revenues. The main reduction stems from the actual tariff filing by Pacific Power, which was $800,000 less than what was included in the draft budget.

Roger: It's worth noting that your administration line item is $2 million.
Margie: It is about 5 percent of the budget.

Program growth
Margie said Existing Buildings, New Homes and Products, Production Efficiency, NEEA and gas market transformation are driving growth. Nearly every program is going up in terms of goals and corresponding budgets. Overall, the 2012 budget reflects a 21 percent increase in electric and gas goals.

Debbie: To take the larger perspective, how much of the utility IRP goals is efficiency? Are they increasing their IRP targets by 20 percent?
Fred: The growth reflects IRP goals that for past IRPs are similar to our stretch goals. We may not meet stretch in 2011, and are trying to catch up with the growth curve in 2012. In the IRP, Energy Trust agreed with the utilities to increase Energy Trust savings each year. The plan is to grow.
Margie: It's also positive to grow each year so there is more stability and fewer spikes in the marketplace.
Fred: As described in the June board strategic retreat, new codes and standards are taking effect this year and next and we are moving up the acquisition curve.

Margie: The change in available revenue from Pacific Power reduced our goals between the draft to the proposed final budget of: 0.7 aMW in reduced electric savings. Also corrections made to the amount of savings delivered through NEEA which went down slightly, though they may go back up with the success of the TV initiative. We are working with NEEA on their value metrics to dovetail their reporting to coincide with the timing of our true-up. There are no changes on the gas side. There is an increase of 1.75 aMW in renewable energy, stemming from the Christmas Valley solar project.

Margie showed gas and electric efficiency savings and generation charts through 2013.

Jason: For the budgets between 2010 and 2011, the 2011 budget increased by about $20 million but savings went down. And the assumption is if we put more money into 2012, we can get that back. So something other than money is driving efficiency acquisition.
Margie: We no longer have the Business Energy Tax Credit so we are paying more to acquire savings. The budget includes some ongoing mitigation in 2012 when compared to prior years.
Jason: Are you suggesting that even though we have budgeted more for next year, programs won't get more savings?
Margie: No. One of the items from 2010 is the OSU CHP megaproject. Plus, year-to-year comparisons of budgets are not as telling as an overall look.

Gas efficiency savings are expected to grow in the industrial sector, as well as some additional growth within the residential and commercial sectors. In 2013, the projection shows a slight drop in commercial savings yet continued growth in both the residential and industrial sectors. There is concern for the commercial sector as customers in Cascade Natural Gas territory are hardest hit by the down economy.

Draft OPUC performance metrics
Margie said staff is in discussion with the OPUC and will hopefully have updated performance metrics in early 2012. The updated measures would increase the electric and gas efficiency acquisition metrics and some increase in the current kWh levelized cost cap.

Ken: Are the energy efficiency draft measures still on a three-year rolling average? If they are, shouldn't we report on them accordingly?
Margie: The figures presented are only single year projected outcomes as compared with rolling average-based goals. We will be working with the OPUC on these metrics for 2012 and beyond.

Juliet Johnson, OPUC: Can you describe why the levelized cost is going up for electric efficiency?
Margie: Mainly because we are paying more to acquire savings in light of changes in the state energy tax credits.
Dan: And ten years of low-hanging fruit?
Margie: There will always be low-hanging fruit and we combine those savings with other, more expensive measures, too. It's a balancing act.
Fred: Plus, the new commercial code is being rolled in; almost everything we used to pay for is going into law and we are going into the next area of savings.
Jason: It's still cost-effective and you're constantly advancing the ball, this is a good thing.
Ken: It's also a good thing when looking at the utility customer relationship.

Margie: For NEEA, we are paying more overall. A few years ago we doubled our investment in NEEA. They are diversifying their portfolio. We are part of the way through the five-year funding cycle during which NEEA is building the pipeline of new savings, which are expected to result at the end of the cycle.
Ken: Plus, they had substantial savings from CFLs, and like Fred said, they're no longer there to bring in savings.

