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**Workforce Training and
Education Coordinating Board**

Evergreen Jobs Initiative: Recovery Act Funds in Washington

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Fourth Annual Report on Performance and Outcomes (RCW 43.330.375)

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The Evergreen Jobs Initiative

The Evergreen Jobs Initiative is Washington's comprehensive strategy for capitalizing on green economy opportunities. This coordinated approach has helped state organizations procure and deploy over \$150 million in federal American Recovery and Reinvestment Act (Recovery Act) funds, and has drawn lessons from these investments that can enhance the state's green strategy going forward.

The Evergreen Jobs Leadership Team (Leadership Team), an interagency team headed by the Department of Commerce (Commerce) and the Workforce Training and Education Coordinating Board (Workforce Board) is responsible for coordinating this effort. The Leadership Team of business, labor, education, and government representatives has helped define green jobs, coordinated state efforts to apply for targeted Recovery Act jobs and job training grants, and tracked the progress of these grant programs as they were implemented throughout the state.

These investments have resulted in 4,400 jobs retained or created through Recovery Act competitive grants and over 2,000 jobs retained or created through Recovery Act formula funds. Still, overall, job creation, has been lower than expected. The issue at this time is not only a need for more trained workers, but the need for more demand for green products and services and a rethinking of what we consider to be green jobs. This is at a time when job creation and retention has been difficult in the state and national economy overall, not just the green sector.

For more job growth to occur, Washington will need to be more assertive in developing the demand and application of clean energy technologies, including efficiencies in transportation, buildings and energy generation and distribution. An example of such would be the Department of Ecology's current efforts to establish a Green Chemistry Center in Washington. But Washington could do even more by thinking outside the typical green industry sector for job creation opportunities. Many industries, not necessarily associated with energy production or efficiency, are putting greater emphasis on products that are produced and used in a way that consume less energy and cause less harm to the environment. Washington needs to look at how to enhance the state's competitive advantages by nurturing its own green-oriented marketplace, and fostering investment in the "greening" of its economy.

At the same time that Washington acts to boost green job opportunities, a skilled workforce will be needed to fill those jobs. The state's K-12 and beyond pipeline should be enhanced through programs of study that prepare students in applied Science, Technology, Engineering and Math (STEM) fields, such as the bioenergy coursework at Walla Walla Community College. Career and Technical Education (CTE) programs and pre-apprenticeships that apply STEM knowledge provide a smooth transition for students to postsecondary programs.

Postsecondary programs should include industry-based certifications that demonstrate graduates have mastered industry-defined skill standards, including green standards. Postsecondary institutions must also have the capacity to supply the numbers of graduates that match employer demand for workers trained with green skills. Postsecondary education includes apprenticeships and training for journey level workers that incorporate curricula that prepare workers with the latest green skills. Other

incumbent workers also need access to continuing education that updates their skills, as many occupations will have more green elements as part of their work.

This is the fourth annual report prepared by the Leadership Team. In addition to providing grant summaries and performance results, this report offers recommendations to the Governor and Legislature as directed by statute (RCW 43.330.375). More Leadership Team information is available online on the [Workforce Board](#) and [Commerce](#) websites.

The Green Terrain: State and Federal Green Job Definitions and Assessments

Washington has been on the forefront nationally in defining green jobs to calculate and analyze the green economy. Since 2008, the state has defined green jobs as positions that are directly and predominantly engaged in at least one of four core areas of the economy:

- Increasing energy efficiency
- Producing renewable energy
- Preventing and reducing environmental pollution
- Providing mitigation or cleanup of environmental pollution

This definition was used by the Employment Security Department (ESD) in the 2011 [Green-Economy Jobs Survey Report](#). (The next report will be published in the spring of 2014.)

Data in the 2011 survey report came from two sources. First, the ESD conducted a survey of more than 21,000 public and private Washington employers covered by unemployment insurance. Analysts weighted results of the survey to produce estimates of the number of green jobs in Washington. Second, occupational data from the federal Bureau of Labor Statistics (BLS) was matched to the top 25 occupations identified in the survey to provide information about the earnings and education requirements of green jobs in these occupations.

