

Northwest Energy Efficiency Taskforce Executive Committee Meeting

Wednesday, November 2, 2011
11:00 a.m. – 2:30 p.m.

Tacoma Convention Center
1500 Broadway
Tacoma, Washington 98402

AGENDA

- 11:00 a.m. Welcome, Introductions
Ken Canon, Facilitator
- 11:10 a.m. Presentations on NEET Actions progress
- Action 1** RTF evaluation
Bill Drummond
- Action 2** Data Needs
Rob Russell (NEEA)
- Action 3** Emerging Technologies
Ryan Fedie (BPA), Jeff Harris (NEEA)
- Action 4** Energy efficiency forum and strategic planning
for high impact energy efficiency initiatives
Karen Horkitz, Scot Davidson (NEEA)
- Action 5** Marketing
Elaine Blatt (NEEA)
- Action 6** Workforce Development assessment
*Cal Shirley (PSE), Barbara Hins Turner, (Centralia Community College),
Alan Hardcastle (Washington State University)*
- Action 7** Workforce Development curriculum coordination
*Cal Shirley (PSE), Barbara Hins Turner, (Centralia Community College),
Alan Hardcastle (Washington State University)*
- Action 8** Cost Effectiveness Manual
Sara Patton (NW Energy Coalition)
- Action 9** Smart Grid, Load Management
Lee Hall (BPA)
Distribution System Efficiency and Voltage Optimization
Jennifer Eskil (BPA)
- Action 10** Decoupling
Ralph Cavanagh (NRDC)
- 12:30 p.m. Lunch
- 1:30 p.m. Co-Chairs comments on morning session
- 1:40 – 2:30 New Energy Efficiency Opportunities and Challenges

Summary of June 17, 2010 NEET Executive Committee meeting

Action 1 – RTF Evaluation: Prepare an independent evaluation of the Regional Technical Forum (RTF) to determine how it can best meet the region's needs in data collection, analysis, evaluation and dissemination of findings.

Meeting Summary

Bill Drummond provided an overview of the recommendations of the EMI/Navigant Consulting report on the RTF. Drummond summarized the report's three key recommended action items. These addressed reaching agreement on stakeholder definitions while dealing with issues of the RTF's governance and structure; inventory and prioritize stakeholder needs and establish a multi year work plan to address those needs; and, increase the operational transparency of the RTF in budgeting, voting requirements, operating procedures and potential conflicts of interests by making incremental operational changes.

Drummond reported that some of these issues were in the process of being addressed by the Council and the RTF. To address the issues of stakeholders, governance and funding, Drummond proposed that the NEET Executive Committee recommend that the Council create a policy level steering committee to conduct a short term, focused effort to develop concrete recommendations for the Council's consideration, and hopefully, adoption. Thanks to Ralph Cavanagh's lunch time efforts a list of names for the proposed Steering Committee was developed and forwarded to the Council.

Action 1 Progress Measure

Has the Northwest Power and Conservation Council commissioned a Steering Committee to produce specific RTF recommendations and, if so, have those recommendations been implemented?

Action 2 - Data Needs: Compare how NEEA data collection effort activities mesh with NEET report recommendations and determine gaps for future regional attention.

Meeting Summary

NEEA's Rob Russell discussed the region's response to the ongoing need for good data to support an accelerated energy efficiency effort. He reported that the NW Research Group (NWRG) had been re-founded to identify data/research gaps, identify best practices and to keep track of ongoing research efforts. Gaps were found in the absence of end-use load data for all sectors; the lack of sales data; and market characterization efforts in the industrial and agricultural sectors. The NWRG will develop proposals and the business case for each of these areas with proposals on end-use load data for all sectors and sales data to be completed within three months. The Regional Collaboration Group will consider the proposals being developed by the NWRG.

Action 2 Progress Measure

Has the Northwest Research Group (NWRG) developed business case proposals for end-use load data and sales data development for all sectors and submitted those proposals to the Regional Coordination Group?

Action 3 - Emerging Technologies: Create a plan for NEEA, BPA and other regional entities to coordinate emerging technology activities and keep the “pipeline” full to meet future energy efficiency needs.

Meeting Summary

Jeff Harris (NEEA) and Ryan Fedie (BPA) made a joint presentation on regional emerging technology efforts. The goal is to identify leading technologies and move them into readily adoptable programs. NEEA and BPA have developed a formal Regional Emerging Technology Advisory Committee (RETAC) that has a charter to advise NEEA on where best to invest its emerging technology budget and to host a collaborative and communication effort on emerging technology. They discussed the importance of continually updating the emerging technology roadmaps. BPA has established Technical Advisory Groups (TAG) on lighting and HAVC with up to 8 more potentially to be established. While BPA and NEEA focus on technologies and not products, they both have sophisticated ranking and scoring systems in place to test a variety of technologies.

Action 3 Progress Measure

Has the region picked at least one of the emerging technologies and undertaken a collaborative effort to move it beyond technical and market barriers to wider adoption?

Action 4 Energy efficiency forum and coordinated strategic planning for high impact energy efficiency initiatives: Create a forum within an existing regional entity to increase collaboration and help move forward on new and expanded energy efficiency efforts.

Meeting Summary

Karen Horkitz (NEEA) explained the two paths to be used to collaboratively pursue high-impact energy efficiency opportunities: 1.) Develop an infrastructure for collaboration; and 2.) form a group of designated people to focus on collaborative strategic planning. On the first, Horkitz outlined the efforts of NEEA and BPA to jointly build a common online energy efficiency community for the Northwest. Dave Kresta (NEEA) is leading this effort with a regional steering committee. Following a pilot version ready by the end of 2010, an iterative approach will be used to maximize functionality. The effort will start with existing regional groups who could benefit from increased regional communication and functionality. Horkitz also explained the plan to have a regional energy efficiency conference to focus on best practices and increased interaction among the energy efficiency community.

Scot Davidson (NEEA) explained that members of the existing NEEA Regional Portfolio Advisory Committee (RPAC) had been tasked with the responsibility to facilitate the

enhanced coordination of high-impact energy efficiency measures in the region. Therefore, this group has a dual purpose, to advise NEEA and to act as a regional coordinating group through the NW Regional Coordination Group. It was clarified that NEEA is facilitating, not leading, the NW Regional Coordination Group. This group began evaluating 30 potential high impact measures that were created as part of the Work Group 3 effort. To arrive at a more manageable number of measures, a small taskforce was created to winnow the 30 potential high impact measures down to a few measures for pilot program consideration.. The winnowing process was expected to be complete in July 2010, with implementation plans for the pilots to be developed by October 2010, and implementation beginning in January 2011. A review of the pilot implementation progress was scheduled for mid year 2011. Davidson highlighted the uncertainty regarding the resources needed to pursue these actions.

Action 4 Progress Measure

Has an energy efficiency online forum been established? Is it being used by regionally collaborative groups such as the NW Research Group, the Marketing Coordination Council and the Regional Coordination Group? Has a regional energy efficiency conference been scheduled? Has the Regional Coordination Group selected several high impact energy efficiency initiatives for a pilot; developed an implementation plan and implemented the pilots?

Action 5 – Marketing: Conduct secondary research on behavior change initiatives related to consumer energy efficiency.

Meeting Summary

Teri Duncan (PECI) provided a summary of the Consumer Behavior Research Report and the follow-on recommendations based on the findings of that report. The report identified best practices among the most successful behavior change initiatives and found that a well coordinated regional marketing effort aimed at consumer behavior change could be successful. However, primary research is needed and any effort should be designed from the beginning to include evaluation methodology. The recommendation for next steps identified the need for a facilitation resource to support the activities of the Marketing Coordination Council (MCC). NEEA has agreed to fulfill this facilitation role. The Marketing Coordination Council would identify additional needed research needed to develop targeted behavioral messaging and the development of a toolkit that would support multifaceted marketing efforts and their evaluation. The first step in this process is for NEEA to convene the Marketing Coordination Council and for the MCC to develop a work plan and identify marketing channels and necessary tools.