Carryover 2011 and 2012
Margie described the carryover slide, including the reserve required by the board. Reserves are needed to provide a cushion in the event of potential shortfalls. This account is shown in the last row of the chart on slide 13 and totals $8.2 million. In addition, and at the OPUC's request, Energy Trust attempts to preserve a 5 percent (of current year revenue) reserve for each utility. On slide 13, the far right column shows what a 5 percent reserve for each utility would look like, if next year went precisely as planned. This is a crystal ball prediction. In the end, approximately $9 million in carryover, interest earnings and reserves, are available to us if we run short. Some funds are restricted; for example, a shortfall in renewable energy could only be made up by renewable energy revenues from the impacted utility.

Alan: What contributed to the turn-around between PGE and Pacific Power?
Margie: This has to do with the amount of rate increases filed for the two utilities related to supplemental SB 838 funding. Margie said staff is working with the utilities and OPUC to explore changing the timing of the 838 filings to ensure customer rate impacts can be minimized. Currently, the projected revenues to meet utility IRP are estimated prior to having

information about available carryover. Right now, Energy Trust begins budget discussions with the utilities in August or September and utilities file in November. This is all done before carryover is known.

2012 working assumptions
Margie said the 2012 working assumptions are the same as the November board presentation.

Budget and action plan themes
Margie said the budget and action plan themes are also the same as the November board presentation. What has been added is information on how each budget theme aligns with program strategies. This information was added to also answer an OPUC request to show how themes are reflected in program strategies.

Dan: Are there any mechanisms for looking back; for example, for the major projects we approved over the years, to see if they are performing as expected. This is important especially as we talk about our ten year accomplishments.
Margie: We are addressing that, particularly by examining measure lives and if there are any large plant closures for projects that received incentives.
Fred: The annual report goes over annual results and some cumulative results. There's also the strategic plan. Plus, evaluations track program processes and impacts. Evaluations give the more micro view. In the annual report, we look at benefit-cost ratios per sector.
Dan: The Evaluation Committee is fairly narrowly focused. I'm looking to have assurance years after the project is completed.
Fred: The true-up looks back with a more macro-perspective. Also, staff did a persistence evaluation for the industrial sector due to concerns about facilities closing, and in the end we concluded we had been too conservative on measure lives. We ended up raising it from ten years to fifteen years.

Debbie: I'd like to reflect on the response to the bonus offer, which showed that if you give people extra tools or a shortened time, it can help you leverage your sales efforts. I'm glad to see you highlighted leveraging the Trade Ally Network in the coming years to take advantage of that army of sales people. The industrial program has been doing that, too, with the 90x90 incentive and having technical consultants going out to find customers. And if done the right way, as here, you're not setting up expectations that the offer will always be on the table.

Margie: Like the retail community has always done, we are becoming more savvy about running a limited-time offer. We are also flexible toward the end of the year as we look at the Q3 and Q4 forecast. We use tools that are quick to get more activity into the marketplace, like energy saver kits. We also use the Trade Ally Network to a greater advantage and connect customers to contractors; we know that some customers get overwhelmed by too many choices and drop out of the process.

Utility collaboration
Margie described utility collaboration strategies for 2012.

- Leverage all four utility channels and work closely with community contacts and program allies to take advantage of a utility's ability to attract a crowd

- Link SB 838 activities to call to action
- Target green power program participants
- Target moderate-income customers and smaller commercial and industrial customers
- Complete the OPower pilot with PGE and NW Natural
- Work with the OPUC, utilities and others to complete the data sharing agreements
- Assess the role and value of utility roundtables
- Revisit with the utilities, OPUC and interested parties Energy Trust's SB 838 funding cycle options and timing, and how we project future needs

Stakeholder comment summary
Margie described stakeholder comments submitted on the proposed final budget, including:

- OPUC
    - Acknowledged accomplishments in 2011.
    - After Energy Trust provided additional information on the proposed market transformation manager position in the business sector, Juliet reported she supports the position; this means the OPUC gave unanimous support of the staffing requests in the budget.
    - Asked to limit carryover to no more than 5 percent per utility.
      Margie described the complexity of determining revenue requirements, as well as how the year will go given factors like the economy and weather.
      Alan: What does the 5 percent reserve requirement mean on the carryover slide?
      Debbie: It's a target.
      Juliet: Some programs had high carryover dollars and our goal is to get ratepayer dollars into the market as soon as possible; we do recognize the variables that add to final carryover.
      Margie: Also, projects are never set in stone and some are delayed, and those changes impact carryover; Energy Trust agrees that we want to minimize the amount of carryover.