Key Survey Findings: To date, green-job studies in Washington and across the nation have not identified any new industries and few occupations that are uniquely “green,” such as wind-turbine technician or solar-panel designer. Instead, employers appear to be “greening” jobs through their products and services and through the work practices they require of employees.

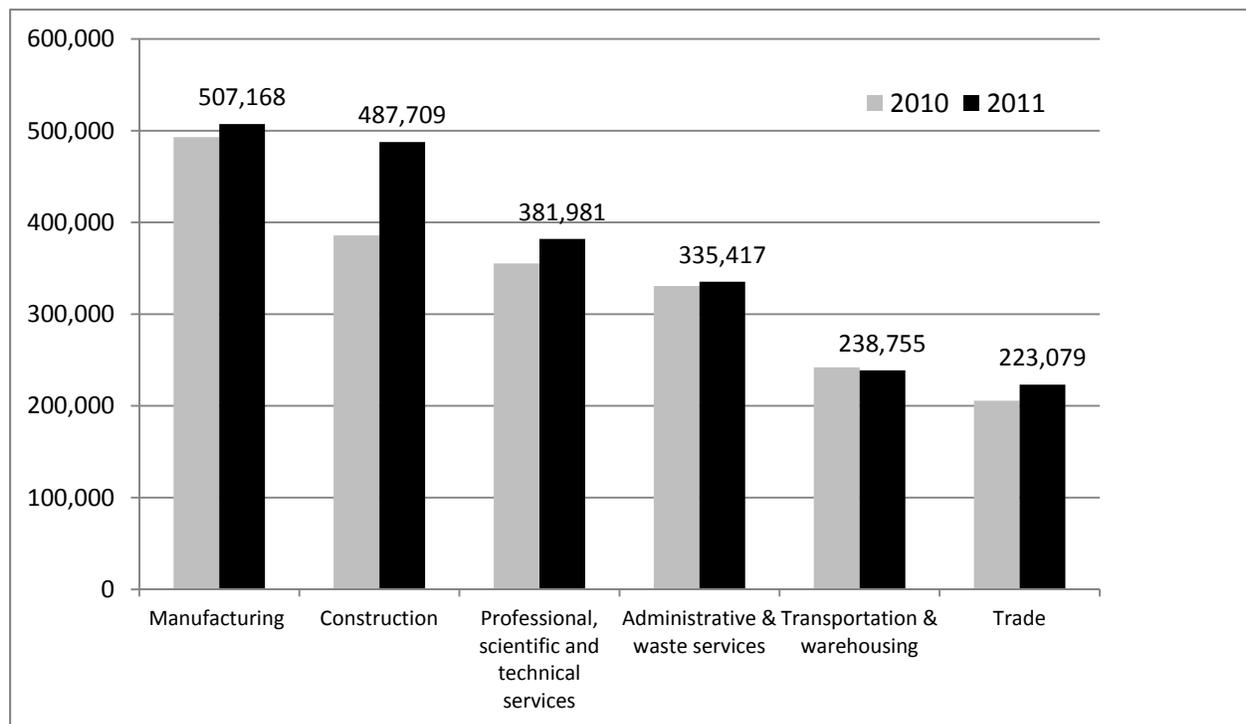
The 2011 Green-Jobs Survey identified an estimated 120,305 green jobs in Washington. Of these, an estimated 104,955 were in the private sector and about 15,350 were in the public sector. Altogether, these green jobs represented about 4 percent of total employment covered by unemployment insurance in Washington.

In 2011, one in every five jobs in the construction industry was a green job. The construction industry had more green jobs than any other industry, estimated at 29,865, and represented nearly one-quarter of total green jobs in the state. Among the industries that were surveyed by the ESD in both 2009 and 2011, green jobs declined by an estimated 18,300, or 18 percent. About 60 percent of the decline occurred in the government sector. But private sector green jobs shrank in industries that previously had reported increases.