Action 5 Progress Measure

Has the Marketing Coordination Council convened to complete a work plan and to identify/establish marketing channels, messages and tools?

Action 6 and 7 - Energy Efficiency Workforce Development Assessment and Curriculum Coordination: Define energy efficiency jobs distinct from other green-economy jobs, establish skill standards and identify job classifications for use throughout the Northwest (Action 6). Create a regional clearinghouse for energy efficiency job

openings. Create a coordinating body to partner with energy efficiency entities to increase regional coordination on training, education programs, curriculum and skill standards (Action 7).

Meeting Summary

Cal Shirley (PSE) began the discussion of these two Actions by explaining the challenges faced by the energy efficiency community in addressing the region's energy efficiency work force development needs. These needs have typically not been addressed by the energy efficiency industry and therefore Work Group 5 focused its work on a regional perspective through a detailed literature review seeking to identify actionable items that could be deployed within a 5 year timeframe. Shirley explained that much effort was devoted to finding the appropriate regional entity to carry this effort forward. Through mutual agreement Centralia Community College will carry both Actions forward.

Barbara Hins Turner (Centralia Community College Center of Excellence (COE)) and Bob Topping (Chemeketa Community College) discussed the goal of focusing on mission critical competencies. Hins Turner also discussed how the NEET Actions and NEET carry over funding would be woven in with Centralia Community College's funding from a recently received US DOE stimulus funded grant. She explained that the COE will proceed by creating an advisory committee to provide advice and support on both Actions.

Stan Price (NW Energy Efficiency Council) and Phil Welker (Portland Energy Conservation, Inc.) reported on the training grants that their organizations had recently received.

Action 6 and 7 Progress Measures

Has Centralia College compiled and posted on its website current community college and apprenticeship energy efficiency programs offered in the NW states and those being developed through DOE and NSF funding? Has Centralia College established an advisory committee to guide efforts to conduct an assessment defining and segmenting energy efficiency jobs from other green economy jobs and to establish skill standards and identify energy efficiency job classifications that will be used across the region?

Action 8 - Cost Effectiveness Manual: Review regional cost-effectiveness policies and create a guide to increase understanding of how cost effectiveness rules and regulations are applied.

Kim Drury (NW Energy Coalition) explained that for a variety of reasons, the creation of a regional cost effectiveness guide was no longer a current high priority. Reasons included: 1.) More measures are now "deemed" cost effective through the RTF; 2.) BPA now allows more bundling; and, 3.) a national guide on cost effectiveness has been published. Drury did suggest that a shorter, more Northwest-oriented guide may be helpful in the future.

Action 8 Progress Measure

Is there a need for a regionally oriented cost effectiveness manual?

Action 9 Smart Grid, Load Management and Voltage Optimization – Increase regional collaboration on programs that address smart grid, load management, distribution efficiency and conservation voltage regulation

Meeting Summary

Lee Hall (BPA) reviewed the progress of the Pacific Northwest Smart Grid Demonstration Project. The Smart Grid Project is a \$178 million effort to substantially increase smart grid assets in the region by purchasing and installing smart grid technology. It seeks to demonstrate the benefits of the coordination of smart grid assets locally and across the region using communication and control systems. This is a 5 year project with many regional participants. Battelle is the prime contractor and BPA has a key role in coordinating with utilities, public outreach and communication and integration of BPA operating units. It is expected that contracts and the design of the “system of systems” will be complete in 2010. The installation of equipment at subprojects and the construction of the “system of systems” will occur in 2011 and beyond.

Lee Hall also reviewed BPA's Demand Response efforts. He explained that BPA's goal is to encourage demand response learning in the region, with the goal of fostering the creation of a longer term resource for the region. BPA will accomplish this overall goal by conducting pilot programs, conducting research related to those pilots, quantifying demand response benefits and sharing learning with others in the region on lessons learned from the pilot programs. These efforts will help to refine a longer term Demand Response strategy in the region.

Ryan Fedie (BPA) provided an update on utility system improvements and voltage optimization. Fedie outlined the importance of these efforts in meeting the Council's 6th plan energy efficiency goals. Even though this is a relatively new energy efficiency effort, much has been accomplished to date. BPA coordinated a technical working group that developed a low cost, simplified approach to measure and verify voltage optimization savings and the RTF has approved simplified saving protocols for this measure. A number of utilities are now pursuing voltage optimization project. BPA is planning to launch an education and training program and scale up implementation of the program.

Action 9 Progress Measures

Is the Pacific Northwest Smart Grid Demonstration Project on a path to complete contracts, design and build the “system of systems” and install equipment at subprojects?

What has been learned from the Demand Response pilots that help to develop the long term demand response roadmap?

What has been the response to the Voltage Optimization education and training programs? Is the Voltage Optimization program on pace to meet its 20 aMW five year target?

Action 10 – Decoupling: Develop a voluntary decoupling pilot for a public power utility.

Meeting Summary

Ralph Cavanagh commented that energy efficiency at the levels now being planned in the Northwest will require a new utility business model. Most states are evaluating some form of decoupling as are some investor owned utilities. Cavanagh suggested that the public power utilities have several options to address the impact of energy efficiency on their overall cost structure. One method is to provide greater revenue certainty through regular true-ups that make fixed cost recovery independent of retail consumption. Cavanagh said that public power utilities that did this would be in the position to reduce financing costs and pass those savings through to customers. Cavanagh reasserted his offer to assist public power utilities design mechanisms tailored to each system and work with the financial community to ensure a positive reception.

Action 10 Progress Measure

Have any public utilities engaged in a form of decoupling in order to spur greater energy efficiency?

NEET Action Item 1 Progress Report – November 2, 2011

Background

In June 2009, NEET Workgroup 1 recommended to the NEET Executive Committee that a review of the Regional Technical Forum (RTF) be undertaken. Workgroup 1 contracted with Energy Market Innovations (EMI), Inc. and Navigant Consulting (Navigant) for an evaluation report. The resulting report for the NEET Executive Committee entitled “An Evaluation of the Regional Technical Forum” contained a number of recommended action items.

The EMI/Navigant report indicated that those surveyed believed the RTF had provided value to the region through its independent analysis of measure/program savings, development of evaluation, monitoring and verification (EM&V) protocols, and development of deemed measures. 71 percent of the survey respondents believed the RTF was either very important or essential to the attainments of energy efficiency goals for the region. The report noted, however, that the current structure of the RTF was showing signs of wear and needed to evolve to meet the growing demands expected to be placed on it as the region mobilized to achieve expanded energy efficiency targets.

Some of the key issues raised in the initial EMI/Navigant report included:

- Confusion over the definition of an RTF stakeholder. This issue flowed from concerns raised about the objectivity of members, representatives and regional interests in decision-making and overall composition of the membership.
- Questions about stakeholder definition quickly led to issues of governance and funding expectations.
- While there was strong agreement that the core responsibilities of the RTF should include the development of deemed savings values for EE measures that are technically sound and well documented, there was less agreement around other potential roles. The report noted the region lacked a shared sense of understanding about what the RTF's future role should be.
- There were not clear guidelines for how the work of the RTF is prioritized.
- Assuming there will be additional demands placed on the RTF, issues of adequacy of funding and staffing, information management systems and transparency of procedures were all identified as potential problems.

Given the above issues, EMI/Navigant recommended 3 action items:

- Initiate a process to reach agreement on stakeholder definition and address issues related to governance and structure of the RTF.

- Continue to inventory the full range of stakeholder needs, establish a transparent process to prioritize these needs, and establish a multi-year work plan for the region with which stakeholders are aligned.
- Implement incremental operational changes that will increase the transparency of the operations of the RTF in the following areas:
 - Budgeting process
 - Voting requirements
 - Operating procedures
 - Potential conflicts of interest

The primary recommendation resulting from this work, presented to the NEET Executive Committee in June 2010, was to initiate a process to reach an agreement on stakeholder definition and address issues related to governance and structure of the RTF.

