

Strategic Plan

December 18, 2009

Executive Summary

Energy Trust of Oregon is an independent nonprofit organization dedicated to helping ratepayers invest in energy efficiency and clean, renewable energy. Created in response to Oregon legislation and overseen by the Oregon Public Utility Commission, Energy Trust opened its doors in 2002. By 2009, it had saved Oregon ratepayers \$440 million, while helping utility customers keep their energy costs low. Its activities have been guided by a series of strategic plans.

In 2007, the Oregon Legislature extended the life of Energy Trust's chief funding mechanism, a public purpose charge paid by electric utility customers. Previously set to sunset in 2012, the fund was extended to 2026. At the same time, the Legislature authorized utilities to collect supplemental funds for certain electric energy efficiency programs. Separate agreements with gas utilities address natural gas efficiency programs.

This draft strategic plan was developed to give a fresh, long-range perspective to Energy Trust's activities in light of these developments, and a more specific projection of activities over the coming five years.

Our Vision

Energy Trust envisions a high quality of life, a vibrant economy and a healthy environment and climate for generations to come, built with renewable energy, efficient energy use and conservation.

Our Purpose

Energy Trust provides comprehensive, sustainable energy efficiency, conservation and renewable energy solutions to those we serve.

Our Goals

Goal 1: Long-term, help utilities and their ratepayers acquire all cost-effective energy efficiency.

Five-year goals:

- Between 2010 and 2014, save 256 average megawatts of electricity, contingent on adequate funding, through efficiency and conservation
- Between 2010 and 2014, save 22.5 million annual therms of natural gas, contingent on adequate funding, through efficiency and conservation

Goal 2: Long-term, accelerate the rate at which new renewable energy generation is produced, helping to achieve Oregon's 2025 goal of meeting at least eight percent of retail electrical load from small-scale renewable energy projects.

Five-year goals:

- Between 2010 and 2014, achieve an additional 23 average megawatts of renewable energy
- Flexibly expand markets including hydro, solar, geothermal, biopower and wind

Activities Over the Coming Five Years

To achieve these goals, Energy Trust proposes a variety of 2010-2014 activities, detailed on pages 13-17.

1. Accelerate energy efficiency investments at a pace consistent with available funding
2. Maintain support for a variety of renewable energy technologies
3. Encourage innovative technologies and practices
4. Support development of clean energy businesses
5. Provide excellent customer service to all Energy Trust participants
6. Bring a broad perspective to two-year budgets and action plans by considering their overall balance and equity
7. Communicate the value of energy savings and renewable energy generation
8. Maintain an efficient, effective and transparent organization that responsibly invests ratepayer funds

Background

Energy Trust came into being in the aftermath of the 2000-2001 energy crisis, when a decade of underinvestment in energy efficiency and resources, a multi-year drought and market manipulation cost Northwest electric ratepayers and the Northwest economy billions of dollars (Northwest Power and Conservation Council, *Fifth Power Plan*, volume 1, page 9 (2004)). The first lesson power planners drew from the crisis was that the region would have fared much better if energy efficiency investment had not stalled in the 1990s. Going forward, planners said:

“the region [must] increase and sustain its efforts to secure cost-effective conservation immediately. . . . [I]mproved energy efficiency costs less than construction of new generation and provides a hedge against market, fuel and environmental risks. To achieve these benefits fully, however, stable and sustained investment in conservation is necessary. Although conservation may result in small rate increases in the short term, it can reduce both cost and risk in the long term. (*Fifth Power Plan*, volume 1, page 4)

In Oregon, lawmakers had not waited for the energy crisis to establish steady funding for energy efficiency and renewable energy. In 1999, the Oregon Legislature required investor-owned electric utilities to collect three percent of their electric rates for investments in energy conservation and renewable energy.

The Legislature also authorized the Oregon Public Utility Commission (OPUC) to direct most of these public purpose funds to an independent, non-government entity. Because economic pressures had discouraged utilities from investing in energy efficiency during the 1990s, the OPUC determined the three-percent ratepayer charge should be managed by an entity devoted exclusively to ratepayer interests in energy conservation and renewable energy.

Thus, in 2001, Energy Trust, a nonprofit organization, was created with guidance from the OPUC to invest in energy efficiency, renewable energy and market transformation programs for Portland General Electric and Pacific Power ratepayers.¹ Energy Trust became the principal administrator of energy efficiency and renewable energy programs for the benefit of ratepayers of Oregon’s two largest electric utilities.

Appreciating the benefits of energy efficiency, gas companies—NW Natural in 2003 and Cascade Natural Gas in 2007—asked Energy Trust to offer comparable services to their customers. Energy Trust programs now served customers of the four largest investor-owned utilities in Oregon, or 82 percent of Oregon’s total utility customer base in 2007. Energy Trust also provided a subset of programs to customers of Avista in 2006 and 2007.

In 2007, the Legislature passed the Oregon Renewable Energy Act, which determined that the three-percent charge should be expanded to capture more electric efficiency. The collection of the three-percent charge was extended from 2012 to 2026, and electric utilities were allowed to increase rate collections for energy efficiency above three percent. The resulting increase in electric revenues, combined with gas revenues, increased Energy Trust total revenue from about \$30 million in 2002 to an expected \$94 million in 2009.

¹ Energy Trust invests about 74 percent of the three-percent fund. Another 16 percent goes to low-income housing and weatherization under the oversight of the Department of Housing and Community Services, and 10 percent goes to weatherization in K-12 schools under the direction of educational service districts.

The experience of the last seven years has validated the Legislature's foresight. Energy Trust programs have delivered significant benefits to utility ratepayers and broad economic and environmental benefits to every Oregonian.

Since 2002, Energy Trust programs have provided almost as much energy as an average coal power plant would have—285 average megawatts, enough clean energy to power 221,000 Oregon homes. The total gas savings to date, 8.9 million therms, is enough to provide heat for approximately 18,300 Oregon homes. Starting from 15 average megawatts saved in 2002, Energy Trust expects to save 34.9 average megawatts and 2.9 million therms of gas in 2009, even in a downturned economy.

These savings translate to lower energy costs for utility ratepayers. In 2008, the combined value of utility bill savings to customers from Energy Trust programs was \$144 million. Since 2002, utility customers have saved a total of \$440 million as a result of these programs. Nonparticipant ratepayers also benefit because Energy Trust programs help keep utility costs for new energy resources as low as possible. Every dollar invested in electric energy efficiency is now saving residential, commercial and industrial ratepayers more than five times as much in avoided generation and transmission costs. Natural gas efficiency costs are about one-third of the cost of gas generation, transportation and storage.

In addition to specific and direct ratepayer benefits, Energy Trust programs deliver a significant side-benefit: helping achieve Oregon's greenhouse gas reduction goals.² By delivering energy resources without the need for fossil fuel generation, Energy Trust programs are now keeping an estimated three million tons of carbon dioxide out of the atmosphere—the equivalent of removing 525,000 cars from Oregon roads every year.

These programs also represent a long-term investment in Oregon's economy. The money Energy Trust invests in energy efficiency and renewable energy stays in Oregon, providing Oregon jobs and wages. Since 2002, Energy Trust programs have created more than 1,800 Oregon jobs, stimulated a \$60 million net increase in wages and \$9.1 million in new business income. The Energy Trust program delivery model developed and continues to build a Trade Ally Network of now more than 1,200 contractors. These are predominantly small businesses throughout the state who install energy-efficient equipment, weatherization, solar systems and other clean energy improvements in homes and businesses, and they play a pivotal role in building Oregon's green economy.