In March 2013, BLS released its [second survey results for employment](#) in Green Goods and Services (GGS) output-based jobs—jobs that are associated with producing goods or providing services that benefit the environment or conserve natural resources.

The BLS' survey reports that in 2011, 3.4 million jobs in the United States were associated with the production of green jobs and services. Nationally, GGS jobs accounted for 2.6 percent of the total employment in 2011. The private sector had 2.5 million GGS jobs and the public sector had 886,000. Manufacturing had 507,000 GGS jobs. In almost every sector, there was an increase from 2010. See Chart 1 below.

Chart 1 - Green Goods & Services – Private Sector Employment – 2010 & 2011 annual averages



U.S. Bureau of Labor Statistics

The GGS survey estimates there are 333 industries that potentially provide goods and services that directly benefit the environment or conserve natural resources and that fall within one or more of the following five groups:

- 1) Energy from renewable sources.
- 2) Energy efficiency.
- 3) Pollution reduction and removal, greenhouse gas reduction, and recycling and reuse.
- 4) Natural resources conservation, (including products associated with organic agriculture.)
- 5) Government and regulatory administration; and education, training, and advocacy goods and services.

The Brookings Institution released a [Green Jobs Assessment](#) in July 2011, which highlighted the difficulties of assessing the green economy. Citing the breadth of industries that green jobs permeate, the report attempted to define and quantify the clean economy on a national level. The assessment

found the national clean economy employment to be 2.7 million workers, and laid out several green economy trends, including:

- The clean economy offers more opportunities and better pay for low- and middle-skilled workers than the overall economy.
- Among regions, the South has the largest number of clean economy jobs, though the West has the largest share relative to its population.
- Most clean economy jobs and recent growth concentrate within the largest metropolitan areas.
- Strong industry clusters boost metros' growth performance in the clean economy.

Washington's Grant & Job Performance in the Greening Economy

The Leadership Team helped coordinate the state's applications for Recovery Act dollars and continued to monitor the progress of the successful applications. **Competitive** grants were issued based on merit while **formula** grants were issued based on how each state's related program and needs met the grant criteria or formula.

Summary of Final Grant Results

- Over \$27 million in Recovery Act U.S. Department of Labor (DOL) and U. S. Department of Energy (DOE) green job training competitive grants—54 percent of the total requested and more than the state's "per capita" share of federal stimulus funds focused on green jobs creation.
 - While in operation (December 2009 to July 2013), Recovery Act green jobs training grants served more than 12,000 Washingtonians.
 - 4,400 Washingtonians have retained employment or found new employment due to green jobs training funded by competitive Recovery Act grants.
- Another \$60.9 million of federal formula Recovery Act State Energy Program (SEP) funds is accelerating job creation and retention in green sectors.
 - As of October 2013, 86.4 annualized FTE jobs have been directly created or retained through SEP funds, from a running total including 164 contract, short-term, and part-time jobs.
 - Additionally, 188 jobs were created by SEP project match funds, 105 secondary jobs were created through the completion of the projects, and 2,000 jobs were retained as a result of the SEP grant and loan projects in Washington. These figures continue to increase as SEP projects close out and report actual impacts.

Competitive Federal Recovery Act Funds in Washington

Washington's over \$27 million in competitive Recovery Act grants focused on building a strong workforce skilled for the green economy through targeted job training and placement. The DOL and DOE are the federal administrative agencies for the state's competitive grant Recovery Act funds.

Washington won a grant in each of the five major DOL grant categories—receiving more than twice its per capita share of the \$500 million in grants made available through the federal department. For the DOE programs, Washington received more than 10 percent of the national smart grid award total.

Operating during an historic economic downturn, these grant projects showed measurable progress in green job training and curriculum development but fell short of expected job placement rates.

The following tables and more detailed program summaries record the results.