Action Item 1 Progress Measure – RTF Evaluation

Has the Northwest Power and Conservation Council commissioned a Steering Committee to produce specific RTF recommendation and, if so, have those recommendations been implemented?

Activity Since June 2010

Based on the recommendations presented to the NEET Executive Committee, a process was proposed for resolving these questions, including formation of an ad hoc Review Committee. Sanctioned by the Northwest Power and Conservation Council (NWPCC), this Committee was tasked with resolving questions concerning the role and function of the RTF.

With a Steering Committee comprised of Tom Karier, Bill Drummond, Cal Shirley, Garth Williams, and Mike Weedall, the Review Committee included members from the four state public utility commissions, IOUs, public power utilities, public interest and trade ally groups. The Review Committee adopted the following mission statement for its work:

Identify a business/governance structure for a sustainable entity that provides independent analyses of energy efficiency to meet the regional needs and develop a multiyear funding structure that supports that entity.

Based upon the recommendations of NEET Work group 1 and additional work by EMI/Navigant, this Committee expressed a strong preference for development of an RTF Advisory Committee to address the issues of governance, funding, and accountability. The overall goal of the Advisory Committee would be to preserve the independence and credibility of the RTF as the pre-eminent energy efficiency technical body in the region. In order to accomplish this goal, the RTF Advisory Committee will:

- *Engage* stakeholders to identify regional priorities and foster the appropriate use and acceptance of data and outputs from the RTF;
- *Secure* the resources necessary to perform the technical work required by the region;
- *Review* progress of the RTF toward fulfilling stakeholder and Advisory Committee priorities that have been established for the RTF; and
- *Provide* consensus recommendations on policy-related matters to the NWPCC and advise the RTF on how best to meet the mutual needs of the RTF's stakeholders.

The Advisory Committee will advise and provide guidance to the NWPCC concerning the performance and effectiveness of the RTF. The Advisory Committee will review the annual activities, goals, and progress of the RTF and report to the NWPCC its advice on relevant policy issues. The NWPCC's current relationship with the RTF and RTF Chair will remain essentially unchanged.

The Advisory Committee will have a communicative and collaborative relationship with the RTF Chair and members. The Advisory Committee and the RTF Chair will work together to ensure that the RTF work plan balances the needs of the region, and that the funding needs are represented and understood. With input from the RTF Chair and the Advisory Committee, the NWPCC will continue to have final say over the content and implementation of the work plan, but will benefit from the engagement of stakeholders on the RTF Advisory Committee.

The Advisory Committee will be partially comprised of direct funders of the RTF, with other members representing the public utility commissions, indirect funders, energy efficiency professionals, and public interest groups. The direct funder representatives on the Advisory Committee will have be responsible for maintaining a communicative and collaborative relationship with all funders. A key aspect of this relationship is to ensure a complete understanding of the research and technical support needs of the funders, and to make sure that the entirety of the funders' relevant interests are adequately represented to the RTF and to the NWPCC.

Several issues were identified as needing immediate attention by the Advisory Committee including the decision by several funders to decline paying their share of the RTF's budget, the allocation of the funding requirement, and resolution of controversy around the RTF's new Guidelines for RTF-Approved Measure Savings Estimates. Other issues identified as needing longer-term resolution included updating the RTF Charter and Bylaws, and coordinating research and sharing of data throughout the region.

On April 15, 2011, the RTF-Policy Advisory Committee (RTF-PAC) was chartered by the NWPCC. Members were selected and the first meeting of the RTF-PAC was held in

late July. There are 22 members on the Advisory Committee and Tom Karier and Jim West are the current co-chairs.

To date the RTF-PAC has reviewed the proposed 2012 RTF work plan, agreed to a three-year funding commitment to the RTF with a budget of \$1.5 million for each year, agreed to support use of the Northwest Energy Efficiency Alliance's formula for allocating the RTF's revenue requirement among the funders, and continues to examine the RTF's new Guidelines for RTF-Approved Measure Savings Estimates. It is anticipated that the RTF-PAC will meet one or two times per year to accomplish its mission.

Summary

The EMI/Navigant report commissioned by Work Group #1 indicated that the region found significant value in the RTF's independent analyses of measuring/program savings, and the development of EM&V protocols and deemed measure savings. At the same time, the current RTF structure needed to be updated in order to take on the additional work that will result from higher regional efficiency targets. Based on this report, the RTF itself took on the task of making its processes more efficient, rigorous and transparent.

Since the final NEET report was issued in June 2010, the NWPCC empanelled an Advisory Committee of regional utility representatives, public utility commission members, energy efficiency professionals, and trade ally representatives to follow up on the NEET recommendations concerning the RTF. This group subsequently recommended the formation of a formal RTF-PAC, chartered by the NWPCC. The RTF-PAC, now fully functional, provides the mechanism to allow for stakeholder input into and guidance to the RTF while maintaining the RTF's analytical independence.

Memorandum



October 24, 2011

TO: NEET Executive Committee
FROM: Rob Russell (NEEA)
SUBJECT: Outstanding Data Gaps (NEET WG#1/Action 2)

NEET Workgroup #1 (“Measuring What Matters”) identified regional research and data needs and gaps. While the region’s utilities and energy efficiency organizations have increased market research and evaluation funding and staffing, the three gaps were identified at the June 2010 NEET executive committee meeting: end-use load shape data; sales data and market characterizations for agriculture and industry. All three of these gaps were discussed at Northwest Research Group meetings over the last year. The following describe the importance/use to the region; progress; and future plan/obstacles related to each gap:

1) Absence of End-Use Load Shape data for all sectors

Importance/Use to the Region: currently, power planning in the Northwest relies on load shapes from the 1980’s. Not only have these load shapes changed since then but there is not data for many devices, such as mobile phone rechargers, that simply did not exist at the time of the last study. Of the three gaps, the absence of end-use load shape data is both the most crucial to power planning and the most expensive to address.

Progress: the Regional Technical Forum (RTF) has issued an RFP to determine a business case and work plan to develop archive, maintain and update end-use efficiency load data. In addition, NEEA is conducting a proof-of-concept project for “non-intrusive” metering as part of the Residential Building Stock Assessment. If successful, “non-intrusive” metering could substantially reduce the cost of end-use load research, however, any study that substantively improves the region’s understanding of end-use load shapes will still require substantial funding.

Future Plans/Obstacles: While the RTF expects to have a method to fill this gap Q2 2012, there is no mechanism to fund or manage the data collection or analysis needed to create library of the region’s load shapes. Many members of the Northwest Research Group have expressed a personal interest in this subject and have volunteered to offer their time an expertise in any future efforts to fill this gap. In order to fully fill this gap, the region needs an organized effort to fund and implement the RTF methodology.

2) Lack of Sales Data (white goods, consumer electronics, etc.)

Importance/Use to Region: Regional and service territory-level sales data aids both program design and understanding of program impact. Sales data at this granular level is limited in availability and, in general, expensive. The Northwest Research Group has

identified such sales data as a desirable product with value to energy efficiency planning, implementation and evaluation.

Progress: NEEA provides aggregate sales data to funder for currently and previously funded data. For products outside of NEEA programming, little if any region-specific sales data is available. Some private sector providers have begun to offer their services to procure relevant sales data.

Future Plans/Obstacles: Interest in a centralized data service has waned over the last year with energy efficiency organizations reassessing this need compared to others. NEEA will, of course, continue to provide data related to its initiatives.

3) Deficit of Market Characterization of the Industrial and Agricultural Sectors

Importance/Use to Region: Future programming in the industrial and agricultural sectors requires a clear picture of trends, market actors and potential for energy savings.

Progress: NEEA has developed a regional market characterization for Agriculture in 2011 and plans to do the same for the Industrial sector in 2012. Local utilities are developing plans to meet their planning needs for these sectors.

