

Pacific Northwest Center of Excellence for Clean Energy

“A Centralia College Partnership”



ANNUAL REPORT

July 1, 2010 – June 30, 2011



Cowlitz River Mossyrock Dam; “Tacoma Power invested nearly \$60 million over five years to refurbish and upgrade electrical generating equipment that extended the life of the facilities and achieved a 3 percent increase in power production.”

~ Pat McCarty, Tacoma Power Generation Manager and PNCECE Advisory Board Chair





Pacific Northwest Center of Excellence for Clean Energy

“A Centralia College Partnership”

ANNUAL REPORT

July 1, 2010 – June 30, 2011

Table of Contents

- 2....Introduction and Partners
- 3-7.... Ensure the efficient use of state resources for workforce development activities and initiatives by fostering a culture of cooperation within the community and technical college system
- 8-11 Provide leadership by representing the Washington community and technical college system, local business, and industry in state, national and international industry specific forums, activities, and economic development initiatives
- 12-13.... Serve as a resource for the creation and sharing of model curricula, educational pathways, degree/certificate programs, industry specific skill standards, and best practices
- 13.... Demonstrate excellence in communication and collaboration while fostering synergistic interconnectedness of Washington's economic, workforce development, and educational systems
- 14-16 ... Ensure the long-term sustainability of the Center of Excellence
- 14-16 ... Boards and Committees
- 17-18 ... Staff

Pacific Northwest Center of Excellence for Clean Energy

“A Centralia College Partnership”

The Pacific Northwest Center of Excellence for Clean Energy (PNCECE) is a Centralia College partnership which includes consumer-owned and investor-owned utilities; a federal power marketing administration (the Bonneville Power Administration); organized labor; a national laboratory (Pacific Northwest National Laboratory); and numerous community colleges and universities located in the Pacific Northwest region represented by Washington, Oregon, Idaho, Montana and Utah.



Industry and Labor Partners:

Avista Utilities
Bonneville Power Administration
Centralia City Light
Energy Northwest
International Brotherhood of Electrical Workers (IBEW) Locals 77 & 125
Idaho Power
NorthWestern Energy
Pacific Northwest National Laboratory (PNNL)
Portland General Electric
Public Utility Districts
Puget Sound Energy
Seattle City Light
Tacoma Power
TransAlta/Centralia
Washington State Labor Council AFL/CIO

Ensure the efficient use of state resources for workforce development activities and initiatives by fostering a culture of cooperation within the community and technical college system.

The Pacific Northwest Center of Excellence for Clean Energy is led by a broad based consortium comprised of industry and labor leaders that guide the center to:

- Develop and mature industry and labor partnerships to better understand the ever changing workforce issues facing electric utilities and independent power producers.
- Translate energy industry research into “Best Practices” training and education to ensure programs meet industry’s workforce needs.
- Provide clear education and career pathways for students and job seekers for entry into high skills high wage energy jobs.
- Create a competitive workforce pipeline to meet increasing energy demands and support the economic future of the Pacific Northwest.

Center of Excellence funding leveraged to attract federal and private funding

The Center of Excellence continues to attract federal grants and private funding that enhances state resources. The following three projects brought substantial funding into Washington State to support energy workforce development initiatives.

1. U.S. DEPARTMENT OF ENERGY WORKFORCE TRAINING FOR THE ELECTRIC SECTOR GRANT

PNCECE was awarded a \$5 million grant from the U. S. Department of Energy. The grant was leveraged to \$12 million to expand the Center of Excellence to include five partnering states in the Pacific Northwest (Washington, Oregon, Idaho, Montana and Utah). 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 utility leaders in the Pacific Northwest.

“The Northwest Energy Efficiency Taskforce (NEET) is an executive level group representing utilities, customers, state government, environmental groups and energy efficiency entities in the Pacific Northwest. NEET’s mission is to maximize the region’s energy efficiency achievement in pursuit of the most cost effective resource for rate payers. NEET selected the Pacific Northwest Center of Excellence for Clean Energy (PNCECE) to spearhead strategic coordination of energy efficiency workforce education and endorsed the Department of Energy’s \$5 million Smart Grid Workforce Training grant awarded to PNCECE for development of the five state region’s clean energy workforce.” ~Cal Shirley, V.P., Energy Efficiency, Puget Sound Energy.

Smart Grid Project Design and Objectives

Acceleration of smart grid development in the Pacific Northwest region has implications for both supply-side and demand-side functions of the energy industry. Three major objectives have shaped the Pacific Northwest Smart Grid Workforce Development project:

- Objective 1: Design and deliver smart grid training.
- Objective 2: Create a smart grid training web-based portal.
- Objective 3: Share best practices on smart grid training.