**Washington’s Competitive Green Job Grants
Funds Requested, Awarded, and Preliminary Results, Summer 2012**

Federal Agency	Total State Recovery Act Applications	Total State Recovery Act Awards	Total Expected Participants Served	Participants Served by grant end date	Proposed Participants Employed	Participants Employed as of June 2012*
DOL	\$36,172,494	\$15,989,440	5,483	5,177	3,669	3,355
DOE	\$14,348,859	\$11,098,859	1,785	7,307	804	1,045
TOTAL	\$50,521,353	\$27,088,299	7,268	12,484	4,473	4,400

*Participants employed include both incumbent workers who remain employed and new jobs employment once participants complete training.

U.S. Department of Labor Recovery Act Competitive Grants

Grant Recipient	Name of Project	Grant Award	Grant Start/ End Date	Project Description	Proposed Served	Total Served	Proposed Employed by grant end date*	Employed by grant end date
SEIU 1199 NW Healthcare	Healthcare Career Advancement Program	\$500,000	1/2010 – 6/2012	Train emerging green occupations in health care	410	333	310	310
Northwest Energy Efficiency Council	Sound Energy Efficiency Development (SEED)	\$3.8 million	12/2009 – 3/2012	Train and place targeted groups in energy efficiency occupations	750	769	473	288
Southwest Workforce Development Council	Renewable Northwest (ReNW)	\$959,000	1/2010 – 9/2012	Support renewable energy companies and manufacturers by retooling local workforces	261	438	250	438
Workforce Development Council of Seattle-King County	Pathways Out of Poverty GreenLight Project	\$3.6 million	2/2010 – 3/2012	Train low-income and unemployed in deconstruction and materials use, green construction, and sustainable manufacturing	450	491	365	256
Workforce Training and Education Coordinating Board	Energy Sector Partnership Grant	\$5.9 million	1/2010 – 6/2013	Train targeted populations in professional-technical occupations in commercial and public building energy efficiency	3,612 via grant modification	3,146	2,271 via grant modification	2,063
Employment Security Department	WA Labor Market Improvement Grant	\$1 million	1/2010-12/2011	Create tools and reports that assist job seekers and professionals working to transition people to green jobs	n/a	n/a	n/a	n/a
Apprenticeship and Nontraditional Employment for Women (ANEW)	Green Capacity Building Grant	\$60,000	12/2009 – 5/2011	Create recruitment tools and enhance green curriculum that will be integrated into pre-apprenticeships serving women, including low income, hard-to-serve, veteran and youth target groups.	n/a capacity building grant	n/a	n/a	n/a

*Participants employed include incumbent workers who remain employed and new job employment once participants complete training. Given the recession's low levels of job growth and grantees' reluctance to train for jobs that won't be there once participants complete training, several grantees decided to focus on training incumbent workers to meet consumer and employer demands for green products and services, i.e., the general greening of the economy. The number of incumbent jobs and new job employment are broken down in the grant descriptions below.

U.S. Department of Labor Recovery Act Competitive Grants Descriptions

- **Service Employees International Union (SEIU) Health Care 1199NW** was awarded a Recovery Act subgrant from a national organization called Healthcare Career Advancement Program (H-CAP). SEIU Health Care 1199NW provided training in emerging green occupations in health care to health care workers in King County, Washington. Nationwide, approximately 3,000 job seekers receive training through H-CAP and its subgrantees. In Washington, the Service Employees International Union Health Care 1199NW developed a curriculum focusing on training hospital employees in green practices and cleaning methods like waste management, recycling, and worker safety to reduce pollution, waste, and water usage.

Grant start/end date: 1/2010 – 6/2012

Proposed/expected participants served: 410 (includes 310 incumbent workers retained and 100 new hires)

Participants served : 333

Proposed/expected participants employed: 310 incumbent workers retained (7 job seekers completed training; 0 new hires)

Participants employed: 310 incumbent workers retained

Training credentials: Three types of training were offered. All 310 workers completed the incumbent worker training (IWT) and received a certificate of Basic Green training. Eleven workers were awarded a Train-The Trainer certificate. Twenty-one workers completed a five credit college “Sustainability in Healthcare” course through a certificate program developed by H-CAP and North Seattle Community College.