Future Plans: Northwest energy efficiency organizations appear to be filling this gap with both regional and local research projects. The Northwest Research Group membership continues to discuss remaining gaps as well as opportunities for cooperation and collaboration.

Action 3 - Emerging Technologies: Create a plan for NEEA, BPA and other regional entities to coordinate Emerging Technology (ET) activities and keep the “pipeline” full to meet future energy efficiency needs.

Action 3 Progress Measure

Has the region picked at least one of the emerging technologies and undertaken a collaborative effort to move it beyond technical and market barriers to wider adoption?

Results:

Emerging Technology – A Success Example

- NEEA and BPA are actively managing a portfolio of two dozen projects in five technology focus areas.
- ET efforts have delivered a half dozen new measures to programs for the region.
- The most significant effort led to RTF provisional approval for a HPWH deemed measure (aka. Unit Energy Savings or UES). This has been a truly regional effort involving the region’s utilities, NEEA, BPA, RTF, consultants, contractors and HPWH manufacturers. It has taken coordination across multiple EE departments including programs, emerging technology, codes & standards, evaluation, planning, marketing and engineering. Some examples of this include:
 - Regional workshops held on HPWH specialized workgroups formed for programs, technical and evaluation.
 - EPRI field testing led by SnoPUD and BPA
 - First generation product lab testing and lab spec development led by BPA
 - Second generation product lab testing led by NEEA
 - Northern climate spec development led by NEEA
 - Federal codes & standards incorporation led by NEEA

Emerging Technology – Collaboration

- BPA and NEEA ET teams are holding biweekly coordination meetings.
- NEEA is hosting monthly regional ET webinars and leading quarterly regional advisory committee (RETAC) meetings.
- The NEEA and BPA teams have just finished a major effort to create a coordinated research agenda for 2012. This will go before RETAC next meeting.
- BPA and NEEA are involved in national ET collaborations including EPRI, CEE and Esource in addition to bilateral utility engagements to drive the national ET agenda.

Emerging Technology – Infrastructure

- BPA has created an ET program framework to manage the pipeline after benchmarking ET efforts across the country. This includes employing research management best practices following the guidance of BPA's office of Technology Innovation.
- NEEA has defined their initiative lifecycle that guides NEEA initiatives from inception to completion.
- BPA has built a knowledge database, E3TNW, to operationalize the ET program framework. E3TNW tracks the scanning, screening, assessing and evaluation of technologies. To date over 380 technologies have been scanned, 175 screened and a portfolio of 1-2 dozen are assessed at any given time.
- NEEA and BPA are working to post and link to Conduit.
- BPA has established a third Technical Advisory Groups (TAG) in energy management along with the lighting and HAVC TAGs to get regional and national input on technology areas.
- BPA completed a March 2011 update to the PNW Technology Roadmap and is currently creating an industrial and food processing technology roadmap. The technology roadmaps are used to identify research gaps and guide the research and development agenda for the region.

Memorandum



October 25, 2011

TO: Former NEET Executive Committee Members & NEEA Board of Directors
FROM: Scot Davidson, Karen Horkitz
SUBJECT: Update on NEET Workgroup Three

Two action items were identified at the conclusion of NEET Workgroup #3:

1. Infrastructure for Collaboration.
2. Regional Plan for Coordination on High Impact Initiatives.

1. Infrastructure for Collaboration

At the final NEET meeting in July 2010, NEEA described its plans to develop infrastructure for collaboration as part of its new "Partner Services" business area. Two specific initiatives were in the planning stages at that time:

- **Conduit**—an online community targeted at the energy efficiency community.
- **Efficiency Connections Northwest**—an annual regional energy efficiency conference.

Both initiatives were intended to increase regional information sharing, coordination and collaboration in order to maximize regional energy efficiency accomplishments.

Conduit Status

NEEA in collaboration with BPA, and under the guidance of a regional steering committee, launched Conduit in May 2011.

Conduit has met early goals, including:

- 939 registered users, including nearly 40% of targeted stakeholders.
- 1070 pieces of content shared with the community.
- 890 comments on various energy efficiency discussion topics.

Areas for future focus include:

- Stimulating user activity and engagement, via outreach, training and content enhancement.
- Improving Conduit features and functionality.

NEEA's annual stakeholder perceptions survey, to be published by year-end, will provide quantitative feedback on stakeholder perceptions of Conduit's usefulness.

Efficiency Connections NW Status

NEEA in collaboration with a regional program committee organized the region's inaugural energy efficiency conference, which was held last November. The conference sold out, with more than 300 energy efficiency professionals in attendance. Conference evaluations indicated that the conference was successful in achieving the goal of fostering regional dialogue and exchange of information on best practices and new ideas.

Conference planners are taking a continuous improvement approach to the event, and made several changes to format for this year's conference. The 2012 conference will be held in Spokane, WA and will reflect feedback from this year's conference.

2. Regional Plan for Coordination on High Impact Initiatives

Background

Progress to advance regional coordination has seen starts and stops. Initial proposals to resource the project did not get traction. NEEA's Regional Portfolio Advisory Committee was subsequently asked to take ownership. This effort yielded an initial list of prioritized opportunities, but stalled in delivering results.

NEEA was next asked to take the leadership role. An initial discovery was that full frame of regional coordination is broad and includes:

- Simple exchange of program information between utilities.
- Exchange of data and experience.
- Co-development of tools and products.
- Coordination of program design.
- Coordination of program implementation.
- Integrated planning from early identification to code.

We also identified multiple approaches:

- Organic cooperation between common market utilities.
- Single utility led coordination.
- Externally enabled coordination.

Based on discussion thus far it appears there is appetite for each of these forms and approaches in the region. However, not all are appropriate to all measures, nor do all achieve the same depth of adoption.

Barriers

The primary barriers to regional coordination include:

- Human and financial resources dedicated to coordination projects.
- Readiness to elevate the regional objective above local objectives and practices.

If not addressed, the impact of these barriers will result in selective or partial coordination and lower than maximum regional potential achieved.

Current Practices

There are a number of examples of coordination in currently in action:

1. PSE, with others, spearheaded the development of an LED checklist to help utilities avoid the need for independent evaluation of LED suppliers for local approval.
2. Puget Sound Utilities practice exchange of information and some coordination on an ongoing basis.
3. NEEA has launched a project connected to the development of tools for commercial lighting design which can be used by utilities for next generation lighting programs.

4. Several NEEA Initiatives demonstrate characteristics of regional coordination, such as the Ductless Heat pump initiative.

Next Steps

By intent, all NEEA transformation initiatives should be designed and implemented within a framework of regional planning & coordination. In practice this has not always been the case and the approach will be further advanced in 2012. Learning continues to advance to define NEEA's highest value role in the process. Current initiatives most likely to benefit by NEEA's facilitation of broad regional planning and coordination include:

- Ductless Heat Pumps
- Heat Pump Water Heater
- Retail Platform (Currently Televisions)
- Industrial Strategic Energy Management

Each of these initiatives will include work to advance the regional planning model in 2012.

Additionally, the NEEA Regional Portfolio Advisory Committee initiated a project in 2011 to assess the potential and feasibility of coordination in the region. The results of the project are expected to be released in early 2012. Upon that release, the NEEA Regional Portfolio Committee will convene to determine next actions.

NEET ACTION 5 – MARKETING
PROGRESS REPORT
November 2, 2011
Prepared by Elaine Blatt, NEEA

Background

NEET Work Group #4 investigated opportunities for marketing and nurturing public awareness of energy efficiency opportunities. Specifically, the group looked at whether a regional marketing effort could enhance local energy efficiency initiatives and motivate consumers to adopt more energy efficient behavior. Following a review of secondary research on existing behavior change initiatives and other existing marketing efforts and utility research, **the Work Group concluded that coordinated efforts had the potential to more effectively and efficiently provide energy consumers with a clear call to action and recommended the creation of the Regional Marketing Coordinating Council (RMCC)** to further evaluate current research, conduct new research to fill gaps, and use the research to develop a regional messaging platform and toolkit. NEEA was asked and agreed to provide administration and execution support for the work of the RMCC.