Training is categorized into these four areas:

- Pre-Apprenticeship/Apprenticeship Preparation
- Apprenticeship
- Train the Trainer
- Incumbent Worker/Professional Development

Individuals Trained: Between August 2010 and June 2011, 1,861 individuals received smart grid related training to include 1,424 pre-apprentices, apprentices and incumbent workers; 353 K-12 students participating in hands-on learning in the ZagOps power grid simulator lab at Gonzaga University; and 84 train-the-trainer participants together with STEM teachers receiving in-service training through ZagOps.

Student Placement

Students continue to be hired into high skill, high wage jobs in the energy industry. Since January 2011 41 students have been placed into positions such as Bonneville Power Administration apprentice electrician and substation operators, Cosmos Specialty Fiber and Simpson Timber boiler operators, Snohomish County PUD meter readers, Chief Joseph Dam plant operator trainee, La Grande Generator assistant mechanics, Fredrickson Power utility worker, Klein Training system representative and Avista Utilities groundmen. Organized labor continues to support the community college programs in Washington State. The majority of job placements are new members of the International Brotherhood of Electrical Workers (IBEW).

Power4Vets

The Pacific Northwest Center of Excellence for Clean Energy is committed to providing career opportunities to military veterans. Building on a long history of industry support for veterans, PNCECE has partnered with the Washington State Veterans Conservation Corps and Incremental Systems Power4 Vets program to develop pathways to careers in the energy sector. PNCECE and Incremental Systems have collaborated to integrate the IncSys online power grid simulator into energy programs at Clark, Centralia, Cascadia, North Seattle, Whatcom and Columbia Basin community colleges. For more information, please contact: Incremental Systems, <http://incsys.com>.

Career Research

Project partners led by Dr. Alan Hardcastle, Senior Research Associate at WSU Extension Energy Program, collected descriptive information and conducted more than 30 employer interviews in the Pacific Northwest on 10 occupations targeted by the project in order to understand the job requirements, career pathways and training relevant of each occupation. This information formed a foundation for establishing a career lattice model and for guiding smart grid related curriculum and program development by education and training partners.

Targeted occupations include:

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 (Pre-Apprenticeship, Apprenticeship and Incumbent Workers)	Energy Advisors
Substation Wireman/Mechanics (Pre-Apprenticeship, Apprenticeship and Incumbent Workers)	Energy Conservation Program Administrators
Ground Crews (utility construction worker)	Resource Conservation Managers

Career Lattice

The rapid developments in technology now underway in the energy sector will create profound changes in the way electricity is produced, distributed and utilized throughout the country. Electric utilities in the Pacific Northwest have identified the acquisition and implementation of “smart grid” systems as a top priority. These changes to our infrastructure will create both challenges and opportunities for the regional and national energy workforce. Electric utility jobs will change, and new jobs and skill sets will emerge as a result of this new technology.

Along with the implementation of new “smarter” technologies, the energy sector is facing a looming labor shortage. More than 50 percent of the skilled workers in our region’s utilities are eligible for retirement in the next 10 years. Recruiting, training and retaining new employees while also upgrading the skills of existing workers will become essential to ensuring that the future utility workforce is established and productive.

The Pacific Northwest Center of Excellence for Clean Energy is at the nexus of this technological and demographic shift and is working with industry, labor, education, and community partners to ensure a vibrant and highly skilled energy workforce for the next century.

The career research led to in-depth descriptions and required skill standards of each position, as well as training and education required to obtain these positions. Information on how each job is connected and what training is required to move into another position is also included. The career lattice is located on PNCECE’s website at <http://cleanenergyexcellence.org/projects/career-lattice>.

Northwest Energy Education Training Resource Guide

This interactive matrix was developed to reveal energy educational and training programs available at universities, community colleges and businesses within the five state region. It includes certificated, pre-apprenticeships, apprenticeships, two-year and four-year degree programs with a focus on careers in the energy industry. The matrix has been posted on PNCECE’s website at <http://cleanenergyexcellence.org/projects/career-lattice>.

2. EDMONDS COMMUNITY COLLEGE, NATIONAL SCIENCE FOUNDATION ENERGY EFFICIENCY MANAGEMENT GRANT

Edmonds Community College received a NSF grant to provide the framework for energy faculty to integrate industry-identified skill profiles into curriculum, participate in the Energy Educators Association, as well as work on recruiting and retaining underrepresented populations into technical programs. As part of the 6th Annual Energy and Construction Summit, *Smarter Grid Innovations 2011*, project researchers organized and led Faculty Institute that started the focused work. Five faculty were

supported by the grant to attend the Faculty Institute which included a Round Table Discussion: Energy Educators Association. Mel Oyler, Cascadia College faculty, led a discussion with participating faculty and introduced the Energy Educators Association and the Education Lattice. PNCECE is a partner in the grant supporting dissemination of the project.

