



Energy Efficiency

Exhibit 10 2012 NEEA Report

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PUGET SOUND ENERGY
The Energy To Do Great Things



NEEA 2012 REPORT FOR PUGET SOUND ENERGY

The Northwest Energy Efficiency Alliance (NEEA) is a non-profit organization working to increase energy efficiency to meet the future energy needs of the Northwest. NEEA is supported by, and works in collaboration with Puget Sound Energy, Energy Trust of Oregon, the Bonneville Power Administration, and more than 100 Northwest utilities on behalf of 12 million energy consumers.

NEEA scans the market to identify emerging energy-efficient technologies, and works in cooperation with Puget Sound Energy, and other Northwest utilities to bring these technologies to market. Working in partnership with trade allies, manufacturers, distributors, and retailers, NEEA expands the market for energy-efficient products, services and practices and complements utility energy efficiency programs. As a regional collaborative, NEEA mitigates risk to individual utilities by identifying economies of scale, aggregating resources, sharing and synthesizing knowledge, and ultimately accelerating adoption rates of emerging, energy-efficient technologies within the marketplace.

As a key funder, Puget Sound Energy expects to invest \$26.3 million in NEEA during its 2010-2014 business plan cycle. In 2012, Puget Sound Energy invested \$5.26 million in NEEA, approximately 13 percent of NEEA's total funding. This report summarizes NEEA's 2012 value delivery to Puget Sound Energy. For additional information about NEEA's unique value to the region, history, structure and recent initiatives, please visit www.neea.org.

FILLING THE ENERGY EFFICIENCY 'PIPELINE' FOR PUGET SOUND ENERGY

NEEA's top focus, as prioritized by stakeholders, is to meet the region's future energy efficiency goals by maintaining a continuous pipeline of commercially available energy-efficient products, services and practices. By taking advantage of economies of scale and coordinating efforts across the region, NEEA reduces emerging technology development costs to individual utilities, leverages existing regional activities and mitigates risk. As a result, the region is able to achieve market results that an individual utility could not achieve on its own.

In partnership with its funders, including Puget Sound Energy, NEEA is now actively engaged in 18 projects investigating new energy-efficient opportunities that will have broad benefits for the region. These projects include super-efficient dryers, advanced roof-top units, residential economizers, and industrial pumping and represent a 20-year savings potential to the region of over 1600 aMW.

HEAT PUMP WATER HEATERS (HPWH) – According to the 6th Power Plan, heat pump water heaters represent potential regional savings of 490 aMW by 2030. NEEA, in partnership with Puget Sound Energy and its other alliance members, is working to transform the regional water heater market by removing barriers and accelerating the adoption of efficient water heater technology. By partnering with retailers and manufacturers, providing customer incentives and trade ally training, and creating the market infrastructure to support adoption of heat pump water heater technology, NEEA and Puget Sound Energy are influencing regional uptake of this energy-efficient technology.

Highlights from 2012 include:

- To influence the sale of heat pump water heaters in the region, NEEA negotiated a 2012 heat pump water heater promotion with leading home appliance retailer, Sears. The promotion, which was available to Puget Sound Energy customers at two retail locations (20 locations across Washington), included favorable financing terms and Sears-provided customer rebates. Based on the success of this promotion, which resulted in a two hundred percent increase in regional sales, NEEA, on behalf of Puget Sound Energy and its other funding members, and Sears are discussing other potential collaborations in 2013. The promotion also led to a joint 2013 strategy with GE and A.O. Smith to increase heat pump water heater installations and test new market strategies.
- To ensure regional availability of a market-ready product, NEEA is conducting installation quality assurance and on-site verification of heat pump water heater technology. During on-going field and market tests, NEEA uncovered electrical system issues with one Tier 2 model and worked with that manufacturer to address and correct the issue. NEEA's efforts to validate and test heat pump water heater technology benefits Puget Sound Energy and its customers by ensuring availability of a quality product that is both energy-efficient and meets the needs of the Northwest.
- To promote heat pump water heater technology NEEA conducted 120 support visits and distributed point-of-purchase materials to 49 retail and wholesale locations in Puget Sound Energy territory. Support visits in Puget Sound Energy territory address a barrier to product knowledge for both sales associates and consumers by directly delivering product and technical information to retail locations.

SOLID-STATE STREET LIGHTS WITH CONTROLS – In March 2012, NEEA partnered with the City of Seattle to complete a market study of outdoor network solid-state streetlights with controls and launched a visual performance test of LED streetlights. Solid-state streetlights offer the opportunity for 50 percent savings over conventional lighting. With the inclusion of networked controls, an additional 20-25 percent savings is expected. The three-night streetlight test took place in Seattle's Ballard neighborhood and assessed visual acuity of LED streetlights for both pedestrians and motorists. Results from this test and final report are due for release and distribution among regional stakeholders, including Puget Sound Energy, in Q2 of 2013.

