Production Efficiency

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2013 Goals:

- Achieve cost-effective energy savings of 14 – 16.5 aMW and 970,000 – 1,140,000 therms.
    - Compared to 2012 goals, the 2013 electric stretch goal is 5% higher, reflecting the steady but slower growth expected in a mature program.
    - The 2013 gas stretch goal is 1% lower, with the decrease in NWN public purpose territory. Fewer small industrial customers are being found who purchase gas under these eligible Commercial rates.

    - Stretch goal by utility territory:
        - PGE – 10.8 aMW
        - PAC – 5.7 aMW
        - CNG – 126,000 therms
        - NWN Industrial DSM – 750,000 therms
        - NWN public purpose – 264,000 therms

- Industrial and Agricultural businesses in Oregon invest in and manage their energy use, improving profitability, productivity and sustainability

Overview

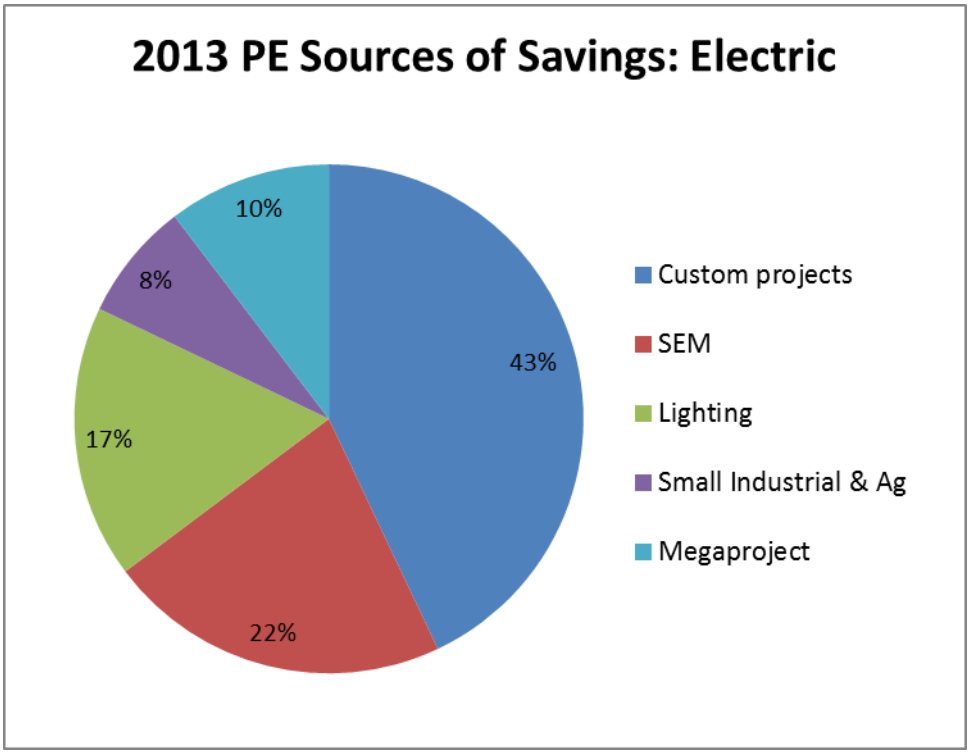
Energy Trust's Industry and Agriculture Sector provides energy efficiency services and incentives to industrial and agricultural customers through a single program. Production Efficiency provides a diverse set of custom and streamlined offerings that have been designed to help energy intensive and complex organizations achieve cost-effective savings on an ongoing basis.

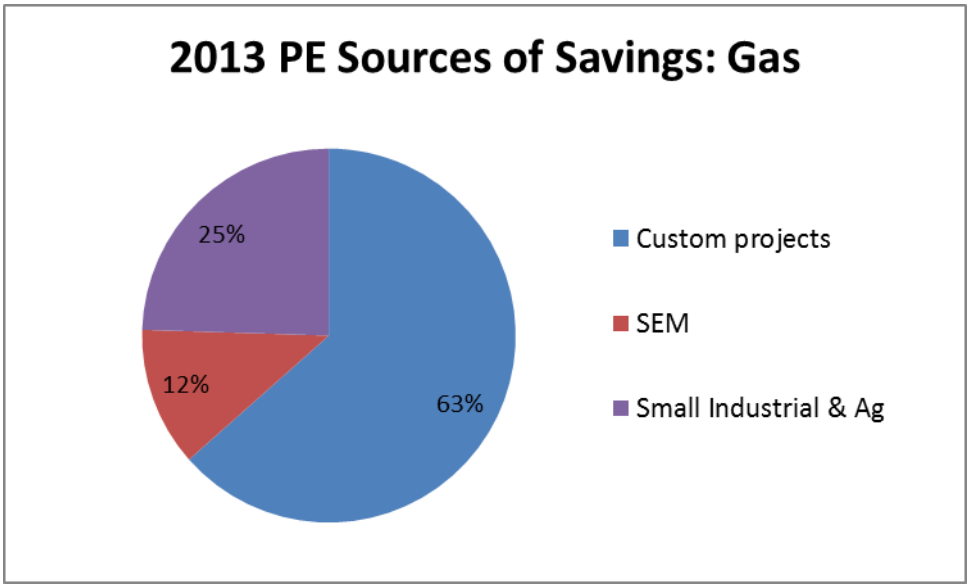
The program is designed and managed in-house, by Sector staff, since 2008, and is delivered with the support of a large number of contractors. PE is brought to market by six teams of Program Delivery Contractors (PDCs) with deep technical and program