The Strategic Plan

In the years since Energy Trust's first strategic plan was written, the scope of energy efficiency and renewable energy programs has expanded, driven by a collection of economic, environmental and other objectives: saving consumers money; avoiding higher-cost generation, transmission and distribution for new power plants; reducing carbon emissions; and building a clean energy economy. Overall, demand for Energy Trust programs continues to grow, even through the 2008-2009 economic downturn.

The Long Term: This strategic plan takes a long-term perspective and acknowledges that a range of factors—the economy in particular, but also policy and regulatory decisions—will shape our work. The vision and purpose described in the plan comprise this long-term perspective.

² By 2010, begin to reduce greenhouse gas emissions; by 2020, achieve greenhouse gas levels 10 percent less than 1990 levels; and by 2050, achieve greenhouse gas levels 75 percent below 1990 levels.

These elements are not quantified because funding decisions, legislation, economic conditions, technological developments and other unknowns will ultimately guide and determine what we accomplish. The plan describes *how* we expect to leverage developments we can reasonably foresee, without attempting to quantify activities beyond five years.

The Coming Five Years: The utilities' integrated resource planning analyses, reviewed by the OPUC, provide a framework for Energy Trust to project quantitative goals for the coming five years. Those analyses assume that utilities will collect, and Energy Trust will invest, sufficient funds to capture all cost-effective energy efficiency. Integrated resource plans, then, foresee Energy Trust programs growing over the coming years.

Funding Assumptions: Integrated resource plans are not rate proposals, and, it takes rate proposals to fund these programs above a base level. At the time this plan was written, NW Natural was the first sponsoring utility to have filed a rate schedule and received OPUC approval to fund enough efficiency to achieve integrated resource plan goals in 2010 and 2011. This plan assumes that PGE, Pacific Power and Cascade Natural Gas will also receive OPUC approval to fund efficiency programs at comparable levels, and that all the utilities will provide funding to achieve integrated resource plan goals for the five years covered by this plan (2010-2014).

The plan's five-year goals for natural gas savings reflect uncertainty about the future of the NW Natural industrial gas efficiency program. It is possible that this program will continue for five years, but it is also possible the current program will end after its pilot year, reducing the gas program's five-year savings projection.

There is also an unknown regarding the electric industrial efficiency program. The electric utilities' integrated resource plans include energy savings for sites that use more than one average megawatt per year. Because the 2007 Oregon Renewable Energy Act restricts energy efficiency funding for these large energy users, it is unclear whether all of the energy savings shown in Figures 1 and 2 (page 7) can be achieved, or whether the same goals can be achieved with increased energy savings from smaller customers.³

Beyond Five Years: It is harder to forecast energy efficiency and renewable energy investment beyond five years. Utility integrated resource plans consider only *known* energy efficiency measures and technologies. For existing homes, buildings and industry, this "known resource" is largely deployed by 2016. In the integrated resource plan analyses, forecasted savings diminish after that. Based on historic experience and the dynamic nature of technology development, there is little doubt that energy savings from technologies that are now in development will prove cost-effective and that new efficiency resources will be discovered. We cannot estimate the size, cost or value of this resource, however, and it will take significant innovation to replenish the supply of efficiency measures as known measures are fully deployed. This plan's five-year objectives therefore include development activities to help ensure that new efficiency resources will be there when needed.

Renewable Energy: Since 2002, Energy Trust renewable programs have helped develop almost 100 average megawatts of electricity using a variety of technologies, primarily utility-scale wind projects. In 2007, the Legislature adopted a community energy goal: to meet at least eight percent of Oregon's retail electrical load from small-scale renewable energy projects of 20

³ These uncertainties are magnified by the fact that, because of restrictions in Oregon administrative rules, utilities do not provide Energy Trust with a complete list of firms that use more than one average megawatt of energy. Energy Trust has proposed rule changes that would address this problem. Those changes would allow us to better plan and manage programs to achieve the goals of this plan.

megawatts and less by 2025. At the same time, the Legislature limited Energy Trust renewable energy investments to projects of that size. As a result, Energy Trust programs evolved away from large-scale utility projects, and in 2008 began to focus on demonstrating smaller, community-scale and distributed-generation projects.

This strategic plan assumes relatively stable funding for these renewable energy projects over the coming five years. Energy Trust plans to build on the strengths it developed working with small- and medium-scale projects over the last seven years by engaging with market actors to help develop small-renewable industries. Energy Trust will remain flexible enough to shift resources to changing market opportunities; stay engaged in hydro, solar, geothermal, biopower and wind technologies; expand assistance to project owner-developers; and team with utilities to reduce barriers to development.

In Summary: Looking backward and forward from 2009, the Legislature's original premise in enacting the 1999 law remains compelling. More than ever, energy efficiency is the best energy buy for utilities and their customers—it costs a fraction of new fossil fuel generation, delivers persistent cost savings to consumers and brings economic and environmental benefits to the entire state. Smaller, community-scale renewable energy projects represent more than just economic value, they also help build stable communities. Energy efficiency and renewable energy are largely invulnerable to the volatile fuel prices that plague fossil fuel energy markets. Moreover, because these investments reduce carbon emissions, energy efficiency and renewable energy offer an economic advantage if greenhouse gases are regulated.

Energy Trust envisions a future where homes, buildings and industries have integrated renewable energy and efficiency features that meet their energy needs more intelligently, cleanly and economically. In the remainder of this draft strategic plan, Energy Trust elaborates this vision, outlines different funding scenarios and discusses its role in energy efficiency, conservation and renewable energy.

Our Vision

Energy Trust envisions a high quality of life, a vibrant economy and a healthy environment and climate for generations to come, built with renewable energy, efficient energy use and conservation.

Our Purpose

Energy Trust provides comprehensive, sustainable energy efficiency, conservation and renewable energy solutions to those we serve.

Our Goals

Goal 1: Energy Efficiency

Long term, Energy Trust aims to help ratepayers acquire all cost-effective energy efficiency. Energy Trust analyzes the cost-effectiveness of its measures and programs, and coordinates its analysis with Northwest Power and Conservation Council methods and utility integrated resource planning. As integrated resource plans and assumptions are updated, Energy Trust savings targets may be refined.

A. Five-year electric efficiency goals

Over the coming five years, utility integrated resource plan analyses show the potential savings from energy efficiency. The plans reflect currently known and available technology and reflect Energy Trust's best judgment on the fastest way to acquire cost-effective energy efficiency. The following graphs show per-year and cumulative Energy Trust electric savings projections. The savings projections are considered a "stretch," reflecting a 73 percent increase in annual energy savings between 2008 and 2014. They do not attempt to anticipate fluctuating economic conditions or policies, such as the expiration of the Oregon Business Energy Tax Credit, or the effects of federal economic recovery programs. Actual savings could be below these projections in any given year, but we believe we can achieve the savings indicated over a multi-year period.