In conjunction with the visual performance test, NEEA also hosted a one-day symposium in Seattle on the business case for and future of solid-state municipal streetlights in the Northwest. The symposium was an opportunity for the region's utilities and municipalities to share ideas on solid-state streetlight use and discuss what's next for the region. Solid-state streetlights combined with network lighting controls represent potential savings to the Northwest of between 44 -100 aMW over the next 20 years. NEEA's ability to study, test and leverage the experiences of varying municipalities, on behalf of the region, will support development of national standards for LEDs on all arterial roadways, and increase energy savings, comfort and safety in Puget Sound Energy territory.

To view presentations from the Solid-State Streetlight Symposium and join the discussion, please visit Conduitsnw.org. For more information on the visual performance test, please watch NEEA's [solid-state streetlight video](#).

LUMINAIRE-LEVEL LIGHTING CONTROLS – Occupant and lighting controls at the individual lamp level have the potential to increase efficiency of facilities, however, the modes of operation currently available require further real-world testing for installation ease and user satisfaction. In 2012, NEEA in partnership with Puget Sound Energy and other Northwest utilities, completed a proof-of-concept study for luminaire-level lighting controls at two test sites in Puget Sound Energy territory. The test sites demonstrated energy savings potential of luminaire-level lighting controls in commercial buildings with

varied square footage, luminaire count and operating modes. Early findings indicate ease of installation for manufacturers' and savings of 30-50 percent compared to traditional commercial lighting. The final report is due for release at the end of Q1 2013. Upon proven energy savings results, NEEA will pass the packaged solution directly to Puget Sound Energy and other Northwest utilities, which will expand the opportunity to effectively implement energy-efficient lighting programs within funder territories.

EXISTING BUILDING RENEWAL– NEEA's Existing Building Renewal initiative works with commercial building owners to test two new industry tools for commercial property owners engaging in deep energy retrofits (defined as those that deliver energy savings in excess of 35 percent). The first tool, a roadmap, will guide building owners through the retrofit process highlighting key decision points. The second tool, an integrated measure package, will simplify the design phase offering mostly "off-the-shelf" options along with integrated system design. NEEA demonstrated the initial development and design of the integrated measure package tool in the Puget Sound Energy territory. Feedback from owners suggested further refinement and development of the tool, including two additional integrated measure packages, which by year end, were under development.

NEEA's Existing Building Renewal initiative will benefit Puget Sound Energy and its customers, by providing a proven path and set of tools to perform deep energy retrofit projects thereby increasing their bottom line and delivering energy savings. In 2012, NEEA worked with the Integrated Design Lab Seattle to identify a 600,000 square foot commercial building for a potential retrofit pilot project opportunity in Puget Sound Energy territory.

COMMUNICATION AND TRAINING – To facilitate regional collaboration and coordination on emerging technology projects, NEEA convened several webinars to collect and share information from key stakeholders, including 14 Puget Sound Energy staff. In 2012, NEEA coordinated discussions on:

- Next Generation Clothes Dryers
- Solid-State Street Light Symposium
- Residential Building Stock Assessment
- Water Heater Market Update
- New Outdoor Lighting Control Study Release
- Energy Efficient Certification Available for RETA Members

DEVELOPING MARKET STRATEGIES FOR WHOLE MARKETS

In 2012, NEEA and its regional partners, including Puget Sound Energy, realized an opportunity to more rapidly move markets toward efficiency practices by adopting comprehensive strategic plans. NEEA is working collectively with the region to determine appropriate components of each market strategy including: Identifying key market drivers and leverage points, key energy-efficient products, practices, training, local resource acquisition programs, and market research requirements. NEEA has currently identified six potentially viable strategic markets to pursue: Mass Markets, Residential New Construction, Commercial Buildings, Commercial Lighting, Industrial Strategic Energy Management and Industrial Systems; and in partnership with Puget Sound Energy and other Northwest utilities has begun work on two comprehensive strategies to transform the commercial lighting and consumer retail markets.

NEEA's new Market Strategy component of its business goals will benefit Puget Sound Energy by more effectively prioritizing and strategizing opportunities to transform whole markets for long-term, persistent energy savings. Through upfront coordination on strategies, early intervention in market barriers and long-term regional goal setting, NEEA's underlying initiatives will become more productive and cost-effective for NEEA's stakeholders.

COMMERCIAL LIGHTING STRATEGY– NEEA is currently undertaking a regional commercial lighting strategy, which began in 2012 with the creation of a development group to assess the future needs and opportunities of the market. Puget Sound Energy staff contributed to a comprehensive needs assessment of the market, which resulted in a lighting pilot evaluation. Key findings of the evaluation include increased efficiency opportunities (25-35 percent higher in many cases) from executing a comprehensive approach, and concluded that more training and investment from trade allies is necessary. The completion of a commercial lighting system baseline study confirms that both utility programs and trade ally business models and skill sets are largely built around the one-for-one equipment change out model for retrofits.

Findings from the commercial lighting evaluation, which will be finalized and shared with stakeholders in 2013, identify two key barriers to the market's successful uptake of a comprehensive commercial lighting strategy. NEEA, in close partnership with its stakeholders, seek to address these barriers through the creation of two new initiatives set to launch in 2013.