- **The Northwest Energy Efficiency Council** received \$3.87 million from the Department of Labor for the Sound Energy Efficiency Development (SEED) project. SEED trains and places older youth, dislocated workers, incumbent workers, veterans, women, individuals with disabilities, and others in energy efficiency occupations. The project partnered with multiple cities, counties, colleges, workforce agencies, labor unions, and others to help recipients earn industry-recognized certificates in residential and commercial energy auditing, building operations, and OSHA safety. SEED recruitment efforts to target populations occurred in all five counties served by the grant – King, Snohomish, Pierce, Kitsap, and Clallam. Activities:

- Job readiness workshops to help participants with interviewing, networking, and resumes
- Competitiveness workshops that provide one-on-one counseling with employment specialists for participants to prepare for job search activities and job fairs
- Weekly job clubs by employment specialists that provide participants a forum to discuss job search related issues and receive advice from experts

Grant start/end date: 12/2009 – 3/2012

Proposed/expected participants served: 750

Participants served: 769

Proposed/expected participants employed: 473

Participants employed: 288

Training credentials: Building Performance Institute; Building Operator Certification; OSHA 10 Safety; Hazardous Waste Operations and Emergency Response; and Flagging.

- **Southwest Workforce Development Council (SWWDC)** administered \$959,000 of the \$5 million bi-state “green jobs” grant awarded to Oregon Manufacturing Extension Partnership funded by the Recovery Act.

The project—called Renewable Northwest (ReNW)—aimed to preserve and create over 1,700 jobs in a nine-county region in the renewable energy industry (electric power and biofuels) by building a skilled workforce to support companies that generate power and by assisting local manufacturers with retraining their workforce to produce products in support of the industry. Participants earn certificates and degrees which meet industry and state-defined standards.

For the Southwest Washington component of the project, SWWDC partnered with Clark College, Lower Columbia College, Impact Washington, WorkSource, Cowlitz County Economic Development Council and the Columbia River Economic Development Council to deliver training.

Grant start/end date: 1/2010 - 9/2012

Proposed/expected participants served: 261

Participants served: 438

Proposed/expected participants employed: 58 (of 69 unemployed), 192 incumbent workers retained employment of 192 trained

Participants employed : 438 (total includes newly hired and incumbent workers who remain employed)

Training credentials: Lean Ecology and Sustainable Manufacturing; Enhanced Lean Enterprise Certificate; Process Manufacturing and Sustainability Certificate; Project Management; ISO Certification.

- **The Workforce Development Council of Seattle-King County** received a \$3.6 million Recovery Act Pathways Out of Poverty grant for the [GreenLight Project](#). Pathways out of Poverty grants to integrate training and supportive services into cohesive programs that help targeted populations move out of poverty into economic self-sufficiency through employment in energy efficiency and renewable energy industries. The King County project trained low-income and unemployed individuals for jobs in deconstruction and materials use, green construction, and sustainable manufacturing. It brought together local government, labor organizations, grassroots and community development partners, education and training institutions, and the Workforce Development Council of Seattle-King County.

Grant start/end date: 2/2010 – 3/2012

Proposed/expected participants served: 450

Participants served: 491

Proposed/expected participants employed: 365

Participants employed: 256

Training credentials: OSHA 10 Safety; CPR/First Aid; Hazardous Communications and Falling Safely; Deconstruction and Materials Reuse; Forklift Operator; Asbestos Worker; Lead-Safe Practices; Flagging; Lift Awareness; Portable Fire Extinguisher; Six Sigma Yellow Belt; Hazardous

Waste Operations and Emergency Response Awareness; Lead Safe Weatherization Worker; Lead Renovation, Repair and Painting (Lead RRP).

- **The Workforce Training and Education Coordinating Board** received a \$5.9 million [Energy Sector Partnership Grant](#) from the Department of Labor to provide training for targeted populations in high demand, professional-technical occupations needed for energy efficiency in commercial and public buildings. This training targeted dislocated construction workers, incumbent workers who want to update their skills to include energy efficient construction, at-risk youth, low-income adults, people with disabilities, and veterans. The program recruited with news releases, electronic flyers to WorkSource users, and informational sessions at WorkSource centers.