3. NATIONAL CENTER FOR ENERGY WORKFORCE DEVELOPMENT GET INTO ENERGY CAREER PATHWAYS PROJECT

PNCECE, Washington's energy consortium was selected by the National Center for Energy Workforce Development as one of eight states in the country to implement the Get Into Energy Career Pathways model. The demonstration project, funded by Bill and Melinda Gates Foundation, provides a road map for entry into skilled utility technician positions within the energy industry and includes career pathways to reach higher-level jobs in a variety of work settings.

The model focuses on the needs of three stakeholder groups: students and potential applicants (low-income, young adults, age 16 – 26), educators and employers. The Washington project was piloted in Spokane. Partners include Spokane Area Workforce Development Council, Spokane Community College, and Avista Utilities - with a focus on recruiting students for entry into Avista's pre-apprentice line school.



Avista Jack Stewart Training Center, Spokane, WA

Center of Excellence partners with K-12

Washington State Labor Council K-12 Apprenticeship Awareness Program

PNCECE is partnering with this program to help educate high school counselors about apprenticeships as a high skilled, high wage career opportunity. Six workshops introduced the pre-apprenticeship training opportunities available at Washington's community colleges to 588 high school counselors.

Try-A-Trade Day at the Regional Education and Training Center at Satsop

More than 100 high school students operated big rigs, such as cranes and boring machines, and participated in hands-on demonstrations, such as safety and hazmat drills, which introduced them to jobs within the construction and energy fields. School counselors were invited to learn about statewide apprenticeship and pre-apprenticeship opportunities. PNCECE partnered with RETC by paying for transportation costs to send local high school students from the five county area.

Center of Excellence partners with Washington Community and Technical College system

The Center of Excellence provides system coordination, coaching, and mentoring to assist in building seamless educational and work-related systems within Washington Community and Technical College system. The following chart describes outreach activities and identifies colleges involved in energy education partnership.

PNCECE Support for Washington Community and Technical Colleges (2010/11)

CTC	Energy Program Marketing	Energy Program Development	Annual Summit Attendance	Faculty Development Institute	Funded Grant Collaboration	Applicant Grant Collaboration
Bates			X			
Bellingham	X					X
Bellevue (COE)						X
Big Bend	X					
Cascadia	X	X	X	X	X	
Centralia (COE)	X	X	X		X	X
Clark	X	X	X	X		
Columbia Basin	X	X				X
Edmonds	X	X	X	X	X	
Everett (COE)			X			X
Grays Harbor	X	X	X			
Lake Washington	X		X	X		
North Seattle		X	X	X		
Olympic	X					
Peninsula	X	X				
Renton (COE)			X			
Seattle Central	X					
South Seattle	X		X	X		
Shoreline	X			X		
Spokane	X	X	X		X	
Spokane IEL	X	X				
Walla Walla (COE)	X	X				X
Wenatchee	X					
Whatcom	X	X				X
Yakima (COE)						X

Provide leadership by representing the Washington community and technical college system, local business, and industry in state, national and international industry specific forums, activities, and economic development initiatives.



Keynote Speaker Roger Woodworth, Vice President and Chief Strategy Officer of Avista Utilities.



Seattle City Light IBEW Local 77 journey and apprentice line workers hang a flag donated by U.S. Senator Maria Cantwell at the Regional Education and Training Center, Satsop campus, during the opening ceremony of the 6th Annual Energy and Construction Best Practices Summit: *Smarter Grid Innovations 2011*



Egils Milbergs, Executive Director of Washington's Economic Development Commission, welcomes guests to the 6th Annual Energy and Construction Best Practices Summit.

6th Annual Energy and Construction Summit: *Smarter Grid Innovations 2011*

The 6th Annual Energy and Construction Summit “Smarter Grid Innovations 2011” was held June 23-24 at the Regional Education and Training Center, Satsop Campus. 170 people attended from regional and national industry, organized labor, education, workforce and economic development organizations. Keynote speaker Roger Woodworth, Vice President and Chief Strategy Officer at Avista Utilities, presented “A New Era for Energy, are you Ready?” He was followed by a dynamic mix of energy and construction experts who presented the Pacific Northwest Smart Grid Demonstration Project, Energy Efficiency in the Built Environment, Micro grid Innovations and Building a Smarter Grid, and the Intersection of Policy, Technology and Economics. Day two included National Lessons Learned from Energy Economy Initiatives and Creating a National Competency-based Qualifications Framework; The Next Generation Workforce: Growing your Own; and Faculty Institute and Energy Educators Roundtable Discussion. Contributing to the success of the event were generous sponsorships totaling \$8,750 and \$4,890 raised for scholarship monies to be awarded to energy and construction students in need across the state. <http://cleanenergyexcellence.org/summit>