- First, to ensure market capability, an initiative focused on the development of and investment in *advanced contractor training* will target the current limited technical knowledge among contractors. Influencing a base of highly skilled lighting contractors will ensure a regionally supported commercial lighting market and increase capacity for capturing energy savings for the Puget Sound Energy territory.
- Second, on behalf of Puget Sound Energy and Northwest utilities, NEEA will leverage its regional position to pursue an *upstream platform development*. A comprehensive platform supported by an early identification of program processes, savings reporting infrastructure and relationships with key market actors will position the region to pursue new savings opportunities. Leveraging resources and sharing costs will benefit Puget Sound Energy and the region as a whole by further mitigating program risks and collaborating on regional goals for commercial lighting.

With the formation of a commercial lighting working group and strategy, NEEA and its partners are able to leverage regional knowledge and relationships to better determine what the region must do now to support success in commercial lighting for the future.

RETAIL PLATFORM – NEEA, in partnership with Puget Sound Energy and Northwest utilities, identified an opportunity to more effectively capture energy efficiency through retail channels. By leveraging the collective strength of Northwest utilities, focusing on the integration of energy-efficient technologies into the retail channel, and enabling the uptake of these technologies within retail stores, the region can facilitate greater market capacity to support energy efficiency programs to work more effectively with retailers. Considering the retail channel as a whole will better inform and influence product selection, availability, and consumer choices at the retail level, and capture more complete and verifiable data about consumer purchases.

In 2012, in partnership with Puget Sound Energy and other utilities, NEEA formed the *Northwest Regional Retail Collaborative* to leverage the collective knowledge, marketplace relationships and market influence of the region. The objective of the Collaborative is to cultivate deeper and more strategic relationships with national retailers, communicating with a clear and consistent regional voice

in order to accelerate the market adoption of energy-efficient products across the region. By the end of 2012, the Collaborative identified two retail pilot programs (Market Lift and Retail Contractor Programs) set to launch in 2013 that can leverage the regional advantage the Northwest utility community brings to the retail channel while deepening energy savings. The Collaborative is also exploring the opportunity to host the first annual Northwest Retail Summit.

By working as a region to influence energy efficiency with retailers and consumers, the Northwest will better position itself to identify opportunities in emerging consumer technologies coming down the pipeline. For Puget Sound Energy, a utility serving over one million electric customers, this retail platform could increase the availability and ease of purchase of energy-efficient technologies for consumers and result in substantial energy savings.

ACCELERATING MARKET ADOPTION

NEEA leverages the power of 12 million electric utility customers in the Northwest to influence key market actors, remove barriers and build market capacity for energy efficiency. With support from funders like Puget Sound Energy, NEEA designs and executes strategic market interventions to create lasting change and deliver long-term savings to the region.

RESIDENTIAL – The projected growth of electrical demand in the Northwest is 7,000 average megawatts (aMW) between 2010 and 2030¹. Residential electricity use accounts for significant portions of this increase. To combat this rising energy growth, NEEA collaborates with upstream market actors (e.g. utilities, builders, manufacturers, retailers and dealer networks) in the residential sector to accelerate market adoption of energy-efficient products, services and practices.

NORTHWEST ENERGY STAR HOMES - Through its Northwest ENERGY STAR Homes program, NEEA is working in partnership with Puget Sound Energy to transform the market for energy-efficient new construction and building market capability through education and training. In 2012, NEEA worked to solidify regional infrastructure necessary to transition the Northwest ENERGY STAR Homes initiative to an advanced home specification.

- To ensure market capability and technical expertise NEEA collaborated with Puget Sound Energy to provide training for over 100 builders, contractors and verifiers on advanced energy-efficient building techniques. Training included a 2.5 day verifier boot camp held in Seattle, WA, designed to strengthen the verifier network in Puget Sound Energy territory and encourage builder retention and recruitment in the Northwest ENERGY STAR Homes program. A strengthened verifier network benefits Puget Sound Energy directly by providing increased technical knowledge and expertise to the territory.
- To educate appraisers and realtors on energy-efficient building features and ensure proper valuation of homes, NEEA delivered training to nearly 50 realtors and appraisers in Puget Sound Energy territory. In 2012, NEEA received International Distance Education Certification Center and continuing education approval for online appraiser training in Washington.
- To raise consumer awareness and communicate the increased value of the most recent ENERGY STAR specification, NEEA launched a new marketing platform for Puget Sound Energy and other partners to leverage. The marketing platform includes fully customizable templates and tools for web, print, radio and TV. In Q4, NEEA worked with Puget Sound Energy

¹ [The Northwest Power and Conservation Council's 6th Power Plan](#)

to extend and co-brand a NEEA-funded TV and online media buy in the Puget Sound region to increase brand awareness and demand for Northwest ENERGY STAR Homes.

- To build market capacity for Northwest ENERGY STAR Homes in Puget Sound Energy service territory, NEEA provided technical assistance and training to support the market in certifying more than 400 homes in 2012.

In 2013, NEEA will transition its Efficient Homes initiative to an advanced performance home specification by leveraging existing Northwest ENERGY STAR Homes infrastructure and existing market partners. The new specification will provide a pathway for advanced new construction practices and technologies and accelerate new code adoption. Four builders in Puget Sound Energy territory are participating as test projects: Scott Homes, Quadrant Homes, Grow, and Dwell Development. Habitat for Humanity's Seattle/ King County's House of the Immediate Future will also be a test project. Test projects aim to generate consumer and builder awareness for advanced building practices and new technologies in addition to promoting builders who go above and beyond ENERGY STAR.