Grant start/end date: 1/2010 – 6/2013

Proposed/expected participants served: 3,612

Participants served: 3,146

Proposed/expected participants employed: 2,271

Participants employed: 2,063 (Includes 1,088 newly employed workers and 975 incumbent workers retained. 72 percent of the participants who were unemployed at enrollment got new jobs during the grant period)

Training credentials include: Building Operator; Commercial Building Engineer; Energy Efficiency Technician; Lighting Design; Pervious Concrete Installer; Photovoltaic System Installation Energy Management; and Commercial and Residential Energy Auditing.

- **The Employment Security Department** received \$1 million for [Washington State Labor Market Information Improvement](#) to create a set of tools and reports that assist job seekers and professionals working to transition people into jobs in green sectors. Project deliverables include an enhanced green occupational profile and comparison reports, integrated data services to exchange information with other state systems, enhanced and integrated workforce and economic monitoring and analytical tools, a green flag indicating green jobs on all occupational data tools, and an online training resource to promote the understanding of workforce and economic concepts and the green economy. These tools have been completed, and integrated into a [new labor market information website](#) which underwent extensive usability testing under the auspices of this grant. The Employment Security Department met all the deliverables and expectations of the grant.

- **Apprenticeship and Non-Traditional Employment for Women (ANEW)** received \$60,000 of a \$100,000 *Green Jobs* - Green Capacity Building Grant awarded to ANEW and its sister program, Oregon Tradeswomen, Incorporated (OTI). This grant assisted these non-profits in enhancing green curricula and developing innovative training tools; specifically, ANEW updated and integrated OTI green curriculum with its existing green courses; it developed a Military Occupation Crosswalk with Helmets to Hardhats input; it launched the "Recruitment & Retention of Women in Washington's Apprenticeships" technical assistance workshop with some Green Capacity support; and developed a new website and corresponding *Green Jobs* web page. These materials helped ANEW strengthen the resources it provides to its Registered Apprenticeship Partners and improved recruitment, assessment and retention efforts for female talent.

Grant start/end date: 12/2009 – 5/2011

Proposed/expected participants served: N/A This was a capacity building grant

Participants served: N/A

Proposed/expected participants employed: N/A

Participants employed: N/A

Training credentials: Industrial Safety; OSHA training; Forklift Certification; Washington State Flagger Control certification; LNI safety courses; First-Aid/CPR; and *Introduction to Green Jobs*.

Department of Energy Competitive Smart Grid Grants

Grant Recipient	Grant Award	Grant Start/ End Date	Project Description	Proposed Participants Served	Participants Served by grant end date	Proposed Participants Employed	Participants Employed by grant end date
University of Washington and Washington State University	\$2.5 million	8/2010 – 7/2013	Strengthen B.S., M.S. and Ph.D degrees specializing in power engineering, create undergraduate and graduate programs in clean energy smart grid engineering	450	557	450*	557*
Incremental Systems Corporation	\$3.6 million	7/2010 – 6/2013	Develop real-time training simulations for smart grid operators so that operators, engineers, and students can learn to prevent major power system events	120	699	120	149
The Pacific NW Center of Excellence for Clean Energy	\$4.9 million	8/2010 – 7/2013	Deliver flexible, customized, and accessible training to potential and current employees, including underserved populations	1,215	6,051	234	339

** The WSU & UW project was intended to be a training project for individuals already employed in the electric power industry.