expertise, who make it easy for customers and trade allies to participate. Allied Technical Assistance Contractors (ATACs) provide high quality technical studies to enable customers to make investment decisions on energy efficiency projects. Industrial Technical Service Providers (ITSPs) support the development of customer capacity to manage their own energy use and reduce energy waste in their operations with Strategic Energy Management.

The program volume has more than quadrupled over the past 5 years as we have expanded tracks and created new initiatives. The Trade Ally tracks in lighting and small industrial have been the major contributors to this growth. Currently, we complete close to a thousand projects a year and would expect this to be about the same or grow some in 2013.

The PE program supports a diverse portfolio of measures and offerings that provide energy savings, and projections regarding what type of savings will make up the portfolio in 2013 are used to set PDC goals and develop incentive budgets. Historical run rates by source of savings and analysis of the current 2013 pipeline of named projects inform these projections, which are shown in the charts below.





Strategies

- **Keep what's working**. Minimize changes to current, successful program services, strategies, and base incentive levels for custom, calculated and prescriptive measures.
- **Further develop and deploy Strategic Energy Management**. Provide technical expertise, training and project funding to help companies plan, manage and improve their energy efficiency. Synthesize best practices and lessons learned in 2009-2012 SEM initiatives and standardize SEM offerings for highest impact. Continue to ramp up recruitment of large customers and continue SEM pilot for small industries.
- **Utilize PDCs as energy efficiency "account managers" for industrial customers.** Ongoing relationships between participants and trustworthy, knowledgeable PDC engineers provide the basis for repeated success at sites, from scoping of opportunities to verification of savings.
- **Enable investment decision-making**, increase customer confidence in energy savings and reduce risk of poor project performance by providing services of 3rd party technical experts (ATACs and ITSPs.)
- **Provide centralized program management and direction of effort**. Develop communications strategy, customer recognition tools and program collateral; use program data analysis and market and technical research to support program and incentive design; identify and transfer

best practices between PDC teams, ATACs, ITSPs; and provide detailed guidance for PDC action plans/ strategies.

- **Cultivate a learning community of industrial energy champions** to share their successes and the business benefits of energy efficiency with their colleagues, peers and industry leaders.

- **Coordinate with the actions of existing and emerging market players** that provide industrial and agricultural energy outreach, technical assistance and public recognition to increase volume and decrease development and engineering cycle of industrial efficiency projects.

Objectives:

- Meet or exceed savings and cost-effectiveness goals
- Achieve high technical realization of savings for projects
- Maintain a high level of customer service and participant satisfaction.
- Maintain high quality, accurate and secure project data and program files
- Increase participation by smaller industrial and agricultural businesses

Tactics:

- **Industrial gas efficiency** is fully integrated into both the Custom and Trade Ally driven tracks of the program, and savings are achieved from both medium-large industries and from small industrial and agricultural participants. The variety of gas efficiency measures continues to grow, with increasing process efficiency opportunities coming to light in the custom track especially as the program and its PDCs continue to mature in this area. Maintain emphasis on learning and transferring technical knowledge about gas savings opportunities among PDCs to increases pipeline and offset market effects of lower gas prices.
    - Retain current custom gas incentives for capital projects at $2.00/therm, capped at 50% of project cost. Provide incentives for capital projects with < 1 year payback at reduced level of $.20/therm. Consider bonus incentive for gas measures based on health of project pipeline at end of Q1.

- Continue to provide a suite of custom O&M gas incentives to drive gas savings through strategic energy management ($.20/therm), and other gas O&M measures ($.40/therm). Extension of strategic energy management to small industries in CORE Improvement pilot in 2012-2013 is the primary expected source of gas O&M savings in 2013 as 11 of the 12 enrolled sites are eligible for Energy Trust services and incentives.
- Industrial and agricultural gas efficiency services and incentives are provided to eligible sites served by Northwest Natural (including sites paying the public purpose charge and those under the specified rate schedules for NWN Industrial DSM) and in Cascade Natural Gas territory. Sites purchasing their gas through a 3rd party, i.e., Transport customers, are not eligible to participate.