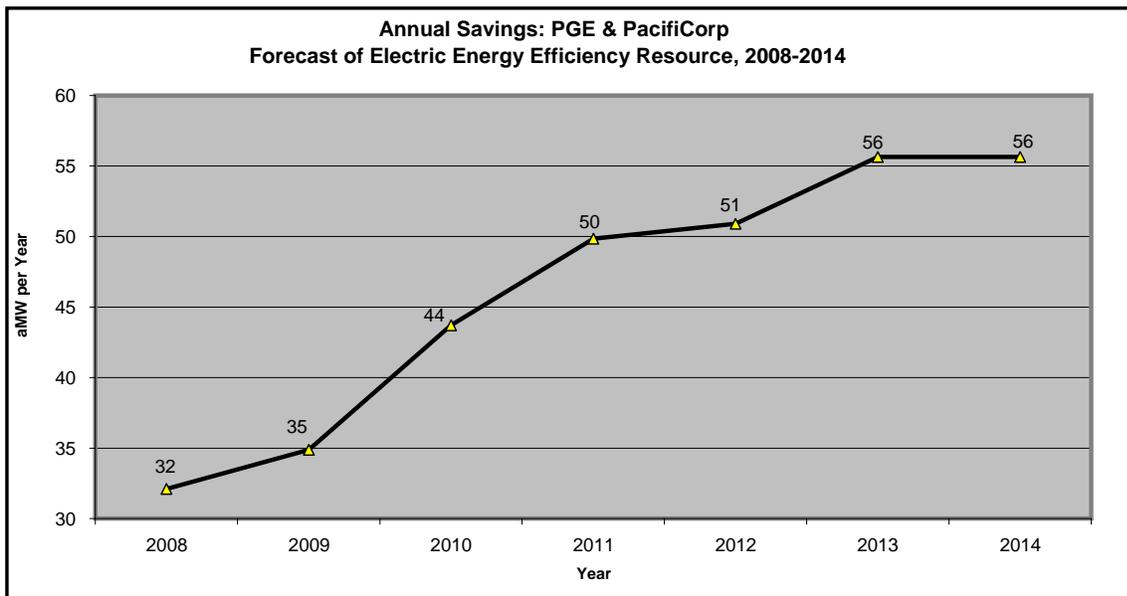


Figure 1

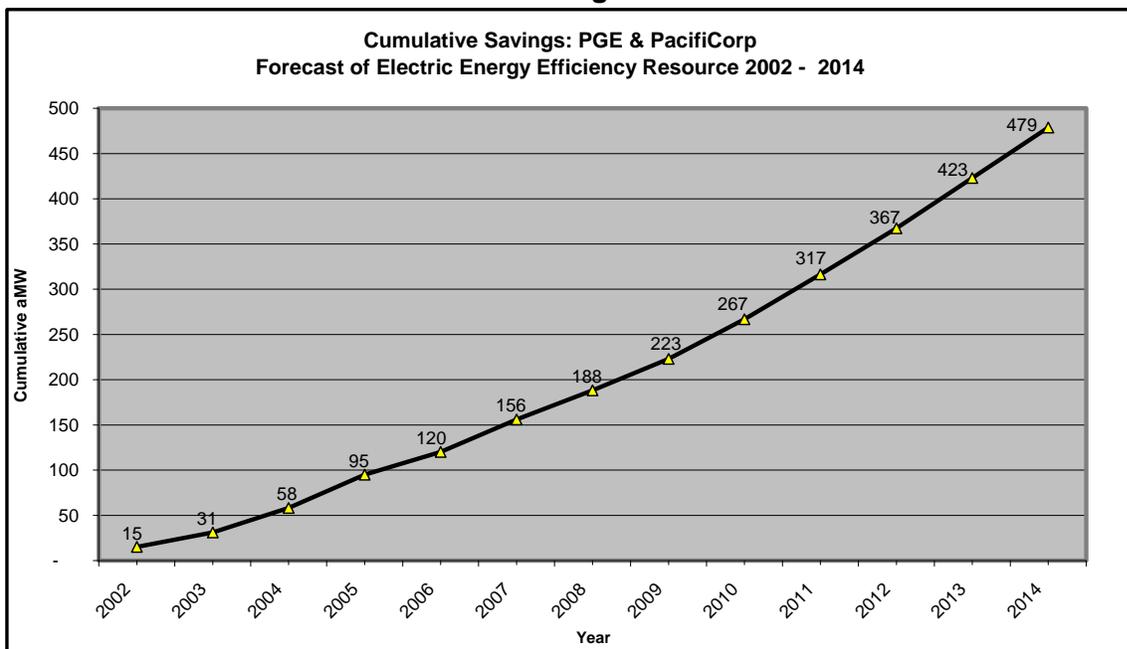
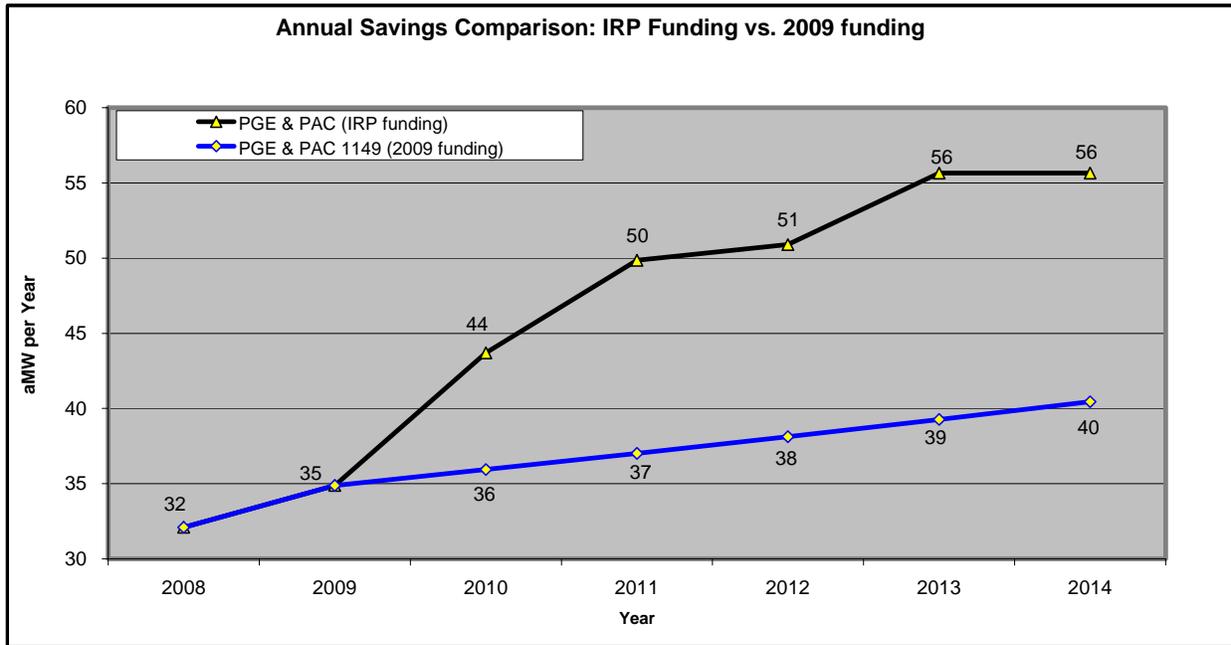


Figure 2

Benefits to utility systems and ratepayers: As noted above, funding to achieve these savings comes from utility rates, which will need to be re-evaluated periodically to ensure program funding is sufficient to capture the full benefit of the efficiency resources shown in the utility integrated resource plans. To illustrate the value represented by these increases, consider the following graph:



Note: This analysis assumes that annual savings would have grown at 3% a year absent the current agreement that funds ETO to IRP levels.