Bellwether Awards

The Pacific Northwest Center of Excellence for Clean Energy at Centralia College was one of 10 national finalists in the Workforce Category for the 2011 Bellwether Awards. The Bellwether Awards annually recognize outstanding and innovative programs and practices that are successfully leading community colleges into the future. Barbara Hins-Turner, PNCECE Executive Director; Dr. James Walton, Centralia College President; Troy Nutter, Puget Sound Energy Manager Operational Training;

Dr. Alan Hardcastle, WSU Extension Energy Program; and Don Guillot, IBEW Local 77 Business Manager, presented at the Community College Futures Assembly held January 29-Feb 1 in Orlando, FL. The presentation was entitled “*Developing a Pacific Northwest Smarter Grid Workforce a Case Study in Regional Collaboration for Workforce Development in Clean Energy.*”

U.S. Department of Energy ARRA Recipient Conference, Annapolis, June 8

This workshop was designed to provide a networking opportunity for the funding recipients of the Workforce Training for the Electric Power Sector Program (DE-FOA-000152), as well as the utility industry, key industry associations, and other federal agencies involved in workforce development.

The objective of the Workforce Training Program was to facilitate the development of a well-trained, highly skilled electric power sector workforce, which is vital to implementing a national clean-energy smart grid. In direct support of this program, the workshop was intended to further that objective by:

- Creating an opportunity for networking and information dissemination amongst the stakeholders in DOE’s Workforce Training for the Electric Power Sector Program funded under the American Recovery and Reinvestment Act (ARRA).
- Facilitating discussion between academia, government, and industry that will result in a better, common understanding of the training and education needed to support the modern electric power sector workforce.
- Identifying opportunities for collaboration and dialogue amongst DOE ARRA financial assistance recipients and other stakeholders that will continue beyond the ARRA funded projects.

Barbara Hins-Turner facilitated the community college session for 15 colleges located across the nation. The colleges received funding through this solicitation which resulted in a forum of collaboration and sharing.

National Center for Energy Workforce Development

Formed in March 2006, the Center for Energy Workforce Development (CEWD) is a non-profit consortium of electric, natural gas and nuclear utilities and their associations: the Edison Electric Institute (EEI), American Gas Association (AGA), Nuclear Energy Institute (NEI), and National Rural Electric Cooperative Association (NRECA).

CEWD was formed to help utilities work together to develop solutions to the coming shortage of skilled workforce in the utility industry. It is the first partnership between utilities, their associations, contractors and unions to focus on the need to build a skilled workforce pipeline that will meet future industry needs.

CEWD is teaming with secondary and post-secondary educational institutions and the workforce system to create workable solutions to address the need for a qualified, diverse workforce. CEWD has established a partnership with the International Brotherhood of Electrical Workers and the Utility Workers Union of America.

In addition, CEWD has partnerships with the Association for Career and Technical Educational, the Energy Providers Coalition for Education, the American Association of Community Colleges, and the National Association of Workforce Boards. Through CEWD, the energy industry is taking a proactive approach to preparing workers of all ages and skills for a successful utility career.

PNCECE is an active member of CEWD leading the Washington Consortia for the organization. Barbara Hins-Turner serves on the CEWD Educational Committee and presented at the CEWD August Forum in Columbus, Ohio. Yvonne Chase, PNCECE Program Specialist, coordinates the CEWD Get into Energy Careers Pathways project for Washington.



Puget Sound Energy's Wild Horse Wind and Solar Facility and Renewable Energy Center, 16 miles east of Ellenburg, WA

American Association of Community Colleges, New Orleans, April 10

The American Association of Community Colleges' annual meeting was held in New Orleans, April 9-12. The conference is among the largest and most dynamic gatherings of educational leaders, attracting more than 2,000 community college presidents and senior administrators, as well as international educators, representatives of business/industry and federal agencies. Barbara Hins-Turner presented energy career opportunities on a panel entitled *Women in Green Jobs*. The panel was moderated by Dr. Beverly Walker-Griffiea, PhD, Vice President of Student Affairs, Thomas Nelson Community College, Hampton, VA, and included panelists from Austin Community College in Texas, and Lane Community College, Eugene, OR.