DUCTLESS HEAT PUMPS – NEEA is accelerating the market adoption of ductless heat pumps in Puget Sound Energy territory by intervening to remove market barriers, building market capacity and strengthening relationships with market actors.

- To accelerate the adoption and availability of ductless technology in the Puget Sound Energy territory, NEEA collaborated with The Home Depot and Mitsubishi to craft and launch a retail optimization strategy in the Puget Sound market in 2012. Market partners leveraged initiative resources to expand and increase television advertising aimed at driving consumer traffic to The Home Depot. Lessons learned from this effort will be used to expand this partnership and develop regional opportunities in 2013 to further develop the retail product channel for ductless technology.
- To build market infrastructure to support ductless heat pump installations in Puget Sound Energy territory, NEEA recruited four new contractors to the Master Installer program. Master Installer status allows consumers to identify contractors who are experienced with ductless technology, committed to great customer service, and follow industry best practices. In 2012, NEEA performed 19 quality assurance inspections in the Puget Sound Energy territory to ensure installation quality, gather customer feedback and gauge consumer satisfaction.
- To increase consumer adoption of ductless heat pump technology NEEA supported Puget Sound Energy in providing customer incentives for 952 ductless heat pumps installations across its territory in 2012.

MOST EFFICIENT TELEVISIONS – In terms of sheer energy efficiency savings, the Most-Efficient Televisions initiative has achieved the most energy savings through NEEA of any other currently funded initiative in 2012. NEEA teamed up with Puget Sound Energy and utilities across the Northwest to influence retailers and manufacturers to produce, sell and promote the most-efficient TVs through retailer incentives, sales associate training, regional marketing and point-of-sale product identification support. By leveraging a collective commitment on behalf of the region, to the need for most-efficient TVs, NEEA was able to engage five national retailers in the promotion of Energy Forward TVs in stores and online.

In 2012, NEEA:

- To build market demand NEEA delivered the “Are You Fan Enough” campaign, which actively engaged consumer awareness and sales associate education of qualifying most-efficient TVs in Puget Sound Energy territory.

- To improve product understanding and raise awareness among sales associates of how to communicate the value of most-efficient televisions, NEEA visited 600 Best Buy and Sears locations in Puget Sound Energy territory delivering 664 coaching sessions.
- As a result of NEEA's activities in the market, participating retailers representing 70-80 percent of the Northwest television market sold 798,000 televisions in 2012, with approximately 58% percent qualifying at the highest ENERGY STAR tier. This represents energy savings for the region of approximately 9 aMW in 2012 Energy.

COMMERCIAL - The 6th Power Plan estimates that energy use in the commercial sector will increase between 6,700-9,200 aMW by 2030. NEEA's commercial initiatives accelerate the adoption of energy-efficient products, practices and services within the commercial sector, and help decision-makers see energy efficiency as a bottom line and competitive opportunity. The following are highlights from NEEA's 2012 commercial initiatives:

COMMERCIAL REAL ESTATE –NEEA's Commercial Real Estate Initiative promotes and fosters energy-efficient building-management practices among building owners by supporting them to manage and enhance building energy performance as a measurable asset. By engaging the Northwest's leading commercial real estate firms to adopt Strategic Energy Management (SEM) practices, NEEA is helping to make energy efficiency competitive and quantifiable in commercial properties. To advance the adoption of Strategic Energy Management in the commercial building sector, NEEA's Market Partners Program engaged property management firms in Puget Sound Energy Territory:

- Supported the development of an energy savings portfolio and goals for Puget Sound Energy customer, Kidder Matthews. The company will implement NEEA-delivered SEM practices in five new properties with 213,000 square feet, eventually expanding to approximately 70 properties and 3.5 million square feet, resulting in substantial cost-savings for Kidder Matthews and energy savings for Puget Sound Energy.
- Registered two Puget Sound Energy customers, JSH Properties and Stephen C. Grey & Associates, to implement the *Seattle 2030 District Efficiency Pilot*. The pilot will help firms adopt key pillars of SEM including goal setting, allocating resources, and tracking and reporting on progress towards the goal of 50 percent reduction in energy consumption by 2030. Together, JSH Properties and Stephen C. Grey & Associates will track Strategic Energy Management through six properties, totaling 580,672 square feet.
- Challenged building owners to benchmark their energy use and work to reduce it over a two-year period through the "Kilowatt Crackdown", delivered in partnership by NEEA, BOMA King County, and Puget Sound Energy. Participants received free scoping studies, which outline recommendations for operational and capital improvements to increase energy efficiency. Many of Puget Sound Energy's leading real estate firms participated in the competitions, which will lead to both operational and retrofit opportunities in Puget Sound Energy's service territory.