Figure 3

The graph's bottom line shows savings from electric efficiency programs if funding were held flat at 2009 levels. The top line shows savings consistent with integrated resource plan goals. The utilities propose to fund programs to achieve these higher levels in 2010 and 2011. This plan assumes that savings and funding will continue as shown in the graph through 2014. The value of this investment compared to flat 2009 levels is summarized in the following table:

Funding Scenario	Savings (aMW)	Total Benefits	Program Costs	Net Benefits
IRP funding (2010-14)	256	\$1,560,194,487	\$ 511,515,319	\$1,048,679,168
Funding held constant, 3% annual growth (2010-14)	191	\$1,163,890,488	\$ 381,585,642	\$782,304,846
Difference between funding/savings levels	65	\$396,303,999	\$129,929,677	\$266,374,322

Figure 4

In other words:

- Energy savings: At full integrated resource plan levels, 256 aMW would be saved – 65 aMW more than the 191 aMW saved if 2009 funding levels were maintained.
- Ratepayer savings: At full integrated resource plan levels, ratepayers avoid paying about \$1.56 billion for generation and power delivery; after deducting the cost of

efficiency programs, ratepayers save more than \$1 billion. If funding remained at 2009 levels, ratepayers would miss out on more than \$266 million of this benefit.

Effects on load growth, greenhouse gas goals and renewable energy requirements: The following graph compares the projected electric savings included in PGE and PacifiCorp’s integrated resource plans to a range of Oregon loads, as forecast by the Northwest Power and Conservation Council. The load forecasts cover both investor-owned and consumer-owned utility territories, and are therefore broader than Energy Trust’s funding utilities. Moreover, PGE projects load growth of 2.3 percent, which is even higher than the Council’s high-growth projection. The Council projections are still helpful in illustrating the effects of efficiency savings on new load growth.

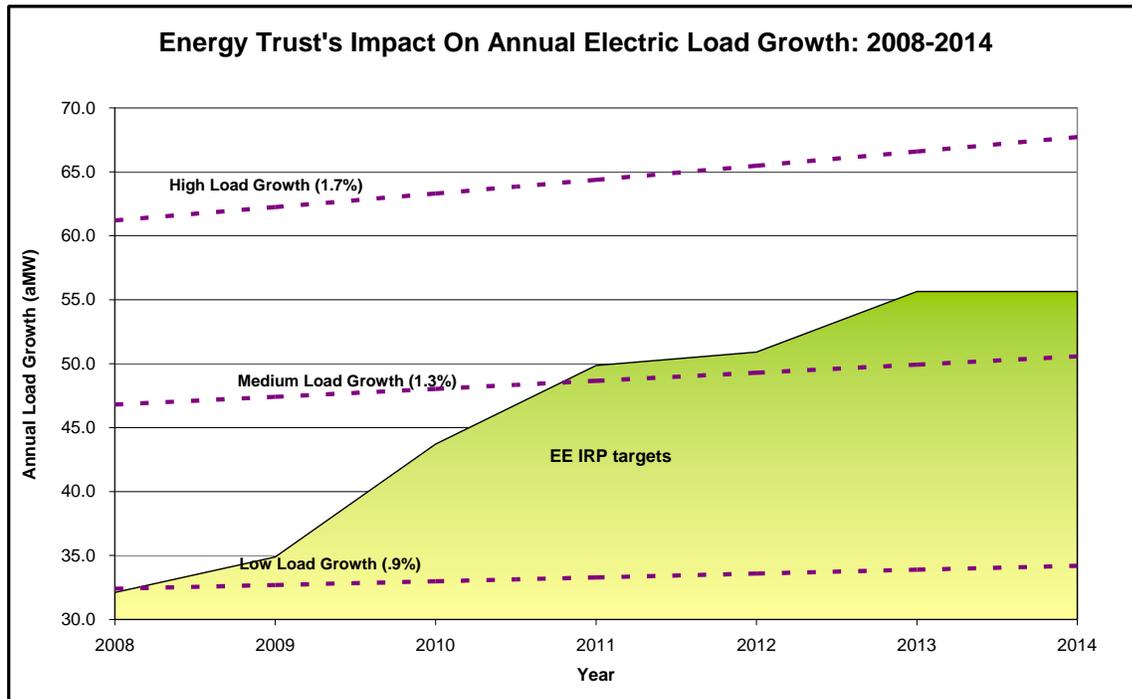


Figure 5

By achieving the savings targets established in the utility integrated resource plans, Energy Trust’s efficiency programs would more than offset utility electric growth in all but the high-load-growth scenario.

Achieving the integrated resource plan targets would avoid about 2.5 million tons of CO₂ emissions that would otherwise occur (comparable to taking 430,000 cars off the road), avoid increasing fossil fuel use in most growth scenarios and reduce the investment needed to achieve renewable energy goals. A combined strategy, in which energy efficiency is accelerated at these levels and Oregon’s renewable energy goals are met, would not just offset growth in fossil fuel energy use, it would reduce carbon emissions in absolute terms and contribute to Oregon’s greenhouse gas reduction goals.

Projected savings by sector: Energy Trust expects to see the proportion of energy savings in industrial, commercial and residential sectors shift over time. Projections for the coming five years suggest that Energy Trust investments and savings are likely to expand faster in the industrial and commercial sectors, as residential retrofits approach market saturation. However, this trend, which is shown in the following table, would change if four promising technologies are proven reliable: ductless heat pumps, heat pump water heaters, low-power home electronics

and a behavioral approach to efficiency. Taken together, these technologies and approaches could more than double the residential efficiency resource. Energy Trust is working to accelerate the testing and commercialization of these and other new approaches.

Projected Electric Savings by Sector (aMW)							
Sector	2008	2009	2010	2011	2012	2013	2014
Residential	9.2	7.8	7.7	8.5	6.1	6.3	6.3
Commercial	7.4	10.9	16.2	18.2	20.0	20.0	20.0
Industrial	8.3	10.3	13.3	15.0	16.7	21.2	21.2
NEEA	7.3	5.9	6.4	8.1	8.1	8.1	8.1
TOTAL	32.1	34.9	43.7	49.9	50.9	55.7	55.7

Figure 6

Beyond five years: Although it is more difficult to predict costs and savings beyond 2014, the following graph describes a scenario for electric savings in the out-years:

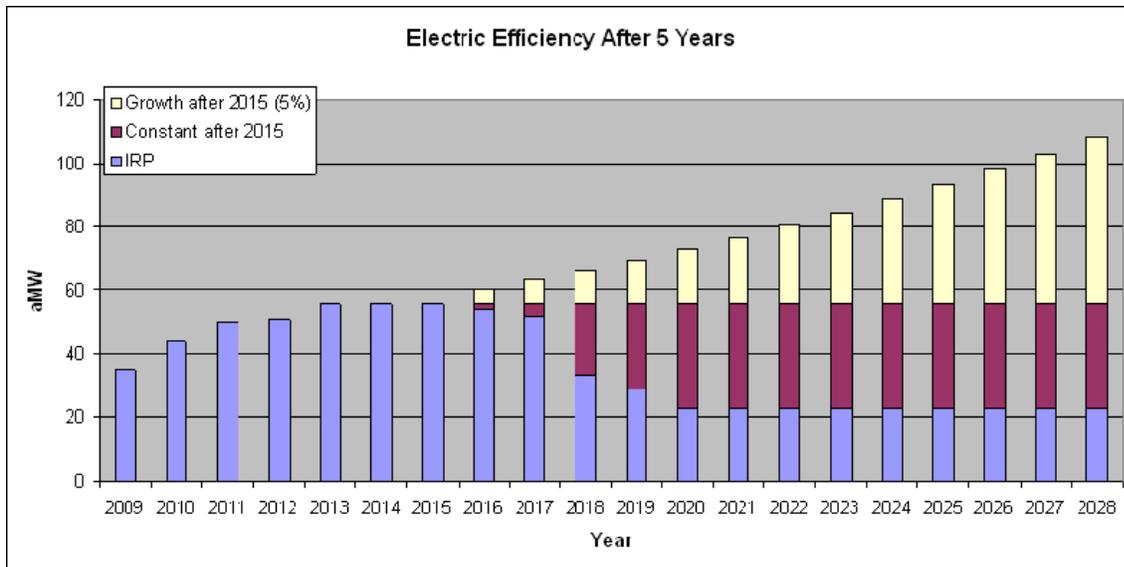


Figure 7

The graph shows Energy Trust program savings reaching a peak in 2013-2015. After 2015, PGE’s integrated resource plan shows a gradual decline as savings attributable to known energy efficiency measures and technologies are fully deployed. In PacifiCorp’s integrated resource plan, the decline begins after 2017. In 2016 and later, the light segment of the bars represents the gap that would have to be filled with new technologies and approaches to sustain the 2015 peak savings. The middle segment of the bars represents how much more would be needed if efficiency savings are to grow at a 5 percent annual rate. For comparison, the average projected 2009-2015 annual growth is 8 percent (48 percent total over six years). It would take less than eight percent growth to hold load growth steady under the Northwest Power and Conservation Council’s medium-growth scenario. The Council’s high-growth scenario would require more growth.

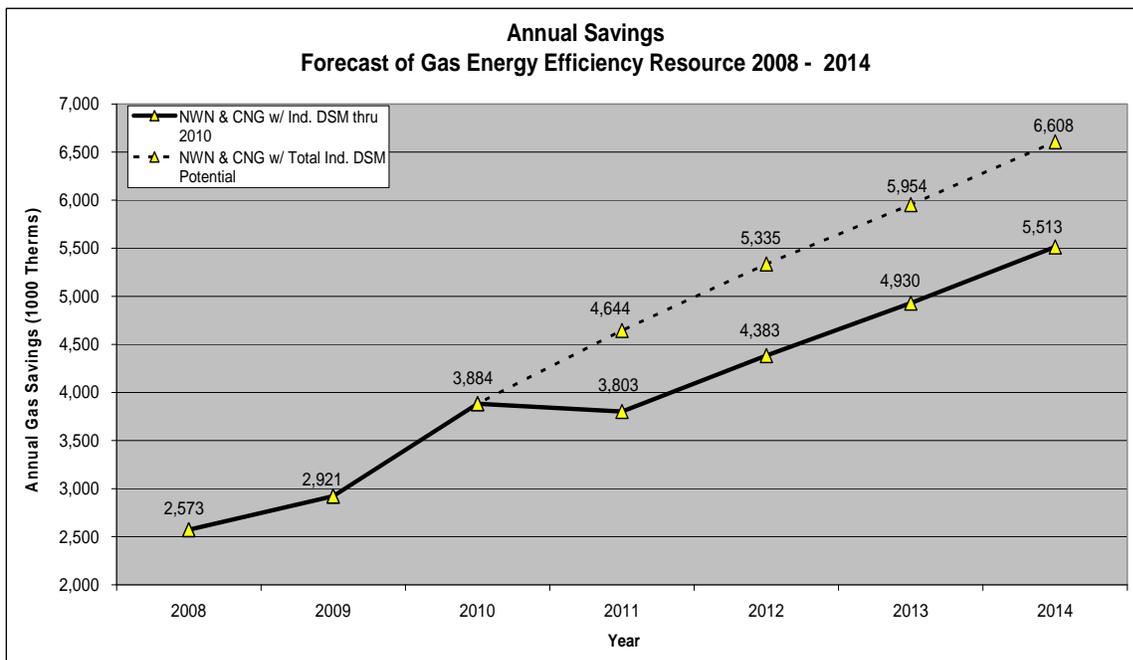
Under either scenario, the lesson of this graph is clear: it will take significant innovation in technology and approach to fill the gap in energy savings after the full deployment of known efficiency measures beyond 2015.

The graph is a projection, not a statement of fact, and whether it over- or under-states this gap is a matter of perspective. From a societal perspective, we have high confidence that there will

be additional savings from new technologies in the coming years.⁴ As has been the case historically, measures being tested now will be validated, new measures will be discovered and efficiency resources will replenish. Greenhouse gas regulation and other factors that drive up the cost of generation can be expected to encourage more innovation in energy efficiency. While we do not know and cannot project how much or when this innovation will occur, experience suggests that aggressive efficiency programs tend to accelerate technology innovation and price declines. From an Energy Trust perspective, some of these new savings will come from tighter building codes and appliance standards, rather than Energy Trust programs. In either case, the scale of investment in efficiency programs may drive the level of innovation. How much efficiency Energy Trust is able to achieve may depend on whether we are willing to make investments with less certain and longer-term return.

B. Five-year gas efficiency goals

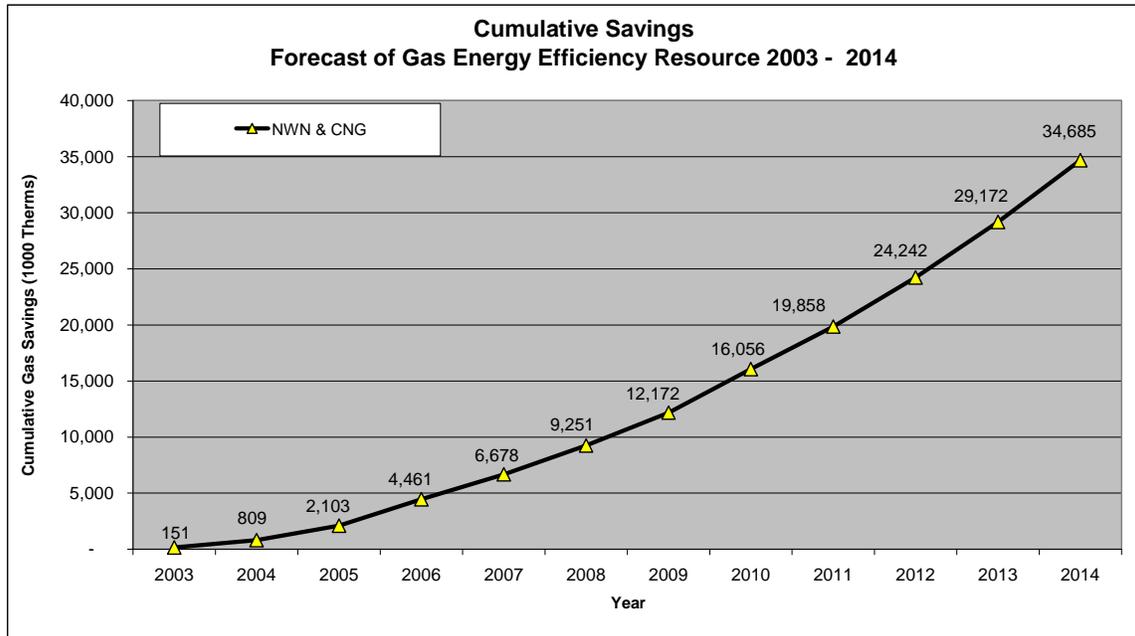
The following graphs show per-year and cumulative Energy Trust natural gas program savings given funding sufficient to attain integrated resource plan goals. Again, these are “stretch” goals. Achieving them will require a 114 percent increase in annual energy savings between 2008 and 2014.