Corporation for a Skilled Workforce, Boise, ID, Nov 17/18

The Corporation for a Skilled Workforce is a national leader in helping to develop good jobs so that families and firms can thrive in the changing and turbulent economy. It helps communities innovate so that they can compete, businesses to cultivate talent so that they can grow, and people learn so that they can find good jobs — or create their own. CSW has been a long-standing partner with PNCECE. At the CSW Conference In November, Barbara Hins-Turner and Diane Quincy, Avista Utilities HR Manager and Smart Grid Governance Board member, presented building sector strategies to the Idaho Workforce system.

California Clean Energy Forum, UC Berkeley, Dec 8

On December 8, the Donald Vial Center on Employment in the Green Economy hosted the summit "Workforce Strategies, Energy Efficiency, and Green Jobs: A summit to discuss needs, challenges, and opportunities in California." More than 250 people attended the event at the Clark Kerr Center at UC Berkeley. Results were presented from the first comprehensive assessment of labor demand and education and training infrastructure in energy efficiency, distributed generation, and demand response. The summit offered workforce and energy community stakeholders a forum for discussion of the key findings and recommendations and possible next steps. Barbara Hins-Turner presented the Washington Center of Excellence model and Pacific Northwest Smart Grid project at the forum.

The Northwest Hydroelectric Association (NWHHA), Portland OR, Feb 22

This association provides a regional voice for the hydropower industry, representing the needs of its membership since 1981. NWHHA is dedicated to promoting the region's waterpower as a clean, efficient energy while protecting the fisheries and environmental quality which characterize the northwest region. Barbara Hins-Turner presented the Washington Center of Excellence model and collaborative energy workforce development initiatives happening in the Pacific Northwest.

ECONOMIC DEVELOPMENT FORUMS

Washington's Evergreen Jobs Act (ESSHB 2227). Enacted in 2009 and established as a state goal that 15,000 new green economy jobs be created by 2020. The act assigned the **Evergreen Jobs Leadership Team** the responsibility of fulfilling the goals of the act, including coordination of Washington's efforts to secure federal training funds for a green economy. Barbara Hins-Turner represents the Center of Excellence on the board. In June, the first American Recovery and Reinvestment Act (ARRA) Washington state recipient summit was held to create a collaborative forum for sharing among recipients. The session was facilitated by Bryan Wilson, Workforce Training and Education Coordinating Board; Daniel Malarkey, Dept of Commerce; Dr. Alan Hardcastle, WSU Extension Energy Program; and Barbara Hins-Turner.

Pacific Northwest Economic Region (PNWER) Working groups consisting of public and private leaders address specific issues impacting our regional economy. PNWER's mission is to increase the economic well-being and quality of life for all citizens of the region, coordinate provincial and state policies throughout the region, identify and promote "models of success" and serve as a conduit to exchange information. Barbara Hins-Turner presented at the 2010 Annual Conference on Green Jobs and Energy Careers in Washington State in Calgary, Alberta, in July.

Rural Economic Development

PNCECE is an active member in Lewis County and Clallam County Economic Development Councils. This participation ensures integration of the Centers of Excellence into economic development in rural areas of the state. PNCECE supported Clallam County's RISER (Renewable Industry for Sustainable Economic Recovery) in an advisory capacity.

A rural communities conference was held in March at Big Bend Community College in Moses Lake, to help communities with populations of 5,000 and less with workforce, economic or community development issues, in rural Washington and Oregon. The event targeted interested community citizens, planning commission members, elected officials and chamber of commerce board members. The focus was on what smaller tiered communities can do to help themselves based on known practices. The Directors for the Centers of Excellence for Clean Energy, Agriculture and Allied Health presented a panel discussion on Centers of Excellence as economic development drivers in industries that are vital to our state's economy.



Energy Northwest's Nine Canyon Wind Farm near Kennewick



Seattle City Light Boundary plant near Coleville

Serve as a resource for the creation and sharing of model curricula, educational pathways, degree/certificate programs, industry specific skill standards, and best practices.

Curriculum Committee

The Education Taskforce: Curriculum Sub-committee is being sponsored, funded and coordinated through the efforts of the Pacific Northwest Center of Excellence for Clean Energy. The curriculum sub-committee is charged with developing uniform and standardized targeted curriculum that defines and integrates smart grid technology into the regional training platform for energy supply-side and demand-side occupations. Curriculum will focus on aligning smart grid technology deployment and associated safety and hazard prevention with established regional skill-standards. Governance and reporting of the Curriculum Sub-committee activities has been assigned to the Education Taskforce as outlined in the requirements and expectations of the Pacific Northwest Center of Excellence for Clean Energy: Smart Grid Workforce Development Grant.