HEALTHCARE – In 2012, NEEA continued its partnership with the American Society of Healthcare Engineering (ASHE) and the collaborative commitment to engaging hospital and healthcare facilities to actively benchmark and implement low- or no-cost improvements to their facilities. Participating facilities are challenged to benchmark their energy performance work toward improving energy efficiency by 10 percent through low-cost/ no-cost operational improvements. Starting in 2012, four healthcare facilities in Puget Sound Energy territory are participating in the campaign.

NEW BUILDING DESIGN – NEEA supplies the market with energy-efficient services by empowering influential architects and engineers to design the most efficient buildings through NEEA's five Integrated Design Labs. NEEA, along with Puget Sound Energy, supports the Seattle Integrated Design Lab (IDL)

to offer research, and analytic and design assistance during a building's design phase. NEEA takes the lessons learned from these projects and works with professional associations and firms to share best practices throughout the region.

In 2012, the Seattle Integrated Design Lab continued to provide technical support, education and training, and data acquisition for commercial buildings in the Puget Sound Energy territory. Notably, Seattle Integrated Design Lab:

- Worked with the University of Washington to define analytic methods and apply to an energy use data acquisition system for campus buildings.
- Provided technical assistance on six buildings in Puget Sound territory and continued tracking long term energy efficiency progress on 25 buildings.
- Delivered two educational sessions to the benefit of Puget Sound Energy commercial customers (*A Dose of Daylight*, presented to Conservation Remix and *Targeting 100! For Design*, presented to Collins Woerman Architecture).

BUILDING OPERATOR CERTIFICATION - Through NEEA's Building Operator Certification (BOC) Expansion initiative NEEA provides skill enhancement training to improve building energy performance in Puget Sound Energy territory through operation and maintenance best practices for HVAC, lighting, and controls systems. In 2012, NEEA registered 75 operators in eight BOC courses in Puget Sound Energy service territory. NEEA also enrolled two Puget Sound Energy Conservation Managers in BOC courses and worked with Puget Sound Energy staff to host and participate in a Train-the-Trainer workshop for BOC instructors to inform them of energy efficiency incentives. Through increased education and training, Puget Sound Energy territory will benefit from a more robust market, supported by technical expertise to ensure accurate installation of energy-efficient technologies.

TRAINING AND EDUCATION – NEEA partners with leading local and national organizations to offer a variety of professional education opportunities to commercial building professionals about the benefits and strategies of energy efficiency to their buildings. These workshops, seminars, and conferences aim to provide Northwest building professionals with the tools, technical and business skills, and case studies to help them better incorporate energy efficiency into their business practices. In 2012, NEEA:

- Fostered regional market capability by supporting City of Seattle's energy performance disclosure efforts with five benchmarking courses for approximately 225 customers of Puget Sound Energy, Seattle City Light, Tacoma Power and SnoPUD.
- Continued to support Puget Sound Energy customer, Kidder Mathews' energy savings goals through multiple training and education opportunities. In 2012, NEEA facilitated a building operations training at Kidder Mathews with 10 building operations staff, which was recorded and sent to all Kidder Mathews engineers; nine building operations Kidder Mathews' staff were trained on how to conduct building scoping walkthroughs; and 15 building operations staff were trained on Energy Star Portfolio Manager.
- Partnered with Northwest Trade Ally Network to offer trainings to Puget Sound Energy trade allies on a Commercial & Industrial Lighting Workshop. Topics include Lamp & Ballast Update, Comprehensive Approach to Existing Lighting, Real-world Applications for Newer Technologies, and a Comprehensive Overview of Lighting. As a result of these trainings over 1500 trade allies were introduced to the basics of lighting design and taking a comprehensive approach to lighting retrofits. The increased market capability produced by these trainings will benefit Puget Sound Energy through increased technical capacity and ability to capture savings.

INDUSTRIAL/ AGRICULTURAL - The Northwest Power and Conservation Council's 6th Power Plan predicts that industrial and agricultural sectors have the potential to save the region 800 aMW by 2030 — enough to power over 600,000 Northwest homes each year. These energy savings represent an opportunity for Northwest manufacturing industries to achieve and maintain a competitive advantage in today's global marketplace.

INDUSTRIAL REFRIGERATION (RETA) – Industrial refrigeration represents nearly 9 percent of the Northwest's industrial electric load. To increase energy efficiency within the industrial refrigeration sector, NEEA partnered with the Refrigerating Engineers and Technicians Association (RETA) Puget Sound chapter to pilot the first six-session Certified Refrigeration Energy Specialist (CRES) demonstrations training for refrigeration operators and technicians in the region. Certified Refrigeration Energy Specialist training gives refrigeration operators, technicians, managers and other refrigeration professionals the knowledge to manage energy usage and find lo-and no-cost savings in their plants. With CRES practices, energy use can be reduced between 2 and 10 percent.

This initiative is significant as the first example of high-impact (i.e. resulting in energy savings) industrial training with the potential to influence a national-level market. Results of the Puget Sound pilot will be unveiled at the RETA National Conference in the fall of 2013 in Bellevue, Washington.

SMALL/MEDIUM INDUSTRIAL – In 2012, NEEA began testing tools and best practices for the delivery of Strategic Energy Management to small- and medium-sized industrial companies. By working across the region to employ different tools and practices for embedding strategic energy management in the small and medium industrial sector, NEEA is mitigating risks to individual utilities. Small and Medium-sized industrial customers of Puget Sound Energy will benefit from the energy savings, and knowledge gained from this initiatives.