Note: The industrial DSM pilot with NW Natural is a two-year agreement that ends after 2010. The dotted line shows the potential savings if that initiative is continued.

Figure 8

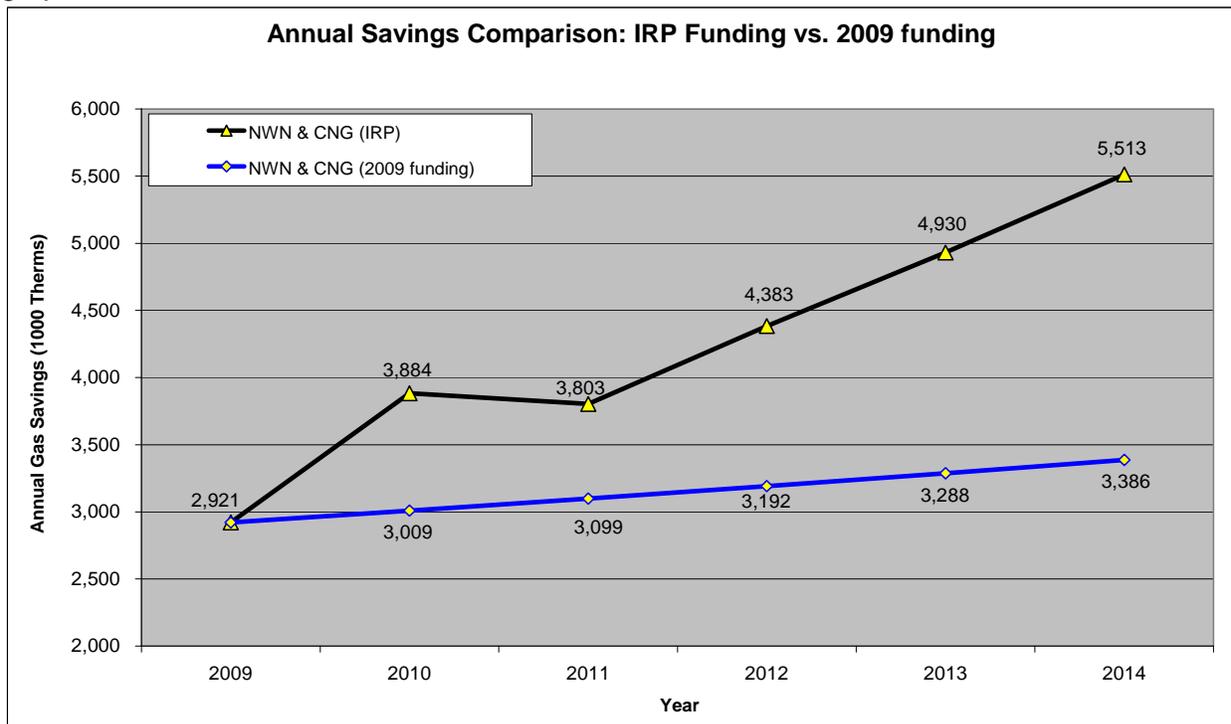
⁴ E.g., ductless heat pumps, heat pump water heaters, efficient electronic equipment, advanced gas water heaters and condensing boilers for rooftop heating in commercial buildings.



Notes: 1. Avista contributed savings (about 23,000 therms) between 2006 and 2008.
 2. In this graph, industrial DSM savings end after 2010.

Figure 9

Benefits to utility systems and ratepayers: As noted above, funding to achieve these savings comes from utility rates, which will need to be evaluated periodically to ensure program funding sufficient to capture the full benefit of the efficiency resources shown in the utility integrated resource plans. To illustrate the value represented by these increases, consider the following graph:



Note: This analysis assumes that annual savings would have grown at 3% a year absent the current agreement that funds ETO to IRP levels.

Figure 10

The graph's bottom line shows savings from gas efficiency programs if funding were held flat at 2009 levels. The top line shows savings consistent with integrated resource plan goals. The gas utilities have committed to fund programs to achieve these higher levels in 2010 and 2011. This plan assumes that savings and funding will continue to track these higher levels through 2014.

The value of this investment compared to flat 2009 levels is summarized in the following table:

Funding Scenario	Savings (Therms)	Total Benefits	Program Costs	Net Benefits
IRP funding (2010-14)	22,512,922.5	\$218,823,344	\$ 145,883,738	\$ 72,939,606
Funding held constant, 3% annual growth (2010-14)	15,974,292.4	\$155,268,517	\$ 103,513,415	\$ 51,755,102
Difference between funding/savings levels	6,538,630	\$63,554,827	\$42,370,323	\$21,184,504

Figure 11

In other words:

- Energy savings: At full integrated resource plan levels, 22.5 million therms (2010-2014) would be saved, 6.5 million therms more than the 16 million therms that would be saved at 2009 levels.
- Ratepayer savings: At full integrated resource plan levels, ratepayers avoid paying about \$219 million to purchase, store and deliver this amount of natural gas on the open market. After deducting the cost of achieving these efficiencies, ratepayers net around \$73 million in savings. At 2009 levels, ratepayers would miss out on more than \$21 million of this benefit.
- Effect on carbon: Achieving integrated resource plan efficiency goals avoids about 370,000 tons of CO₂ that would otherwise be emitted (comparable to taking 65,000 cars off the road).

Effects on load growth: The effect of these higher savings on total gas demand is expected to be more modest in percentage terms than for electric savings, however. This is because there is a smaller range of known efficiency options for large gas users, and most new furnaces are already efficient (in part due to Energy Trust efforts). Energy Trust is working with manufacturers to develop better efficiency options for residential water heat and commercial rooftop heating, which are Oregon's second and third largest end uses of gas after home heat.

Washington: As of October 1, 2009, Energy Trust began offering gas efficiency programs for existing homes and buildings that buy gas from NW Natural in Washington State. This initial offering is limited to existing structures because of current economic conditions, especially the fall-off of the new construction market. If these conditions change, additional programs may be offered. After the first year of these programs, NW Natural, Energy Trust and the Washington Utilities and Transportation Commission will determine whether or not to continue them.

Projected gas savings by sector: We expect that more than half of all natural gas savings will continue to come from home efficiency. Industrial gas savings indicated below are only for non-transport customers because Energy Trust serves only those customers under current agreements. Industrial savings are shown growing in 2009 and 2010 and then falling off because the current gas industrial program is only a pilot program. If that program succeeds, we would expect savings in 2011-2014 above those indicated here:

Projected Gas Savings by Sector (1,000 Therms)							
Sector	2008	2009	2010	2011	2012	2013	2014
Res	1,353	1,484	1,658	1,955	2,256	2,553	2,859
Comm	1,207	1,235	1,629	1,813	2,088	2,334	2,603
Ind	13	202	596	35	39	43	51
TOTAL	2,573	2,921	3,884	3,803	4,383	4,930	5,514

Figure 12

Goal 2: Renewable Energy

Energy Trust’s goal is to accelerate the rate at which renewable energy resources are acquired, helping to achieve Oregon’s 2025 goal of meeting at least eight percent of retail electrical load from small-scale renewable energy projects.

Since 2002, Energy Trust renewable programs have helped develop 98 average megawatts of electricity using a variety of technologies, primarily utility-scale wind. Since 2008, Energy Trust’s renewable energy programs have been limited by the 2007 Oregon Renewable Energy Act to projects of 20 megawatts or less. Unlike electric efficiency, the 2007 Act provided no additional sources of funds for Energy Trust renewable energy programs. Thus, the graph below assumes funding at current levels, current programs and modest increments of new generation. Given these assumptions, Energy Trust estimates that it can acquire another 23 aMW of renewable energy between 2010 and 2014, for a cumulative total of 124 aMW.