- The **Custom track** allows for a comprehensive approach to one-of-a-kind process efficiency projects, including replacement, retrofit and O&M projects.
  - Regional PDC delivery funds dedicated industrial engineers to work with medium to large industrial sites across Energy Trust territory, facilitates program participation. Custom track approach makes participation easy. Custom track PDCs are geographically assigned by utility territory with exception of food processing and pulp & paper markets, which have a dedicated PDC across all territories. 2013 is the fifth year of 5 year PDC contracts. Re-compete in mid-2013 and award new PDC contracts for 2014.
  - Maintain current base incentive level of $.25/ first year kWh, capped at 50% of project cost for custom capital non-lighting projects.
  - Continue to offer the 90 by 90 industrial O&M incentive , for stand-alone Custom O&M measures. The 90 by 90 Custom O&M incentive provides 90% of implementation costs to sites that implement recommended O&M measures within 90 days, capped at $.08/kWh. Sites that complete after the 90 day implementation period revert to the standard O&M incentive for 50% of project costs.
  - Use well qualified ATACs for Technical Analysis Studies that inform and enable customer investment decision making.
  - Further develop and deploy comprehensive approaches to identifying and analyzing comprehensive O&M measures across an entire complex system, including industrial systems optimization/ RCx (I-Sys) and energy value stream mapping (EVSM).

- PDCs identify opportunities for renewables at industry and ag sites, make referrals, provide tech support.

- **Industrial Lighting**, delivered through the lighting trade ally network, remains the most cost-effective delivery channel of the PE program and will continue to accelerate savings.
  - Retrofits from T12 to T8 lighting continue to be incentivized as lamp manufacturers have stated producing compliant T12s. 2013 will be a year to continue to watch the market and consider changes for 2014 when federal ballast standards come into effect.
  - Plans to continue participation in the Comprehensive Lighting Pilot in 2013 will help grow savings on a per project basis as well as develop Trade Ally ability to design lighting systems around the complex needs of industrial customers.
  - Targeted LED incentives will continue to be offered where appropriate applications are identified.

- The **Small Industrial and Agricultural Initiative** invests in increasing offerings and channels to market for smaller industry and farmers, many in rural areas
  - Develop additional prescriptive and semi-prescriptive measures that rely on Trade Ally/vendor delivery and require less intensive forms and administration than the custom track.
  - Increase uptake and awareness of agriculture sector offerings by customizing forms and targeting marketing, outreach and technical support more effectively to this discreet sector of PE customers.
  - Scientific Irrigation Scheduling, which was first offered to Energy Trust customers in 2012, will be analyzed in Q4 2012 and redesigned for greatest impact in 2013.

- Deliver on industrial **Strategic Energy Management (SEM)**. Provide training, technical support and cash incentives for savings to help customers establish goals, increase corporate commitment, engage employees and improve their capacity to manage their energy use. Continue to recruit new participants and help former SEM participants maintain their improvements in order to achieve direct savings of 5 – 10%

per site from low and no cost actions and indirect savings greater participation in standard program offerings in out years.

- Synthesize lessons learned while implementing at 40+ sites from 2009 – 2012 and standardize Energy Trust industrial SEM offerings' curriculum, tools, materials and implementation best-practices to optimize customer experience and enable consistent outcomes.
- Recruit participants and deploy the pool of qualified Industrial Technical Service Providers (ITSPs) to provide these technical services. ITSP services are paid for as service incentives to participating sites.
- SEM services to be offered include peer cohort based SEM through the Industrial Efficiency Improvement (IEI) initiative (10 sites), the Corporate SEM for single sites (3 - 7 sites), SEM Maintenance to help re-establish or deepen SEM for customers who participated in SEM in past years (5 - 10 sites) and peer cohort-based Refrigeration Operator Coaching (ROC) (4 - 7 sites).
- Continue to implement the 2012-2013 CORE Improvement SEM pilot for small industries. Evaluate pilot results and lessons learned and determine next phase design for small industrial SEM based on outcomes of pilot. Consider launching a 2nd pilot cohort in Q2/ Q3 of 2013 if preliminary results for cohort 1 warrant it.

- **Communicate** industrial efficiency success stories and other marketing approaches to spread best practices, influence customer behavior
  - Develop new communications and tools to make participation even easier
  - Create more compelling ways to tell customer stories, such as cultivating industry champions to speak to peers about their experience at industry events, publishing the champion newsletter quarterly, making video case studies and creating website enhancements that improve usability
  - Co-sponsor the 3rd annual Oregon Leaders Awards for Industrial Efficiency with ODOE, NEEA and BPA.
  - Increase Energy Trust's presence in appropriate statewide and industry media to build a higher profile for services and benefits to the industrial sector.