TRAINING AND EDUCATION – To embed best-practices for industrial energy efficiency, and to increase energy savings, NEEA facilitates in-class and online training opportunities for industrial customers in Puget Sound Energy territory. NEEA-provided 2012 trainings in Puget Sound Energy territory included: Industrial Refrigeration Systems Energy Management and Pumping System Optimization, Adjustable Speed Drive Applications, and Energy Efficiency, Advances in Lamps and Ballasts, Developing an Energy Plan, Energy Auditing and Troubleshooting, Energy Efficiency Financial Analysis, Energy Efficiency in Data Centers, and Energy Management Opportunities for Industrial Customers.

CODES & STANDARDS - On behalf of the region, NEEA works at state and national levels to influence the adoption of increasingly stringent building energy codes and federal appliance and equipment standards. Working in collaboration with its partners, NEEA gives the Northwest a voice in codes and standards processes and is frequently the only efficiency organization directly representing utilities in these forums. NEEA also conducts and shares critical research in support of codes and standards work.

ENERGY CODES – NEEA supports energy codes development, training, and education in Washington State in partnership with the Department of Commerce, the Washington State University Energy Extension Program and the Northwest Energy Efficiency Council. In November 2012, the Washington State Building Codes Council (SBCC) passed a new energy code, which will become effective July 2013. The new code is an improvement of approximately 8 percent for homes and 4 percent for non-residential buildings over the current 2009 energy code. NEEA provided extensive support to the SBCC during the code development and adoption process in the form of technical and cost-benefit analyses. To support code compliance in Washington, NEEA provided training to 207 builders, trade allies, and contractors in Puget Sound Energy territory.

In 2012, NEEA completed a residential energy code compliance study in Washington. Results of this study, which will be available in early 2013, will help NEEA develop more accurate energy code savings estimates and, by identifying specific areas of the code with low compliance, allow NEEA and its partners to target training and education efforts more effectively.

STANDARDS – To advance more stringent federal appliance and equipment standards in support of the region’s energy efficiency goals, NEEA participated in a broad range of national standards rulemakings in 2012 including: set-top boxes and networking equipment; High-intensity discharge (HID) lamps; HID fixtures; LED lighting; commercial icemakers; pumps and furnace fans; regional standards/FTC labeling; TV test procedures; wine chillers; residential condensing and outdoor units; external power supplies and ASHRAE products. NEEA also worked with organizations in Washington and Oregon to encourage the adoption of state-level standards for televisions and battery chargers.

DELIVERING ON REGIONAL ADVANTAGE

NEEA is the only alliance of public and private electric utilities with national and global upstream market partners that represents the entire four-state region in the Northwest. NEEA uses its unique role as a regional organization to leverage resources across the Northwest to accelerate energy efficiency. In 2012, NEEA continued its efforts to support Puget Sound Energy by conducting market research, and facilitating regional collaboration and information sharing.

EFFICIENCY CONNECTIONS NORTHWEST – Hosted and organized by NEEA, Efficiency Connections Northwest is the region’s energy efficiency conference, the only event developed by and for utility professionals from both public-and investor-owned utilities. Developed in partnership with regional utilities, the conference facilitates collaboration and sharing of information, experiences and best practices across the region. **EFFICIENCY CONNECTIONS NORTHWEST 2012** was held in Spokane Washington, October 17-18, with 14 registered attendees from Puget Sound Energy.

CONDUITNW.ORG – Through the Northwest Energy Efficiency Taskforce, NEEA was tasked with providing new tools and resources to help utilities communicate and coordinate with one another. Developed in partnership with the Bonneville Power Administration, “Conduit” is an online community that facilitates information-sharing, coordination and collaboration among energy efficiency stakeholders in the Northwest. Launched in May 2011, Conduit allows Puget Sound Energy staff to share best-practices, learn about new technologies, promote events and leverage the collective knowledge of the region. Conduit currently has over 63 registered users from Puget Sound Energy of over 1,700 members across the Northwest.

NORTHWEST RESEARCH GROUP – To conduct and coordinate regional market research, foster peer-review, and enable knowledge-sharing, NEEA re-established the Northwest Research Group in November of 2012. The Northwest Research Group is facilitated by NEEA, with participation from Puget Sound Energy staff and other northwest utilities, and brings together the region’s evaluators, market researchers and planners in order to promote coordination, avoid duplication of research and prioritize efforts for the region.

CONDUCTING AND SHARING CRITICAL RESEARCH TO SUPPORT CONSERVATION PLANNING AND ENERGY EFFICIENCY PROGRAMS – In 2012, NEEA concluded a comprehensive assessment of residential building stock characteristics in the Northwest. The goal of the residential building stock assessment (RBSA) is to provide regional organizations and utilities with baseline information for conservation planning, program design, and evaluation. To conduct the study, NEEA sampled 1,401 single-family home, 321 manufactured homes, and 134 buildings across the region which included an oversample in Puget Sound. Study variables included demographics, overall home characteristics, fuel

choice, and energy use. Results from the single-family study (released in late 2012) reveal water and space heating program opportunities, with over 58 percent of water heaters in the region eight years or older and 13 percent of space heating coming from electric baseboards and plug in-devices. NEEA's heat pump water heater and ductless heat pump programs are supporting Puget Sound Energy and other regional utilities to take advantage of these opportunities. Efficient clothes dryers are another emerging energy efficiency opportunity that was highlighted by the RBSA and which NEEA is currently investigating.