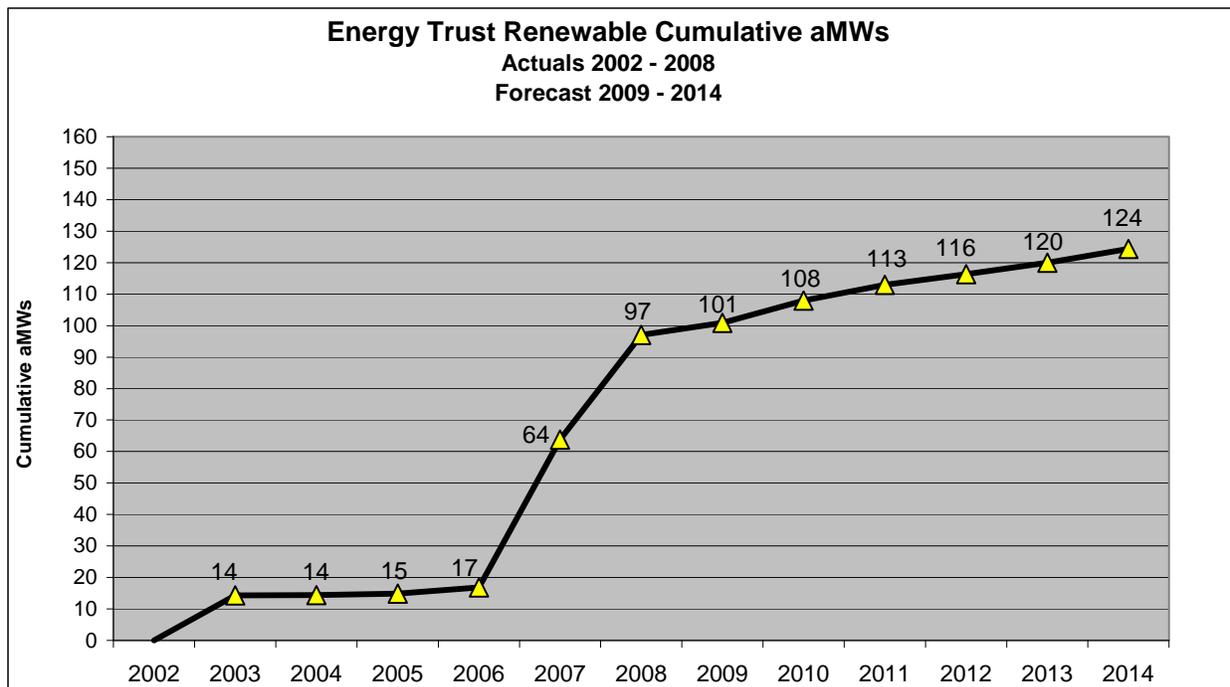


Figure 13

External factors are likely to affect Energy Trust’s renewable energy strategy going forward. For example: the Oregon Department of Energy Business Energy Tax Credit is currently set to expire in 2012, which could have a significant impact on Energy Trust incentives; 2009 legislation requiring utilities to adopt feed-in tariffs for solar installations could require Energy Trust to change its solar strategy; and evolving portfolio standards and certification criteria for renewable energy credits in bordering states could affect Energy Trust’s role in Oregon projects.

As these developments unfold, Energy Trust plans to build on the strengths it developed working with small- and medium-scale project owners over the last seven years by:

- Maintaining a presence in a range of market segments, including hydro, solar, geothermal, biopower and wind
- Providing earlier and additional assistance to project developers
- Using Energy Trust incentives to leverage additional financial resources for projects
- Teaming with utilities to reduce barriers to development
- Maintaining flexibility to shift resources to capitalize on market opportunities

Five-Year Activities

This following section outlines in non-quantitative terms the activities Energy Trust expects to undertake over the coming five years. In future two-year action plans and annual budgets, Energy Trust will establish quantitative objectives consistent with this plan and then-current utility funding projections.

1. **Accelerate** energy efficiency investments.

- a. Acquire **more standard efficiency measures** through retrofit and new residential and commercial building and facility programs:
 - Simultaneously expand efforts in multiple markets, for example:
 - Accelerating weatherization and related measures in existing homes
 - Accelerating lighting efficiency in new and existing small commercial buildings
 - Raising incentives in carefully-targeted markets
 - Leveraging emerging federal, state and local government stimulus and other clean energy initiatives
 - Diversifying programs and strategies to attract new and different customers and persuade customers to do more, for example:
 - Piloting approaches that provide more comprehensive customer information, technical assistance, coordination and/or incentives, including markets that have been underserved
- b. Acquire more efficiency savings through **supply chains** for equipment and services (e.g., distributors, designers and contractors) for equipment and services that are generally sold directly to customers at the time of purchase, by:
 - Working with additional customer associations, chains and individual customers as part of a significant, multi-year effort to develop such supplies and relationships
 - Working with regional or national entities, e.g., electronics sold business-to-business, hospital equipment, specialized industrial production equipment and advanced design in national chains
 - Developing tools to reach developers and contractors engaged in the design-build market for new buildings
 - Increasing the number of residential weatherization trade allies in smaller communities
- c. Acquire efficiency through **behavioral and operational measures**
 Energy Trust is currently exploring home energy feedback tools (home energy monitors, mailings to homeowners showing comparative energy use, energy use summaries for building operators), smart power strips, tune-up of commercial rooftop systems and other approaches and will continue this work. In addition, Energy Trust will:

- Explore opportunities to accelerate behavioral research and technology through field testing, refining or reinventing program systems, working in coordination with demand management, utility AMI metering and regional efforts
- Develop metrics to guide and manage behavioral pilots and measure development
- Work with utilities to help delay growth in, or reduce, fossil fuel peak energy use using renewable energy and demand response, load management and storage technologies, as these resources become cost-effective over the next 3-5 years

d. ***Increase comprehensiveness:*** Install more energy measures per customer served. Energy Trust is already working with the City of Portland on the Clean Energy Works Portland pilot to test mechanisms for deep home retrofit, which is seeking federal funds to advance building science and program strategies to go even deeper. Energy Trust has also begun a commercial pilot program for new buildings that are 50 percent more efficient than code, and at least 60 percent counting renewable energy generation. In addition, Energy Trust will:

- Expand efforts to overcome limitations in some aspects of vendor-driven programs
- Develop tools and business cases for vendors to sell technologies and design approaches with deeper savings
- Work directly with larger and more sophisticated customers
- Develop templates to simplify and standardize approaches to deeply-efficient design
- Integrate efficiency and renewable energy opportunities for customers in holistic approaches to energy and resource management

e. ***Link to larger-scale initiatives,*** including regional/interstate collaborations, codes, standards and interactions with clean energy markets: Energy Trust currently works extensively with other energy and carbon-related initiatives, and investigates links to grid, land, water, and waste and transportation management in limited ways. Going forward, Energy Trust will:

- Explore ways to integrate efficiency into initiatives such as utility demand reduction programs, smart growth, resource recovery/conservation, transportation and land use planning
- Monitor trends in government policy and industry investment to anticipate and build on developments that further energy saving and renewable energy
- Engage green workforce initiatives to invest in and ensure availability of well-trained, educated and competent trade allies to deliver energy benefits
- Leverage relationships with organizations with related missions
- Expand relationships with trade and labor groups

2. *Maintain support for a variety of renewable energy technologies:*

- Explore ideas for reducing barriers for qualifying facility development
- Shift resources to capitalize on market opportunities

3. *Encourage innovative technologies* and practices that create significant, additional and diversified renewable energy and efficiency opportunities. Energy Trust expects to see a vast array of new technologies for heating, cooling, lighting, water heating, electronic equipment and user management of facilities. Some will have predictable performance based on standard equipment ratings, but many employ new strategies to save energy, and will need to be tested in a real-world environment. Investing in developing these technologies is crucial to moving beyond current energy efficiency resource projections, which are based on known technologies.