The following progress measure was established for the work of the RMCC: *Has the Regional Marketing Coordinating Council convened to complete a work plan and to identify/establish marketing channels, messages, and tools?*

Progress to Date

The Regional Marketing Coordinating Council (see list of RMCC members, Appendix A) has met the progress measure above. Specifically, the RMCC has:

- Completed a work plan for the development of regional energy efficiency messaging and development of an associated marketing toolkit, articulating the following goals for the work:
 - ✓ The messaging framework should be research-based.
 - ✓ The toolkit should be structured so that it could be implemented with little or no additional work or adapted for incorporation into existing utility marketing efforts.
- Initiated work, with staff and budget support from NEEA, on the development of energy efficiency messaging and a marketing toolkit, to be completed by February/March of 2012 (see Timeline, Appendix B). Progress so far includes:
 - ✓ Completion of primary research.
 - ✓ Report on preliminary messaging conclusions from research.

Next Steps

- Complete work on messaging – November 2011.
- Develop toolkit – Toolkit development will begin in late December 2011/January 2012. The primary challenge will be to develop compelling materials that are both “print ready” for utilities lacking significant marketing resources, and adaptable to existing campaigns, for utilities that already have campaigns in place.

- Disseminate toolkit throughout the region – NEEA will work with the RMCC to develop a strategy for disseminating the toolkit to utilities throughout the region. That strategy includes providing information to utilities through forums such as Efficiency Connections NW and Conduit, as well as training for utility staff on both messaging and toolkit elements.
- Evaluate impact – Primary research was explicitly planned to collect baseline information to set benchmarks that will allow for later evaluation of the effectiveness of the messaging and toolkit. Baseline information collected from survey participants included:
 - ✓ Awareness of personal energy usage
 - ✓ Concern about the amount of energy used in their homes
 - ✓ Likelihood to take action to reduce energy usage in their homes
 - ✓ Views of the difficulty and cost of reducing energy use/increasing energy efficiency
 - ✓ Specific steps they are taking to reduce energy use/increase energy efficiency
 - ✓ Awareness of existing programs or steps they can take to improve efficiency/ reduce use of energy in their homes

Quantitative evaluation of messaging and toolkit impact will take place in 2013 (and will be conducted under a separate contract) to allow time for adequate dissemination and use of materials. Evaluation also will include a measure of uptake of materials among utilities, as well as efforts to encourage utilities to measure the impact of messaging and the toolkit directly on their programs. NEEA evaluation staff will provide support as needed for this additional evaluation.

New Opportunities

- Develop additional regional marketing materials – development and use of toolkit components may highlight needs for other marketing materials.
- Use evaluation results to further refine regional messaging – evaluation results should point to ways to further refine messaging developed under current efforts.
- Continued coordination work overseen by RMCC – successful work by the RMCC to date in planning and executing the messaging and toolkit project suggests a longer term role for this group in identifying and furthering regional collaboration and coordination on marketing issues.

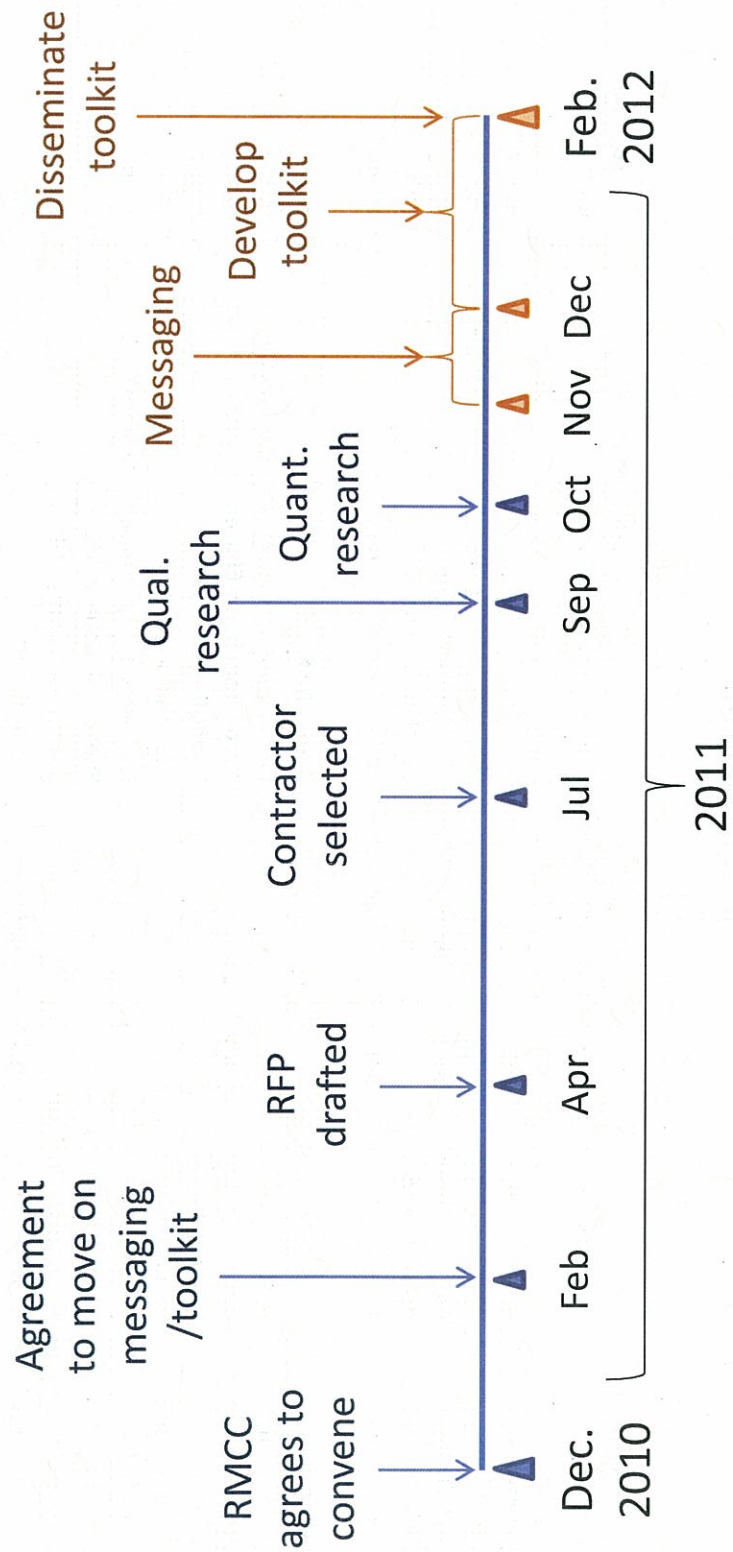
Challenges

- Creating toolkit components that are useful across the region – developing toolkit components that are both “plug and play” and adaptable to existing marketing campaigns is a significant challenge. The RMCC itself will play a key role in shaping toolkit components, providing guidance on existing marketing campaigns.
- Getting utilities to use the messaging and toolkit – messaging and toolkit components will only be useful to the region if they are picked up and used by utilities. Members of the RMCC have committed to promoting use of these materials in their own organizations, but challenges remain, as mentioned above. The RMCC is committed to assist in developing a strategy and NEEA has budgeted resources to help address this challenge in 2012.