Sub Committee Members

Jay Pickett, Industry Lead

Robert Topping, Education Lead

Shane Pacini, Avista Corp

Dale Singer, Avista Corp

Kevin Schneider, Pacific Northwest National Laboratory

Karen DeVenaro, Seattle City Light

Jeff Hammarlund, Portland State University

Jamie Krause, Pacific Northwest Center of Excellence for Clean Energy (Staff)

Mel Oyler, Cascadia Community College

Peter Dauenhauer, Incremental Systems, Inc.

Case for Action: The primary responsibility of electric utilities is to supply consistent, reliable, and affordable energy to communities, private customers, businesses, and industries. As with many businesses, electric utilities are experiencing the effects of an aging workforce and are expending considerable resources to skill-up their current workforce and train new workers to deploy technology associated with smart grid.

Recent events and natural disasters have highlighted the region's dependence on the supply and distribution of consistent electric energy. These realities are raising the expectations for the electric utilities' workforce. To complicate matters, the electric utilities are asked to incorporate smart grid technology into their current infrastructure while relying on an ever-aging workforce to meet the needs of their customers. More than half of the project target occupations are populated by workers eligible to retire.

Smart grid technologies offer a great potential to support a wide range of benefits, such as energy efficiency, demand response, distributed generation, integration of intermittent and renewable resources and energy storage. They also open up prospects for new business models that enhance opportunities for partnerships among utilities, their customers and other stakeholders.

In this time of great change in technology a need exists for smart grid technical training curriculum design, outcomes, and features to align new and existing standards and technical training.

Purpose and Intent: The purpose of the Curriculum Sub-committee is to endorse smart grid technology curriculum designs that align with established skill-standards of key energy workforce occupations. Key energy workforce occupations targeted and defined by the project are categorized as (a) Supply side (electric generation, transmission and distribution), and (b) Demand side (customer focused) utility professions (see chart on page 5).

Energy Occupational Skill Standards

The Center of Excellence in partnership with Washington State University Extension Energy Program has been coordinating the development of energy occupational skill standards since 2006. Twelve Energy Occupational Skill Standards have been completed. These include occupations such as plant operator, mechanic, electrician, transmission crafts and the nation's first wind technician skill standards. The skill standards specify the critical work functions, key activities, performance indicators and knowledge, skills, and abilities an individual needs to succeed in energy-related occupations. The result of this project supports the development of new curriculum and the strengthening of existing curriculum in programs leading to certain careers in the energy industry. The standards can be viewed on the PNCECE's Website: <http://cleanenergyexcellence.org/skill-panel/>

National Governor's Association Publication

PNCECE Energy Occupational Skills Standards work has been noted on a national level by the Corporation for a Skilled Workforce and the Center for Energy Workforce Development. PNCECE was cited in the 2011 National Governor's Association Publication as a best practice for this work: <http://www.nga.org/files/live/sites/NGA/files/pdf/1103DEGREESJOBS.PDF;jsessionid=D9747492857AA0CE2398CF8A1E25083B>

Demonstrate excellence in communication and collaboration while fostering synergistic interconnectedness of Washington's economic, workforce development, and educational systems.

Part of PNCECE's strategic plan includes a communications plan that meets the objectives outlined in the NEET report (<http://www.nwcouncil.org/energy/neet/NEET%20Report%20October%202009.pdf>). NEET determined that the region needs a strategic coordinating body to partner with other entities and advise on training opportunities and curriculum to assure that quality programs are developed and industries' needs are met. They recommended that PNCECE, which has already demonstrated expertise in the electrical energy sector, be expanded to apply its expertise and consult on a regional basis for program development and coordination.

To ensure the communications plan was implemented to high standards, PNCECE partnered with Centralia College's Community Relations team. A communications consultant was hired to develop the plan. The Communications Consultant is responsible for producing the quarterly newsletters, website copy, and marketing materials.

The *Smart Energy* newsletter showcases partner, industry and grant news. Stories such as Bonneville Power Administration's \$180 million U.S. Department of Energy Demonstration plan, the largest allocation in the nation, to test clean energy projects in the Pacific Northwest have been featured. Past issues may be viewed by visiting <http://cleanenergyexcellence.org/resources/smart-energy-newsletter>.

Exciting information on trends and developing technology are available on the newly created and interactive website (<http://cleanenergyexcellence.org>). Current job openings, an interactive matrix of educational opportunities, information on how to acquire a job and change careers within the industry (Career Lattice), clean energy news, and on-the-job interviews of skilled workers can also be found. Information is presented to job seekers, students, educators, apprentices and pre-apprentices, and industry employees.

Ensure the long-term sustainability of the Center of Excellence

The Center of Excellence partnerships continue to lay the foundation and support the long term sustainability of the center. Listed below are the boards and committees comprised of expert leaders representing industry, organized labor, education, workforce and economic development organizations that provide guidance and advisory.