Energy Trust is already exploring a number of new technologies: LED lighting, advanced home water heaters, ductless heat pumps, and improved controls and heating systems for commercial

rooftop heating and cooling equipment. Energy Trust works with designers in the Path to Net Zero pilot, aiming for buildings that use 50 percent less energy than required by code, and 60 percent less overall by incorporating renewable generation. Energy Trust also works with national programs to promote efficient technology availability and common technical specifications, and with local and government entities to create community-based efficiency initiatives.

However, there are still major gaps in product performance and availability. The technical performance of many new products needs to be better understood and in some cases improved. In other cases (e.g., home and building operation aids), field testing is needed to identify the best approaches. While Energy Trust does not plan to be engaged in early product development, we will:

- Increase funding for Northwest Energy Efficiency Alliance (NEEA) electric market transformation programs, and encourage NEEA to take on a similar role for natural gas
- Help field-test and verify equipment and operational approaches, help manufacturers perfect systems, and demonstrate and commercialize promising systems
- Leverage the work of other organizations such as the American Council for an Energy Efficient Economy, the Consortium for Energy Efficiency, the U.S. Department of Energy, the U.S. Environmental Protection Agency, national laboratories and others

Energy Trust will act on its own only for high-priority projects others are not taking on, and for small, simple projects where broader coordination is not necessary or warranted.

To guide these activities, Energy Trust will develop metrics and manage technology development, and criteria to use in deciding where to focus Energy Trust efforts. Criteria could include whether a given technology is likely to: significantly reduce energy load growth, commercialize a promising renewable technology such as low-temperature geothermal or farm biomass, bring products to Oregon markets in the near term, not be developed or demonstrated without Energy Trust involvement, produce measureable savings, be critical for a key initiative (e.g., net-zero commercial buildings) or balance intermittent renewable generation with load.

4. Support industry and business infrastructure that delivers energy efficiency and renewable energy products and services to contribute to a strong economy.

- Support clean energy business infrastructure development:
 - Cultivate and support more than 1,200 trade allies as a sales and delivery force
 - Recognize and reward trade allies for the quality and quantity of work performed
 - Invest in trade ally training and development, leveraging federal and other training funds where possible
- Help businesses integrate efficiency and renewable energy profitably into their business plans so that management is well-structured and the profits are clear
- Provide responsive services to a wide array of businesses with different energy needs
- Work with businesses to identify efficiency investments with deeper energy benefits and longer paybacks (e.g., Path to Net Zero pilot for new buildings), and at the same time help businesses and homeowners who prefer to accelerate their efficiency investment incrementally

5. Provide excellent customer service to Energy Trust program participants to maximize energy savings and renewable energy benefits. Energy Trust is in the process of implementing

a number of administrative and organizational changes intended to enhance our focus on customers. Going forward, Energy Trust will seek to:

- Better understand how different customers make decisions, and what barriers, if removed, would lead to greater participation
- Use different messages to motivate different energy users and developers to generate small-project renewable power and cost-effectively conserve energy:
 - Understand consumer behavior and response through market research and intelligence
 - Test and develop new messages focused on the connection between energy and sustainability
- Provide renewable energy project assistance early in the project cycle:
 - Address barriers to successful project completion by providing educational, technical and financial resources
 - Build a network of project development technical assistance services to help customers navigate interconnection, power purchase agreements, permitting, financing and resource assessment
- Pursue innovation in program delivery:
 - Simplify participation in Energy Trust programs
 - Move to automated, online forms
 - Offer appropriate financing tools, including those that allow owners to invest in a range of clean energy improvements
 - Help interested participants access and participate in a fuller spectrum of energy and resource efficiency, renewable and, in coordination with utilities, demand management options
 - Build long-term relationships with participants, organizations with linked missions, and pivotal equipment and services supply organizations
 - Fully integrate efficiency and renewable energy program delivery
 - Leverage joint utility marketing and channels to better reach customers and generate greater awareness and project leads
 - Identify geographic locations with significant renewable energy potential and connect with resource owners
- Improve contractor support and training

6. *Bring a broad perspective* to two-year action plans and annual budgets by considering their overall balance and equity. In addition to individual programs and initiatives, Energy Trust will view its investment of ratepayer funds from a portfolio perspective by considering how well budgets and action plans address the following:

- Long-term and short-term perspectives: Do they include an appropriate mix of initiatives and measures with near-term (1-3 years) and longer-term benefits? Investment in new technologies and innovative pilot initiatives like the Path to Net Zero pilot and the Positive Energy/OPOWER behavioral pilot will take years to generate large quantities of energy savings, and while some will pay off, some will not. Yet these investments provide the “next generation” of energy efficiency, energy conservation and renewable energy development. It is vital that Energy Trust’s portfolio puts due weight on these forward-looking investments.
- Sector and geographic diversity: Will all customer sectors that contribute funding to Energy Trust have equitable opportunities to participate in programs? Is there sufficient emphasis on geographic diversity and customers whose participation previously was more limited? Energy Trust already explores ways to cost-effectively reach more rural consumers, moderate-income households and small businesses. Continuing to invest in these efforts is an important way to demonstrate the value of

energy efficiency and renewable energy state-wide, and that ratepayer funds are managed equitably.

- **Reach upstream:** Is there appropriate emphasis on reaching upstream to manufacturers and supply chains? For example, Energy Trust works with the Northwest Energy Efficiency Alliance to coordinate nationally to promote efficient electronic devices, such as televisions and computers. Similar efforts may be appropriate for efficient new manufactured homes, refurbishing vending machines, and influencing design choices and equipment selections of national chain stores. Keeping a place for these upstream initiatives in Energy Trust's portfolio will complement programs with more immediate focus.

7. Communicate the value of energy savings and renewable energy generation

- Develop a communications strategy to reach utilities, customers/ratepayers, decision-makers and other stakeholders and constituents about the benefits of and opportunities for energy savings and renewable energy
- Quantify and report in easily understood language the economic, environmental and other benefits of and opportunities for energy savings and renewable energy
- Leverage relationships with other organizations to reach a broader range of audiences

8. Maintain an efficient, effective and transparent organization that responsibly invests ratepayer funds. Energy Trust has always strived to develop and maintain open, credible decision-making processes and accountability and reporting systems. While these efforts require significant attention and investment, they play a vital role in establishing the value of energy efficiency and renewable energy investments and their reliability in meeting legislative and policy goals. Going forward, Energy Trust will continue to expand these efforts by:

- Regularly evaluating and refining Energy Trust's efficiency and effectiveness compared to relevant energy and non-energy businesses
- Continuing to foster transparency through open meetings, advisory councils, reports and other publications, and other means
- Demonstrating a high standard of organizational ethics
- Periodically assessing organizational strengths, weaknesses, opportunities and threats
- When considering expansion opportunities, using Energy Trust's core mission and competencies, and its ability to maintain transparency and accountability, as touchstones.