REGIONAL ENERGY EFFICIENCY MESSAGING AND TOOLKIT – As a regional entity, NEEA is able to coordinate significant research and marketing efforts that benefit Northwest utilities. In 2012, the Regional Marketing Coordinating Council, made up of representatives from NEEA, Puget Sound Energy, Northwest utilities and energy efficiency organizations, collaborated to create a new, research-based energy efficiency messaging and marketing platform for the Northwest. The toolkit was designed for regional utilities to adapt and use both to increase utility customer interest in energy efficiency, and motivate customers to participate in utility-led energy efficiency programs. By the close of 2012 the Toolkit Style Guide had been downloaded nearly 3000 times from the NEEA website and Toolkit elements accessed by about 50 utilities, with more than 100 DVDs containing the Style Guide and Toolkit distributed to utility staff in the region.

MARKET RESOURCES – One of NEEA's strategic goals is helping Northwest utilities achieve their own energy efficiency goals. In November of 2012, NEEA co-sponsored the first in a series of free energy efficiency trainings specifically tailored for Northwest utilities. Thirty-nine attendees from six utilities around the region convened in Puget Sound Energy territory to attend training on HVAC systems. Attendees learned about maintenance and energy efficiency improvements in existing HVAC units, calculating potential savings, and applying this knowledge to improve customer interactions, drive customers to utility programs and increase savings around HVAC systems. NEEA also announced the release of a series of [Energy Efficiency webinars](#) for utility staff and their customers. Produced by Portland General Electric, these webinars vary from calculating energy costs to lighting to refrigeration. These webinars are free and can be custom-branded by Puget Sound Energy to welcome their own customers and staff.

EVALUATION AND MARKET RESEARCH

NEEA is committed to having both its current and past initiatives evaluated by objective third-party evaluators in order to continuously validate and refine its market transformation work. NEEA's Market Research and Evaluation group issued the following third party reports in 2012:

[Existing Building Renewal/Commercial Real Estate Research: Market Characterization, Attitudes and Behavior of Owners and Service Providers](#) – Report concludes that while most building owners and managers interviewed (86 percent) believe that energy efficiency is important, only 47 percent have made capital improvements in the last two years. Some recommendations of the report include educational campaigns with owners on targeted topics, benefits of setting energy goals and allocating budgets to achieve those goals.

[Direct Savings from 2011 Integrated Design Lab Projects](#) – The purpose of this study is to estimate the direct savings resulting from the assistance services provided to new construction and existing building retrofit projects by Integrated Design Labs' in 2011. In projecting the mean savings by the four sampled projects, it is determined that 24 similar Integrated Design Lab projects yielded 0.88 aMW savings for 2011.

[Residential Building Stock Assessment: Single-Family Characteristics and Energy Use](#) – Report is the first in a series of reports summarizing the results of the Residential Building Stock Assessment. The purpose of this report is to obtain a comprehensive view of the current state of residential single-family stock characteristics through an understanding of the distribution of energy-consuming equipment and lighting.

[Northwest Ductless Heat Pump \(DHP\) Initiative: Market Progress Evaluation Report #2](#) – Evaluation concludes that surveyed participants use their DHPs for primary heating, and that nearly 90 percent express high levels of satisfaction with the performance of DHPs. Over 4,800 DHPs were installed through the Initiative in 2011.

[2011-2012 Northwest Residential Lighting Tracking and Monitoring Study](#) – Fourth lighting monitoring and tracking study of Compact Florescent Lights (CFLs) conducted since NEEA stopped funding the ENERGY STAR Consumer Products Lighting Project in early 2008. Report concludes that overall consumer awareness rose from 92 percent to 98 percent between 2011 and 2012, but that market share for CFLs was lower than previously forecast.

[2011 Residential Codes Energy Use Savings](#) – Report quantifies the energy use, energy savings, and incremental costs for a number of energy codes and efficient housing initiatives throughout the four-state Northwest region.

[NEEA Market Progress Evaluation Report #7: Evaluation of NEEA's Industrial Initiative](#) – Seventh Market Progress Evaluation Report on NEEA's Industrial Initiative. The conclusions and recommendations of this report are based on evaluation of initiative documents, review of secondary source material regarding the status of energy management, data collected from site visits, and surveys of industrial end users/potential end-users.

[Long-Term Monitoring and Tracking Report on 2011 Activities](#) – Estimates that the five initiatives examined: Verdiem, Residential Windows, Drive Power, Building Operator Certification and Commissioning, have yielded an incremental 6.6 aMW in 2011 with the most significant savings associated with Commissioning (2.4 aMW), followed by Building Operator Certification (2.0 aMW). Drive Power reports 1.4 aMW in incremental savings, while Residential Windows resulted in 0.8 aMW. Verdiem showed 0.02 aMW in incremental energy savings.