- Utilities
    - Three of the four utilities provided comments on the budget; no comments were received from PGE.
    - All comments expressed support the proposed budget.

Margie said there is a new OPUC docket open on fuel neutrality. Through those proceedings, some of the gas utility concerns should be answered.

Debbie: You consulted with PGE but there were no written comments?
Margie: Yes.

Recap and recommendation
Margie recapped that 2012 will be a transition year. Staff expects approximately a 21 percent growth in savings acquired over 2011.

- 41.5-48.8 aMW in electric efficiency at 4.0-3.4 cents/kWh
- 4.8-5.7 million annual therms at 47.8-40.6 cents/therm

- 3.9-11.7 aMW in renewable generation

Board comments/discussion
There were no additional comments or questions at this time.

Public comment/discussion
There were none.

Resolution adopting 2012 budget (Resolution 609)

RESOLUTION 609

ADOPTION OF 2012 BUDGET

BE IT RESOLVED: That the Energy Trust of Oregon, Inc., Board of Directors approves the 2012 budget as presented in the board packet

Moved by: Ken Canon Seconded by: Dan Enloe

Vote: In favor: 11 Abstained: 0

Opposed: 0

Resolution adopting 2012-2013 Action Plan (Resolution 610)

RESOLUTION 610

ADOPTING 2012-2013 ACTION PLAN

BE IT RESOLVED: That Energy Trust of Oregon, Inc. Board of Directors approves the two-year 2012-2013 Action Plan as presented in the board packet*:*

Moved by: Debbie Kitchin Seconded by: Roger Hamilton

Vote: In favor: 11 Abstained: 0

Opposed: 0

Break

Meeting break at 2:58 p.m.; meeting reconvened at 3:10 p.m.

Committee Reports

Evaluation Committee (Debbie Kitchin)

Debbie asked if there were any comments or questions regarding the three reports included in the board packet. She noted that the Committee had met on December 2, but notes from that meeting were not able to be included in the current packet. She also described the Evaluation

Committee process for the benefit of new board members: the committee reviews draft evaluation reports, which are then finalized, included in board packets and posted to the website library.

- Final Report on Process Evaluation of the 2009-2010 New Homes Program
    - Ken: The report recommends segmenting the market; how would you go about this?
      Sarah Castor: Program staff is interested in the small custom builders versus large production builders segments.
- Final Report on 2011 Oregon Residential Awareness and Perceptions Study
    - John R: Noted most of the participant households are heated by gas.
      Sarah: This has to do with geography; metro homes are largely gas heated and that's where much of our participation has been, historically.

Policy Committee (Jason Eisdorfer)
Jason said to some degree the board has discussed many of the items the Policy Committee has covered in the last two meetings. He invited Fred up to discuss changes to the cost-effectiveness policy.

Fred reviewed the cost-effectiveness policy changes. The cost-effectiveness policy for energy efficiency precedes Energy Trust and is required by the OPUC. Other judgments, such as payback and return on investment help determine whether the program design includes appropriate incentives. In contrast, cost-effectiveness asks whether programs and measures meet specific criteria. For Energy Trust, everything must be cost- effective, otherwise ratepayers are paying more for efficiency than for another resource. We subject measures and programs to two cost-effectiveness tests, a societal test and a utility test. The utility test looks at the money Energy Trust invests and asks if putting it into energy efficiency has more value than the next best investment a utility could make? It's simply "utility money in—utility money out." The societal test considers consumers and ratepayer dollars combined, and aks if the combined costs exceed the combined benefits.

Energy Trust established a cost-effectiveness policy consistent with OPUC guidance and the Policy Committee reviews the policy every few years. Staff proposes to amend the policy to account for the incremental changes in practice based on OPUC and IRP discussions and developments. We are not proposing to change current practice, but to bring the policy in line with current practice

- Analysis section: Limiting the policy to cost-effectiveness, making it a single purpose policy. Items removed continue to be addressed in the strategic plan and reflected in program designs, action plans and elsewhere.
- Small language changes to acknowledge scope and mission; catching policy up to practice. For example, SB 838 funding and also programs offered in NW Natural's Washington territory are now reflected in the policy.