Pacific Northwest Center of Excellence for Clean Energy

Advisory Board

The advisory committee is a permanent standing board to provide advice and insight to the Center of Excellence from the perspective of industry, education, labor, and the community. The board helps the center achieve its mission by ensuring that programs and projects advance the needs of the energy sector within the region. The diversity of membership provides an invaluable resource to center staff and program partners to easily access information and contacts throughout the industry. The strength of the advisory board was a key component in the elevation of the center from a state organization to a Department of Energy recognized Regional Center of Excellence.



Pat McCarty, Generation
Manager, Tacoma Power,
Advisory Board Chair

Committee Members

Pat McCarty (Chair), Tacoma Power
Dennis Skarr, Veterans Conservation Corps,
WA Dept of Veterans Affairs (WDVA VCC)
Karen DeVenaro, Seattle City Light
Gary Franklin, TransAlta Centralia
Bob Guenther, IBEW Local 77
Jim Guenther, TransAlta Centralia
Mike Hanson, Avista Utilities
P.J. LaCompte, Bonneville Power Administration (BPA)
Dick Larman, Lewis County Economic
Development Council
Tom Lindmark, Portland General Electric
John Loyle, Pacific Mountain Workforce
Development Council
Angela Mallow, TransAlta Centralia
Bill Messenger, Washington State Labor Council AFL/CIO
Troy Nutter, Puget Sound Energy (PSE)
Jay Pickett, Centralia City Light
Kairie Pierce, Washington State Labor Council AFL/CIO
Stan Ratcliff, Satsop Development Park
Dale Singer, Avista Utilities
Anne Wetmore, Dept of Labor Apprenticeship
Ed Williams, Centralia City Light

Educational Partners

Ryan Davis, Regional Education and
Training Center, Satsop Campus
Christy Doyle, Spokane Community College
Alan Hardcastle, WSU Extension
Energy Program
Martha Henderson, Evergreen State College
Mike Kelly, Grays Harbor College
Joe Kinerk, New Market Skills Center
Jim Malinowski, Clark College
Riva Morgan, Wenatchee Valley College
Mark Wager, New Market Skills Center

Centralia College Members

Yvonne Chase, PNCECE
Rulon Crawford, Energy Tech Faculty
Barbara Hins-Turner, PNCECE
Jamie Krause, PNCECE

Pacific Northwest Center of Excellence for Clean Energy

U.S. Department of Energy Grant Governance Board

The Governance Board serves to provide oversight and direction for the Department of Energy Smart Grid Workforce Grant. Comprised of members from industry, education, labor, and other organizations, the board provides strategic guidance to grant staff and partners, reviews budget expenditures, and serves as a resource for grant partners to ensure grant goals are achieved.



Troy Nutter, Manager,
Operational Training, Puget
Sound Energy, Governance
Board Chair

Members of the Governance Board:

Troy Nutter – Puget Sound Energy (Chair)
Ryan Davis – Regional Education and Training Center
Karen DeVenaro – Seattle City Light
Mark Fischer – Veterans Conservation Corps, WA Department of Veterans Affairs (WDVA VCC)
Don Guillot – Int'l Brotherhood of Electrical Workers Local 77
Alan Hardcastle – Washington State University Extension Energy Program
Peter McKenny – Gonzaga University
Tom McLaughlin – CAMPS
Kairie Pierce – Washington State Labor Council AFL/CIO
Diane Quincy – Avista Utilities
Kevin Schneider – Pacific Northwest National Laboratory (PNNL)
Bob Topping – Chemeketa Community College

Alternates:

Dennis Skarr – Veterans Conservation Corps, WA Department of Veterans Affairs (WDVA VCC)
Bob Guenther – Int'l Brotherhood of Electrical Workers Local 77
Mike Hanson – Avista Utilities
Alice Lockridge – Seattle City Light
Jilliene McKinstry – Gonzaga University
Sally Zeiger-Hanson – Washington State University Extension Energy Program

Ex-Officio/Staff:

Barbara Hins-Turner – Executive Director, PNCECE
Marla Miller – Centralia College
Vicki Oakerman – Centralia College
Yvonne Chase – PNCECE
Jamie Krause – PNCECE

Pacific Northwest Center of Excellence for Clean Energy

Smart Grid Educational Taskforce

The Pacific Northwest Center of Excellence for Clean Energy Education Taskforce will:

- Identify, revise and/or expand curriculum focused on Smart Grid Education and Training using design standards and skill standards for occupations within established deadlines.
- Evaluate and revise curriculum goals annually.
- Redesign career progression within and between target occupations and between utilities, removing and reducing barriers for job progression.