- Increase **PE program capacity** to maintain quality of program administration of public benefits funds
    - In light of increased project volume in industrial and expected new effort related to ISI project implementation, address staffing needs to maintain current standard of customer service.
    - Contract for Quality Assurance study of PDC and program staff compliance with policies, technical guidelines and administrative procedures and for recommendations to improve program documentation and administration.

- **Evaluate** program and incorporate evaluation findings to improve program design, implementation, savings outcomes, cost-effectiveness and customer experience. Evaluations planned for 2013 include:
    - PE Process 2013: focus on SEM, O&M, etc
    - PE Impact 2011: Analysis and reporting
    - PE Impact 2012: Sampling design, site visits, some focus on persistence and spillover in SEM, O&M
    - CORE pilot Process evaluation: first year interviews and analysis of energy tracking models
    - Mega-project evaluation: review first year milestones
- **Collaborators** for market transformation and project leads include the IOUs, NEEA, BPA, Business Oregon, ODOE, Oregon Manufacturing Extension Partnership (OMEP), the High Performance Enterprise Consortium (HPEC), Oregon Association of Clean Water Agencies, Climate Solutions, the Northwest Food Processors Association, Society of Manufacturing Engineers, the Oregon Association of Nurseries, the Resource Conservation & Development Councils, Soil and Water Conservation Districts and federal actors such as US DOE, USDA and US EPA ENERGY STAR.

Key Assumptions:

- The Custom track incentive budget is based on actual spending history per first year kWh or therm and projections of % of capital vs. O&M projects, which have different first year costs but similar levelized costs. Projections made in 2011 for 2012 budget of more O&M and less capital proved incorrect in 2012, as the economy rebounded for many

manufacturers and they invested in more capital projects. Similar economic conditions in 2013 as in 2012 drive program assumption that most custom projects in 2013 will be custom capital. This assumption creates a small increase in the incentive budget per first year kWh in the Custom track, but has a positive effect on levelized cost for the program due to the longer measure lives of capital projects.

- SEM goals and incentive budgets were built from the bottom up based on the number of new target sites, SEM already in progress at other sites, and average savings achieved and costs expended to date through these offerings.

- Budget assumes that phase 2 of the mega-project will complete in 2013, following the successful completion of phase 1 in 2012. Current budget estimate is a $1,950,000 payment in 2013 with 15 million kWh associated savings.

- Lighting goals and savings in 2013 reflect an assumption that the market remains similar to 2012, incentives are held steady and that this source of savings continues to ramp at a reasonable pace in 2013.

- As mentioned in the tactics section, the variety of gas efficiency measures continues to grow, with increasing process efficiency opportunities coming to light in the custom track especially as the program and its PDCs continue to mature in this area. Unfortunately, the increase in savings that would be expected is offset by the expected effect of lower gas prices and longer payback periods on customer investment decision making for gas efficiency projects. These market effects are mitigated by the program's ongoing growth in this area, so overall savings for industrial gas in 2013 are expected to be close to what the program achieved in 2012.

Primary Risks:

- **Effects of natural gas price decreases on industrial gas efficiency savings** The primary uncertainty is that lower prices may suppress new EE project investment as lower baseline gas prices lengthen payback periods. Savings are still cost-effective for the program, but it's hard to predict whether the program will continue to ramp savings as in the last 3 years given this major reduction in the value of energy savings to the customer. This risk and it's effect on 2013 goal assumptions is addressed in the preceding bullet.

- **State energy tax credit program is still in flux**. The 2011 Fall bonus and the 2012 Kick-Start Bonus were effective in keeping customers engaged and investing in EE as the BETC went away, even during the recession's slow recovery. In mid-2012, the PE program is seeing stronger economic conditions in many local industries, and the pipeline of EE projects is robust. Because of this, and because we can't know if the new state tax credit program will take off, PE services and incentives will be designed and operating largely independently of tax credit considerations in late 2012 and 2013. Although there is risk in this course, we propose to let the program run at normal base incentive levels, without any bonus related to tax credit mitigation, to see if customers will proceed to make EE capital investments with or without the tax credit.

- **Limitation on 838 spending for > 1 aMW customers.** Recent analysis of 2011 Energy Trust and electric utility data shows that the organization is well under the historical baseline in PAC but getting closer in PGE. We did not exceed in 2011, and probably will not in 2012, but could by 2013. Lack of visibility at Energy Trust currently of who is or is not paying 838 constrains what we can know or address proactively, which poses a risk as we get close to the cap.