Fred noted the OPUC is interested in looking deeper into some of the inputs to both tests, and the procedures used to quantify some measures. The OPUC wants to take a larger look in 2012; the changes to the policy now do not obviate what the OPUC will do.

- Removes payback, as a policy element, as that is a program design question.
- Clarified that when equipment would have been purchased regardless of efficiency actions, Energy Trust uses the incremental cost of upgrading the efficiency of the purchase beyond what is common practice.
- Clarifies what is calculated as a cost:
    - Excludes costs compensated by state and federal tax credits.
    - Excludes administrative and program administration costs that are paid by federal or state government, because they often reflect non-energy considerations, such as job creation. Fred: Energy Trust asked the OPUC if costs borne by the federal government should be included in Energy Trust's costs. Federal and state programs often have other objectives, including producing jobs, fair wages, and minority contractor recruitment that are not part of the "benefits" side of the cost/benefit tests as defined by the OPUC. The OPUC said to disregard costs paid by federal and state programs for Energy Trust's benefit/cost tests. This is significant, especially for our residential programs. Juliet: To disregard costs that are paid by the government. Fred: Yes, those specific costs the government is paying for are not included in our test.
- Clarifies using avoided costs from the integrated resource plan, subject to some adjustments to address the unique characteristics of efficiency such as hedge value.
- Clarifies that if a non-energy benefit can be quantified, it will be used in the societal test. If the non-energy benefit cannot be quantified but is significant, a proxy may be used in the societal test. Fred said proxy value is used sparingly; only on a large, unquantifiable non-energy benefits.

Through discussion, a change was made to the Costs section of the policy, page 5: "The utility system test includes only the Energy Trust incentive and items 2 and 3…".

Fred answered that bulk transmission system capacity benefits are estimated based on Power Council studies in conjunction with PGE and PacifiCorp.

John R: Is there any research into how efficiency activity is deferring utility investment in transmission and distribution?
Fred: We include a very modest assumed average savings. As for site-specific benefits, it has been difficult to get the study process started with PGE and PacifiCorp and is not a process we drive. However, we are working with a contractor to the Bonneville Power Administration to assess whether accelerating efficiency in the Portland area may help defer the need for a new transmission line.
Ken: I suggest working with Bonneville Power Administration on their non-wires solutions working group.

Roger: How do you determine carbon values?
Fred: The OPUC and utilities determine that.

Jason reviewed the one change to the policy, mentioned above.

RESOLUTION 596

AMENDING THE ENERGY TRUST POLICY ON COST-EFFECTIVENESS

WHEREAS:

1. **Energy Trust's energy efficiency funding may be used only for "cost-effective energy conservation." ORS 757.612(1), 757.689.**
2. **Cost-effectiveness is defined in several statutes and administrative rules, for example:**

   > **"Cost-effective" means that an energy conservation measure that provides or saves a specific amount of energy during its life cycle results in the lowest present value of delivered energy costs of any available alternative. However, the present value of the delivered energy costs of an energy conservation measure shall not be treated as greater than that of a nonconservation energy resource or facility unless that cost is greater than 110 percent of the present value of the delivered energy cost of the nonconservation energy resource or facility. (ORS 469. 631(4))**

3. **Energy Trust adopted a cost-effectiveness policy in 2002 and has updated it several times since then.**
4. **Since the policy was developed, the Oregon Renewable Energy Act authorized higher funding for energy conservation, the board adopted a new strategic plan, and Energy Trust programs have been much more closely integrated into the utility integrated resource planning process overseen by the OPUC.**
5. **Changes to reflect these developments were vetted with the Conservation Advisory Council, OPUC staff, and the Policy Committee.**

It is therefore RESOLVED, that the board of directors of Energy Trust of Oregon, Inc. amends the board policy on cost-effectiveness as shown in the attachment.