**Appendix A:
RMCC Members**

Name	Title	Organization	Location
Cathy Anderson	Strategic Marketing Consultant - Energy Efficiency	Snohomish County PUD	Everett (HQ)
Van Ashton	Energy Services Manager	Idaho Falls Power	Idaho Falls
Elaine Blatt	Manager, Partner Services	Northwest Energy Efficiency Alliance (NEEA)	Portland
Larry Blaufus	Senior Manager, Energy Technology & Services	Clark Public Utilities	Vancouver
Leslie Brazeau	Marketing Manager	Seattle City Light	Seattle
Amber Cole	Director of Communications & Customer Service	Energy Trust of Oregon	Portland
Kelly Conley	Marketing Manager	Avista Utilities	Spokane
Teri Duncan	Associate Director	Portland Energy Conservation, Inc. (PECI)	Portland
Stephanie Fleming	Senior Manager, Residential Sector	Northwest Energy Efficiency Alliance (NEEA)	Portland
Kari Greer	Community Relations	Pacific Power	Portland
Christine Hogue	Management Analyst	Tacoma Power	Tacoma (HQ)
Karen Horwitz	Director, Stakeholder Services	Northwest Energy Efficiency Alliance (NEEA)	Portland
Lisa Hunnewell	Marketing Analyst	Snohomish County PUD	Everett (HQ)
Laura McCrae	Principal Utility Analyst	Snohomish County PUD	Everett (HQ)
Jennifer Moffatt	Customer & Community Communications	Pacific Power	Portland
David Moody	Energy Efficiency Marketing Specialist	Bonneville Power Administration (BPA)	Portland (HQ)
Grant Ringel	Direct Customer Market Strategies	Puget Sound Energy (PSE)	Corporate Office
Lauren Shapton		Portland General Electric (PGE)	Portland
Stan Sittser		Portland General Electric (PGE)	Portland
Kim Thompson	Supervisory Public Utilities Spec./Program Manager	Bonneville Power Administration (BPA)	Portland (HQ)
Kathi VanderZanden	Manager, Communications & Marketing	PNGC Power	Portland
Becca Yates	Marketing and Communications Manager, Residential Sector	Northwest Energy Efficiency Alliance (NEEA)	Portland

Appendix B: RMCC Messaging/Toolkit Timeline





*Pacific Northwest Center of Excellence for
Clean Energy
"A Centralia College Partnership"
600 Centralia College Blvd.
Centralia, WA 98531-4099*

**Energy Efficiency Workforce Development Assessment and Curriculum
Coordination**

1. Has Centralia College compiled and posted on its website current community college and apprenticeship energy efficiency programs offered in the NW states and those being developed through DOE and NSF funding?
2. Has Centralia College established an advisory committee to guide efforts to conduct an assessment defining and segmenting energy efficiency jobs from other green economy jobs...?
3. ...and to establish skill standards and identify energy efficiency job classifications that will be used across the region?

Through a \$5 million grant, leveraged to \$12 million awarded in 2010 by the U.S. Department of Energy, the Washington State Center of Excellence model is being replicated to:

- serve the five partner states in the Pacific Northwest (UT, MT, ID, OR, WA)
- establish energy training satellites
- identify Smart Grid training needs across select supply and demand-side energy occupations,
- improve internal job progression in utilities
- and to create a centralized training and recruiting portal.

The grant application was endorsed by four Governors, 11 U.S. Legislators representing Washington, Oregon and Idaho, and the Northwest Energy Efficiency Taskforce (NEET) Executive Board members representing the Pacific Northwest states.

Supply Side Occupations	Demand Side Occupations
Instrument Control/Relay Specialist (Generation and Load Dispatchers)	Customer Service Reps
Generation, Load and Substation Operators	Meter Technicians
Line Worker (Apprenticeship Preparation, Apprenticeship, and Incumbent Workers)	Energy Advisors
Substation Wireman/Mechanics (Apprenticeship Preparation, Apprenticeship, and Incumbent Workers)	Energy Conservation Program Administrators
Ground Crews (utility construction worker)	Resource Conservation Managers

Portal: <http://cleanenergyexcellence.org/>

A new website was developed and has been populated with:

- Catalogue of existing training and education programs in the Pacific Northwest
- Skill Profiles for targeted occupations
- Information for Job Seekers, Trainers and Educators, Industry, Apprentice and Pre-Apprentices
- 82 page titles were viewed a total of 2,313 times between July 1- Sept 30

The Pacific Northwest Center of Excellence has convened two primary committees since the grant was awarded.

1. Dept of Energy Grant Governance board chaired by Troy Nutter, Organizational Training Mgr, PSE. The committee met monthly throughout the first year of the grant to ensure program and fiscal grant deliverables were being met.
2. The Education Taskforce chaired by Ryan Fedie, Energy Efficiency Engineering Mgr, BPA. Committee meets quarterly at various utilities across the region (PSE, Avista, PGE, Idaho Power and Dec to be held at BPA) to ensure current and emerging training and education programs meet industry workforce needs, identify program gaps and oversee portal development and project dissemination.
 - a. Curriculum development subcommittee was formed chaired by Jay Pickett, Centralia City Light, Operations Mgr and Dr Bob Topping, Chemeketa Community College, Business Outreach Director to oversee the development of new curriculum.

The Changing Context:

At the time the NEET Workgroup 5 recommendations were formulated, projections for a great increase of energy efficiency work, looming retirements and a smaller future labor pool created a sense of urgency to standardize energy efficiency job classifications and create skill standards for them to fill the skills gaps.

The recession of 2008 introduced more uncertainty into energy efficiency industry trends and short-term staffing requirements; however, the specter of a large retirement cohorts may be delayed but it is a challenge that is likely not going away. Also, the problem of classifying EE jobs and defining skill standards for the region are still not resolved. To date, no additional sources of funding have emerged despite multiple queries of sources.

Progress--Leveraging Existing Grant Funding:

NSF and DOE Grants are helping to build the pipeline for future energy efficiency employees, but they do not specifically address some NEET research recommendations, such as skill standards or regional job classifications. We know that the industry continues to report shortages of the right people with the right skills; even in this economy there are shortages in key occupations.

For the remainder of the grant period, within the allowable use of funds for grant activities, we are likely to produce or expand on the following:

- Skill requirements/standards for Customer Service Representatives, especially regarding Smart Grid (DOE)
- A Career Lattice depicting select Demand-Side occupations, including job descriptions, available standards, career pathways and regional education and training programs
- Skills needed for energy management project managers, and analysts (NSF)
- New or enhanced two-year college programs, training and certifications for above occupations and possibly others.

Possible Next Steps:

Two potential options are offered for NEET consideration. These could each be considered separately or in combination; NEET could alternatively choose to suspend further research or action regarding the energy efficiency workforce:

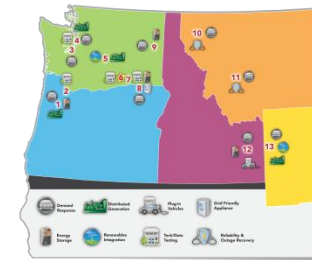
1. Focus research efforts on a small number of 'critical,' high-value energy efficiency occupations that are now in demand, or may soon be, due to skill gaps, retirements, economic recovery, or other factors. Support a focused research and action agenda for those specific areas/occupations across the region.
2. Defer short-term action such as described above, but monitor input from energy efficiency partners about future workforce needs, and review and support outcomes of new and existing grant programs that benefit NEET objectives (i.e. DOE/NSF, others).