Ryan engineering service manager, energy efficiency with Bonneville Power Administration

Active members of the Taskforce:

Ryan Fedie, Bonneville Power Administration, (Chair)

Avista Utilities

Cascadia Community College

Centralia City Light

Chemeketa Community College, OR

Clark Community College

Edmonds Community College

ESTEC Idaho State University

Gonzaga University

IBEW Intl Locals 77 and 125

Idaho National Lab

Incremental Systems

Lane Community College, OR

North Seattle Community College

Pacific Northwest National Laboratory (PNNL)

Portland State University, OR

Puget Sound Energy

Regional Education and Training Center, Satsop Campus

Seattle City Light

Spokane Community College

Veterans Conservation Corps, WA Department of Veterans Affairs

Washington State Labor Council AFL/CIO

Washington State University, Extension Energy Program

PNCECE Staff

Contact PNCECE Staff: <http://cleanenergyexcellence.org/contact/>



Barbara Hins-Turner, MBA, Executive Director, PNCECE, Centralia College. Hins-Turner was appointed to the Washington State Community and Technical College system in 2005. Previously she was employed by Portland General Electric/Enron for 10 years as Corporate University Director and Apprenticeship Coordinator. Her energy workforce development committee work includes: 2010 U.S. Department of Education delegation to Germany's Global Sustainable Education Training Forum and U.S. Canada Clean Energy Forum; 2009 National Commission on Energy Policy's Task Force on America's Future Energy Jobs and U.S. Senate Democratic Policy Commission Green Jobs Roundtable. She serves on the National Center for Energy Workforce Development Educational Council, Washington HB2227 Evergreen Jobs Team advising the Governor and Legislature on federal ARRA investments in energy efficiency and renewable energy workforce education, and is Chair of the Washington State Centers of Excellence Board of Directors.



Jamie Krause, MAOL, Assistant Director/Smart Grid Project Manager, PNCECE, Centralia College. Jamie's professional background is a unique blend of private industry and public education management. She is recognized for her expertise in forming public/private partnerships that work together to close skill gaps in high demand industries. Jamie has successfully implemented state workforce and economic development strategies by providing regional direction for state policies. She holds a B.S from Southern Illinois University – Carbondale in Workforce Education and Instructional Systems Design and an M.A. in Organizational Leadership from Chapman University. Jamie is also a 2009 Marano Fellow of the Aspen Institute Sector Skills Academy.



Yvonne Chase, BA, Program Specialist, PNCECE, Centralia College. Yvonne has worked in the private industry for over 20 years, primarily in project planning, scheduling, contracts, and purchasing. She joined the Washington State Workforce Training and Education Coordinating Board in 2006 to assist in workforce and economic development sector based initiatives before moving to Pacific Northwest Center of Excellence for Clean Energy. What interests her in Workforce and Economic Development is the dedication and passion Industry, Labor, and Education has in helping students and workers achieve and succeed in their career goals. One of the most memorable moments in her career is watching the veterans in the flag raising ceremony at the 2010 Summit. She is currently pursuing her Master's degree with the University of New England.

PNCECE Staff (con't)

Contact PNCECE Staff: <http://cleanenergyexcellence.org/contact/>



Jenni Bitner, Office Assistant, PNCECE, Centralia College. Jenni has been assisting the Center of Excellence since September of 2009. During a full-time class schedule, Jenni worked two hours a day filing, making copies and creating documents. Now she works 15 hours a week and has more responsibilities supporting the PNCECE day to day operations. She has finished her prerequisites for the nursing program and has applied for the RN program at Centralia College.



Monica Brummer, BS, Communications Consultant. Monica is the dedicated person to write press releases, newsletter articles and copy for brochures and the web. She was an adjunct instructor at Centralia College and taught PE and journalism classes; and was the advisor for the student newspaper, the blue&gold. Monica holds a bachelor's in technical journalism from Oregon State University and has worked in the public relations field for more than 25 years. Her experience includes working as a director of a 21st Century Community Learning Center (federal grant); and for the Centralia Police Department, Portland Oregon Visitors Association and the Oregon Museum of Science and Industry.



Vicki Oakerman, Fiscal Director. Vicki is the director of the college's \$15 million operating budget and has worked at Centralia College for 12 years. She's worked in the instructional office and the business office and has tracked more than 30 grants. Vicki has worked with the Center of Excellence budget process since its inception in 2004. She has completed business and accounting classes at Clark and Yakima Valley colleges and will finish her associate's degree at Centralia College this fall. She has 13 years of experience working in the banking industry with consumer loans and 10 years in K-12 education business office.

Pacific Northwest Center of Excellence for Clean Energy

“A Centralia College Partnership”



ANNUALREPORT

July 1, 2010 – June 30, 2011

<http://cleanenergyexcellence.org/>