Moved by: Jason Eisdorfer, as amended Seconded by: Julie Hammond

Vote: In favor: 11 Abstained: 0

Opposed: 0

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

Introduction

The Energy Trust of Oregon seeks a future that includes sufficient, stable, and affordable power available to all customers through sustained investment in energy efficiency and renewable resources that reduce the economic and environmental costs of using gas and electricity. To properly evaluate such investments, Energy Trust compares the cost of energy-saving programs and measures to the cost of alternative sources of natural gas and electric energy. The cost of alternative sources is known as "avoided cost". The Oregon Public Utility Commission (OPUC), the Washington Utilities and Transportation Commission (WUTC), the Northwest Power and Conservation Council (NPCC) and the Northwest Energy Efficiency

Alliance (NEEA) use similar approaches and assumptions to analyze the cost-effectiveness of energy efficiency investments. Consistent with these approaches, this policy encompasses two tests to determine cost-effectiveness and describes the key variables or economic model inputs that define these tests in Energy Trust analysis.

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

Policy

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

Costs

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

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

The utility system test includes only the Energy Trust incentive and items 2 and 3, above, i.e., all Energy Trust efficiency costs, not those paid by consumers.

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

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

Costs excluded: The value of Oregon and/or Federal tax credits will be deducted from the cost of measures because similar tax credits are not included in avoided costs used by Energy Trust. Program administration or management costs of local programs that are paid by federal or state agencies will not be included, as they are often associated with non-energy considerations such as equity, employment, etc., and are not included in the benefit/cost tests under OPUC guidance.

Benefits

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

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

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

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

Discount rates

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

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

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

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

Finance Committee & Compensation Committee (Dan Enloe)

- Green Lane project needing construction loan financing
    - Finance Committee acknowledged the risk in a construction loan, gave the project a few risk mitigation items and allowed them to proceed as a pilot.
    - Margie: Revenue enhancements in the waste stream were found for the project, this affects the incentive offer.
    - Peter: The change came too late and we preferred to pull the project from the agenda today until more specifics are available. The change was sufficiently different than what the committee first reviewed. There may be a construction loan. We need more time.
    - John R: Is this related to the Eugene program collecting restaurant waste?
    - Peter: I'm not aware of that right now. The project needs to move quick as it has a Business Energy Tax Credit. But we did test run a construction loan financing pilot. I appreciate the time from the board on this new approach, whether this project goes through or not. I think we are now prepared to try this tool again.
- Financials were already covered in the budget presentation
- There will be an update on the Integrated Solutions Implementation Project at the March board meeting.

Staff Report

Margie presented on a few program and operations highlights, including:

- A new construction project, which includes solar and energy efficiency at the Redmond Municipal Airport
    - High-efficiency ventilation and radiant floor heating
    - Savings of $53,000 in energy costs
- Energy Trust office relocation a success
- PGE email to a targeted list broke the Energy Trust's website page view record
- Efficiency gains of 130 hours a year for staff from allowing electronic trade ally records
- Supporting teens delivering Energy Trust messages and signing up participants at the Oregon Zoo's ZooLights event
- New solar electric incentive strategy in Pacific Power territory due to high demand and limited budget; concurrently, pushing activity in PGE territory
- Working with the Oregon Department of Energy on the Cool Schools initiative
- Delivered recommendations for energy-efficiency opportunities at Mahonia Hall, the Governor's residence
- Received eighteen nominations for six awards for the Industrial Oregon Leaders Awards
- Clean Energy Works Oregon is processing about 100 applications a week, projects are closing slower than expected
- The winner of the Oldest Fridge Contest was a 1937 GE unit found in Coquille; the Products program has recycled more than 53,000 units to date

- Increased residential program marketing collaboration with NEEA
- Legacy Health has been a participant for eight years, saving more than four million kWh and 91,000 annual therms

Margie thanked the board for their service and contributions this year, calling out John R. and Jason as original board members still serving on the board.

Joe B: How do you engage architects? I know there are those in my part of the state who are not that familiar with Energy Trust programs and opportunities.
Margie: We are members of the AIA and we engage with architect and designer program allies in our new construction programs. We can talk later and exchange contact information to make sure.
Dan: There are many architects and engineers getting LEED® certification, I suggest sticking with one that has such a certification.
Julie: A lot of times, it's an educational need.

Adjourn

The meeting adjourned at 4:14 p.m.

***Next meeting*.** The next regular and annual meeting of the Energy Trust Board of Directors will be held Wednesday, March 7, 2012, 12:00 p.m. at Energy Trust of Oregon, Inc., 421 SW Oak Street, 3rd Floor, Portland, Oregon

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Rick Applegate, Secretary