**BPA briefing materials for the
Northwest Energy Efficiency Taskforce
Nov. 2, 2011 Executive Committee meeting**

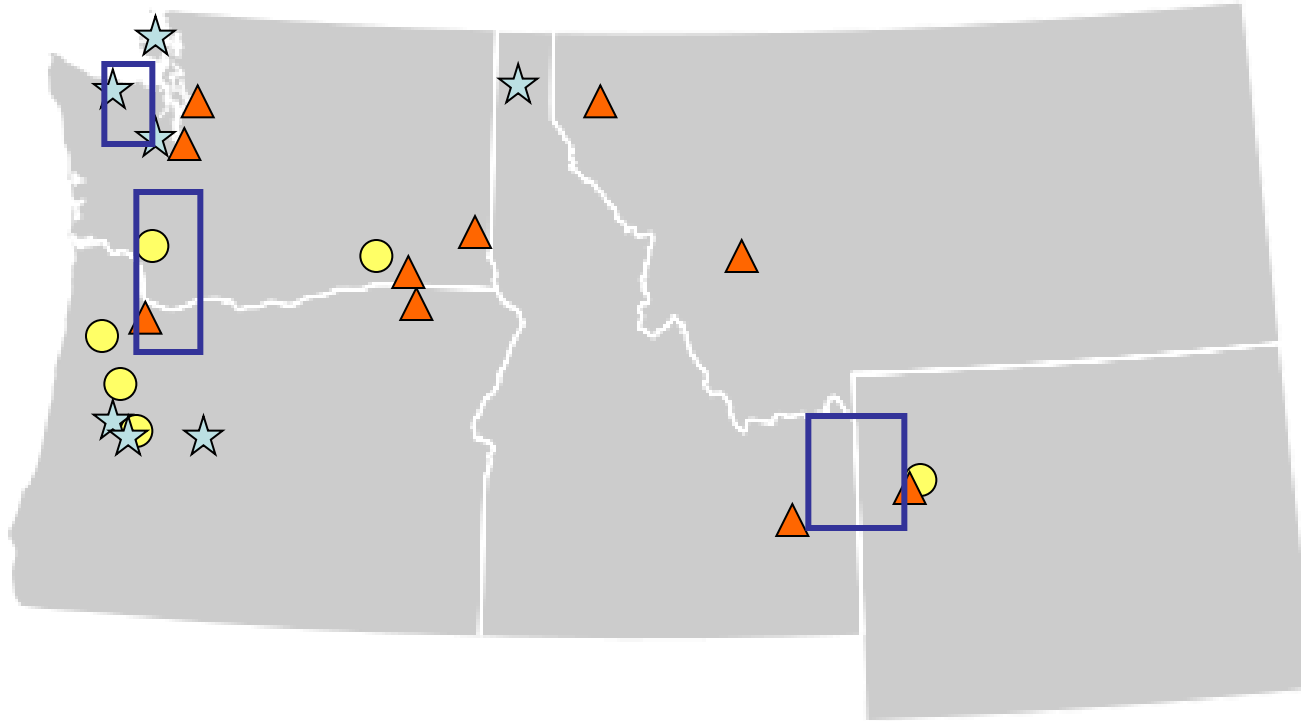
BPA is involved in numerous Smart Grid and Demand Response initiatives

- Pacific Northwest Smart Grid Demonstration Project
- Demand response pilot projects
- Thermal storage



Utility	Smart Grid										Technology						
	Advanced Metering Infrastructure	Advanced Distribution Management Systems	Advanced Distribution Line Monitoring	Advanced Distribution Line Protection	Advanced Distribution Line Restoration	Advanced Distribution Line Scheduling	Advanced Distribution Line Switching	Advanced Distribution Line Testing	Advanced Distribution Line Training	Advanced Distribution Line Troubleshooting	Advanced Distribution Line Maintenance	Advanced Distribution Line Construction	Advanced Distribution Line Operation	Advanced Distribution Line Safety	Advanced Distribution Line Security	Advanced Distribution Line Reliability	Advanced Distribution Line Performance
Central Electric																	
City of Port Angeles																	
Seattle City Light																	
Everett Public Utility District																	
SWAC																	
Woodland Electric																	
Lower Valley																	
Skamania County Public Utility District																	
Grays Power & Light																	
Yakima BEA																	
Consumers Power																	
City of Forest Grove																	
City of Richland																	

Location of BPA-sponsored Demand Response and Smart Grid efforts in the region



- ★ = BPA Supported Demand Response Pilots
- = TI/EE Supported DR with NW Power Council
- ▲ = PNW Smart Grid Demonstration - Projects with Demand Response
- = Non-wires review (DR as potential solution)

Pacific Northwest Demonstration Project

What:

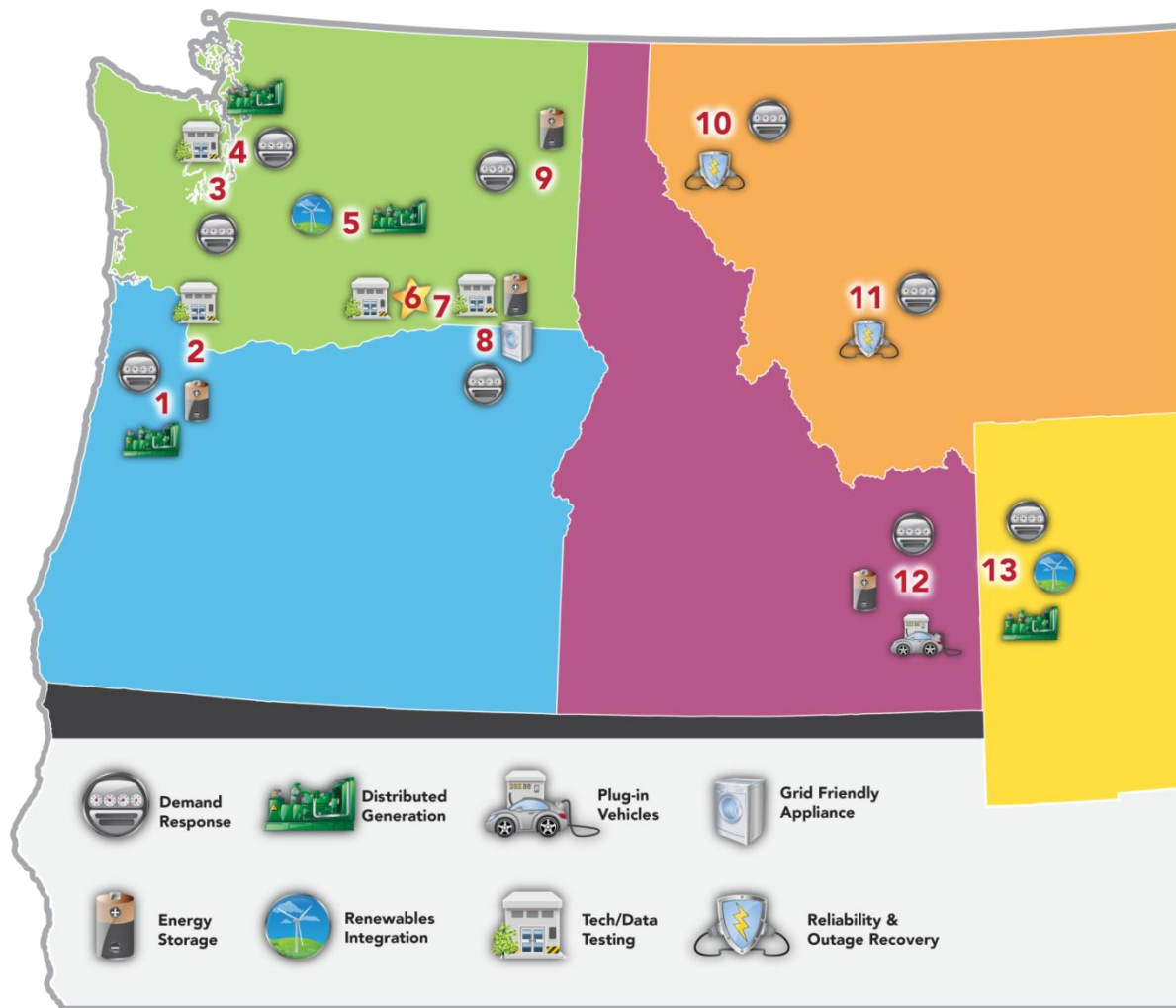
- \$178M, (\$89M private, \$89M ARRA-funded), 5-year demonstration
- 60,000 metered customers in 5 states

Why:

- Quantify costs and benefits
- Develop communications protocol
- Develop standards
- Facilitate integration of wind and other renewables