[80 PLUS Market Progress Evaluation Report #4](#) – Concludes that ENERGY STAR and 80 PLUS market share is currently at a strong 70 percent of commercial desktops, however the incremental cost of 80 PLUS power supplies and lack of customer awareness of power supply energy use impede greater market transformation.

[Ductless Heat Pump Impact & Process Evaluation: Field Metering Report](#) – Evaluation includes a tiered analysis of five components of technical performance and market acceptance: market progress and evaluation, lab testing, field monitoring, billing analysis, and cost-effectiveness.

[Montana Residential Energy Code Compliance](#) – Conducted in partnership with the Montana Energy Codes Collaborative, the study evaluated compliance with Montana's 2009 residential energy code. Results will help NEEA develop more accurate energy code savings estimates and, by identifying specific areas of the code with low compliance, allow NEEA and its partners to target training and education efforts more effectively. Results from the Washington Residential Energy Code Compliance study will release in early 2013.

[ENERGY STAR Homes Northwest Program #8](#) – The eighth Market Progress Evaluation Report of Northwest ENERGY STAR Homes concludes that the program continued to make progress toward market transformation in the new homes market in 2010. The program achieved its intended goal of 15 percent market share in 2010 compared to 11.5 percent in 2009. Builder awareness of the ENERGY STAR Homes program has increased from 65 percent in 2009 to 75 percent in 2011. Seventy-five percent of ENERGY STAR builders surveyed in 2011 said they actively use the label to differentiate themselves in the market place.

[Strategic Energy Management Assessment Study](#) – Report found market penetration of Strategic Energy Management to be: 8 percent of all food processing facilities; 4 percent of beverage manufacturing facilities; 5 percent of small manufacturing facilities; 12 percent of medium manufacturing facilities; 7 percent of metals manufacturers; 3 percent of dairies; 4 percent of irrigators; and 3 percent of nurseries.

[2011 Water Heater Market Update](#) – Report cites a 20 percent decline in water heater sales, which is attributed to the economic downturn further impacted by the steep decline in new construction. Homeowners are not actively engaged in choosing a water heater, and are more concerned with price considerations (86 percent) rather than particular brands (11 percent). In addition, while energy-efficient water heaters are important selling points to consumers, just over a quarter surveyed (26 percent) are skeptical about utility bill savings and are willing to pay only a small premium for an energy-efficient unit.

REGULATORY COMPLIANCE AND PARTICIPATION/ STAFF INTERACTION

During the 2012 reporting period, NEEA participated in the following activities with regulatory or legislative bodies:

In collaboration with Puget Sound Energy, PacifiCorp and Avista, NEEA assisted with the development of a joint proposal for a consistent approach to forecasting energy savings resulting from market changes not under the direct control of utilities. The objective of the joint proposal was to seek acceptable compromises across all three companies in order to arrive at a consistent method for reporting and minimizing short-term performance risk associated with forecasting energy savings. The proposal was submitted to the Washington Utilities and Transportation Commission on October 31, 2012, and awaiting a ruling.

NEEA is committed to serving its regional stakeholders across diverse geographic areas and markets. We encourage stakeholder participation in our processes. During 2012, Puget Sound staff interacted with NEEA as follows:

Puget Sound Participation in NEEA Board, Advisory Committee and Other Public Meetings:

- **NEEA BOARD MEETINGS:** Board Member Calvin Shirley (Puget Sound VP of Energy Efficiency Services) participated in NEEA’s 2012 May (Q2) and August (Q3) Board of Directors Meetings.
- **NEEA ADVISORY COMMITTEE MEMBERS REPRESENTING PUGET SOUND:**
 - NEEA Industrial Advisory Committee: Chao Chen, Supervising Industrial Energy Management Engineer
 - NEEA Residential Advisory Committee: Jeff Trip, Market Manager
 - NEEA Emerging Technologies Advisory Committee: Rem Husted, Energy Management Engineer
 - NEEA Commercial Advisory Committee: David Landers, Supervising Engineer
 - NEEA Regional Portfolio Advisory Committee: Bob Stolarski, Director of Customer Energy Management
 - NEEA Cost Effectiveness Advisory Committee: Eric Brateng, Senior Evaluation Analyst
 - Northwest Research Group: Eric Brateng, Senior Evaluation Analyst, Bobbi Wilhelm, Senior Evaluation Analyst, Bob Yetter, Market Researcher

ADDITIONAL INFORMATION

For additional information NEEA's [2012 Quarterly Performance Reports](#) and the [2011 Annual Report](#) are available online.

NEEA is committed to serving its regional stakeholders across diverse geographic areas and markets. We encourage stakeholder participation and appreciate input at all NEEA's Board meetings, Advisory Committee meetings and energy efficiency events around the region. The next NEEA Board of Directors meeting is February 27-28, 2013, in Seattle, Washington and the general public is invited. Please contact Beth McQueston at 503-688-5433 for meeting details.

Questions or comments on this report? Please contact Lindsey Clark, Marketing Coordinator, lclark@neea.org