Who:

Led by Battelle and partners including BPA, 11 utilities, 2 universities, and 5 vendors



BPA's Role in the PNW Smart Grid Demonstration

■ Regional Business Case

- Create framework and tools to build business case for the region
- Map and connect PNW Smart Grid Demonstration data to the business case

■ Public Outreach and Communication

- Governments (states, Northwest delegation, Tribes, regulatory bodies)
- Non-partner utilities, educational institutions
- Energy organizations (WECC, NERC, Council, NWPPA)
- Stakeholders, special interest groups
- Other regional demonstration projects
- General public

■ Support of Research and Infrastructure Design

- Support design of system
- Integrate BPA data streams to system

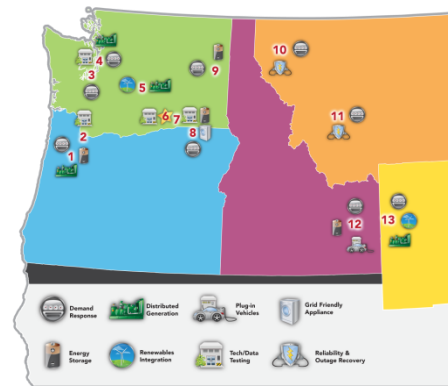
■ BPA Integration and Roadmap

- More definition to follow

■ Battelle Grant Oversight

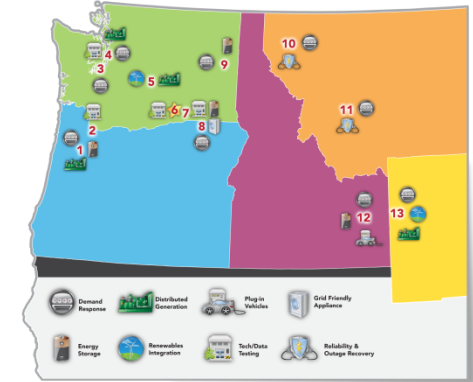


A business case is a centerpiece of the agency's goals in Smart Grid



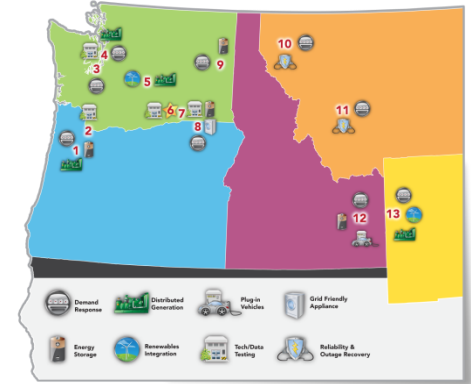
Status of Pacific Northwest Smart Grid Demonstration Project:

- \$59m of \$178m spent. (\$39m by utilities)
- 45% of physical assets have been installed
- 95 utility test cases identified; 31 with a conservation/efficiency function
- Two-way communication with utilities established
- Cyber security plan in place
- On target to have fully functioning transactive controls system by Sept. 2012, to start two-year data collection period
- IBM will provide the interface specifications for the unique transactive control system to the utilities within the next month







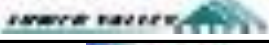




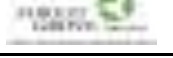



Status of Pacific Northwest Smart Grid Demonstration Project:

- Real-time data stream from BPA to project established
- Regional business case computational model completed
 - Now mapping data to the model
 - Initial research shows that use of voltage optimization (CVR) has positive net present value
- Outreach ongoing – reaching target audiences with consistent messaging, newsletter delivered by quarterly deadline



BPA has an evolving portfolio of DR pilots to assess BPA and regional needs

	Utility	Sector				Technology								
		Residential	Commercial	Irrigation	Industrial	Building management	Storage - batteries	HVAC thermostat	In-home display	Process adjustment	Refrigeration/cold storage	Thermal storage space heating	Water heater controller	Water pumping
Current DR Pilots	Central Electric 													
	City of Port Angeles 													
	Cowlitz County PUD 													
	Emerald PUD 													
	EWEB 													
	Kootenai Electric 													
	Lower Valley 													
	Mason County PUD #3 													
	Orcas Power & Light 													
	Pending DR Pilots	Columbia REA 												
Consumers Power 														
City of Forest Grove 														
City of Richland 														



Evaluating multiple technologies for both reducing and increasing load

- Electric Water Heaters (residential and commercial)
- Cold Storage
- HVAC (thermostats)
- Industrial processes (and electric boilers)
- Irrigation
- Municipal water pumps
- Battery storage
- Building energy management systems
- Space heating (thermal storage)
- In home displays



Energy Storage Pilot

Objectives:

- Use residential end-use controllable loads to help integrate variable renewables such as wind and solar
- Implement one to three commercial / industrial end-use storage projects.
- Develop a demand response business case and marketing materials to support utilities

Residential: ceramic heaters and water heaters

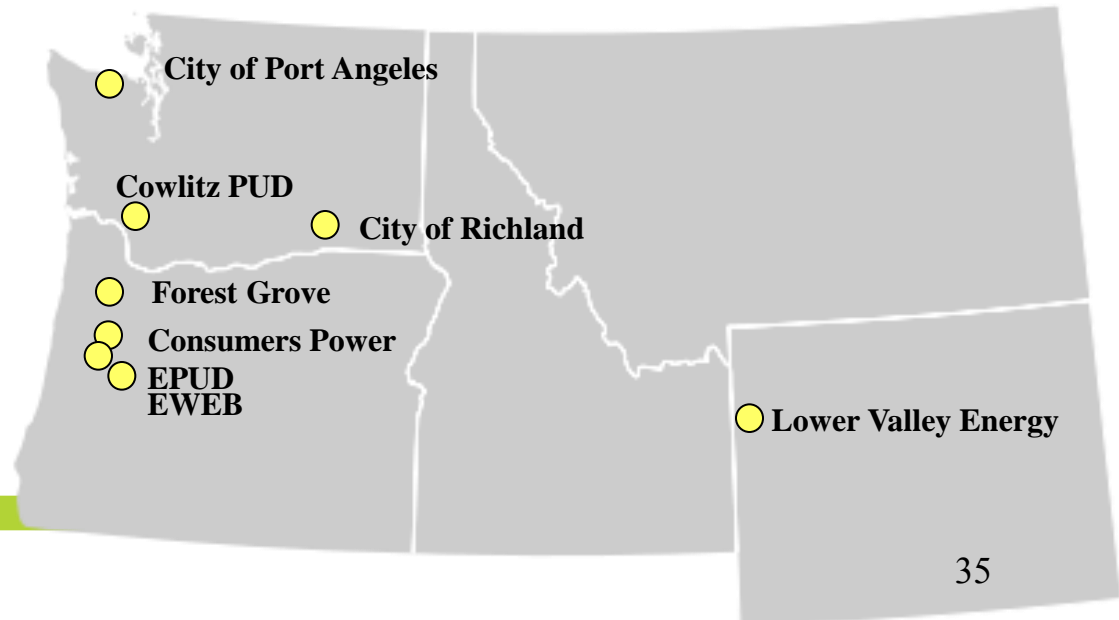


Commercial & industrial: cold storage



Participants:

BPA, Spirae, Steffes Corporation, EnerNOC, PNNL, Montana State, Renewable Northwest Project, Horizon Wind, Energy Northwest, Power and Conservation Council



Contact Information

BPA Smart Grid Program Manager: Lee Hall
503-230-5189 ljhall@bpa.gov

For more Smart Grid Information:

BPA SG/DR website:

http://www.bpa.gov/Energy/N/Smart_Grid-Demand_Response/index.cfm

PNNL: www.pnl.gov

DOE OE: www.oe.energy.gov

Smart Grid: www.smartgrid.gov

Pacific Northwest Smart Grid Demonstration Project:

www.pnwsmartgrid.org

Smart Grid Consumer Collaborative: <http://smartgridcc.org/>