- **Washington State University** and the **University of Washington** received \$2.5 million in Recovery Act Smart Grid funding to develop the Northwest Workforce Training Center in Electric Power Engineering. The center strengthens B.S., M.S. and Ph.D degrees specializing in power engineering and creating undergraduate and graduate programs in clean energy smart grid engineering. Partners include a national laboratory, utilities, business, industry and the Bonneville Power Administration.
Grant start/end date: 8/2010 – 7/2013
Proposed/expected participants served: 557
Participants served: 350
Proposed/expected participants employed: 450
Participants employed: 557
Training credentials: Clean energy smart grid engineering
- **Incremental Systems Corporation** received \$3.6 million in Recovery Act funding. Located in Issaquah, the company has developed massive real-time simulations for training smart grid operators. *Power4Vets™: Retraining Veterans for Smart Grid Operations*. Real-time simulations

have been updated with specific and realistic models of the nine North American Electric Reliability Corporation's regions so that system operators, engineers, and students can experience and learn to prevent major power system events. As a demonstration, the simulations are being used to train and certify at least 120 military veterans as North American Electric Reliability Corporation's system operators and place them in energy industry jobs.

Grant start/end date: 7/2010 – 6/2013

Proposed/expected participants served: 120

Participants served: 699

Proposed/expected participants employed: 120

Participants employed: 149

Training credentials: North American Electric Reliability Corporation System Operator Certification

- **The Pacific Northwest Center of Excellence for Clean Energy (PNCECE), "A Centralia College Partnership"** headquartered in Centralia received a \$5 million grant, leveraged to \$12 million awarded in 2010 by the U.S. Department of Energy. PNCECE leads a consortium of industry, labor and education partners working to build and sustain Washington's competitive advantage through statewide and regional leadership. The consortium 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); numerous community colleges and universities, workforce and economic development councils located in the Pacific Northwest region represented by Washington, Oregon, Idaho, Montana and Utah. Project research has resulted in an [interactive Career Lattice](#) depicting the relationship among and between key energy careers accompanied by narrative descriptions and overviews of the supply and demand side occupations. Research revealed that jobs are distinct, jobs are changing, occupations vary among employers, and Smart Grid will require more IT, Data Management & Analysis, and Communication Skills.

Grant start/end date: 8/2010 – 7/2013

Proposed/expected participants served: 1,215

Participants served: 6,051

Proposed/expected participants employed: 234

Participants employed: 339

Formula Federal Recovery Act Funds in Washington

Washington also qualified for green job and green economic development Recovery Act funds through formula grants. Washington's performance in some formula programs, like the Weatherization Assistance Program, qualified the state for additional performance-based funds.

- **Washington's Low-Income Weatherization Assistance Program**

The \$10.4 million Department of Energy (DOE) Recovery Act funding for weatherization-related training and technical assistance created a one-time-only opportunity for unprecedented job creation and training for weatherization workers in Washington. Recovery Act funding for Weatherization jobs and training programs ended in December 2012.

For 2013 DOE's 2013 Weatherization Assistance Program funding allocation for Washington State was \$2,109,133, the lowest level since 1988. Of the \$2,109,133 funding for this year, DOE has designated 10 percent, or \$210,913, for weatherization-related training and technical assistance.

- **The State Energy Office** within Commerce received \$60.9 million in Recovery Act State Energy Program (SEP) formula funding. This funded a variety of innovative programs and projects including \$38.5 million in a grant and loan program and \$14.5 million to support the Community Energy Efficiency Pilot program, both described below. The **grant and loan program** issued \$38.5 million in grant and loan awards to 35 energy efficiency, renewable energy, and clean technology projects. Private businesses received over 85 percent of the funding. As of October 2013, the program had generated a variety of employment impacts; 164 jobs were created directly through SEP ARRA funding, 188 jobs were created through match funding leveraged for ARRA funds on the SEP projects, 105 secondary jobs were created through the work completed on the SEP projects, and nearly 2,000 jobs were retained as a result of the SEP grants and loans. The hours worked on direct jobs created by SEP alone, as of October 2013, created the equivalent of 86.4 annualized FTEs (many of the projects employed contract and construction workers for several months at a time, resulting in large number of jobs. The annualized FTE figure accounts for the total number of hours worked by employees on the SEP direct jobs). Job impact figures are expected to increase, as several of the projects have not yet closed, and others, such as SGL/BMW, are anticipating higher than expected jobs retained and created as a result of their projects.

Project examples include:

- **The Center for Advanced Manufacturing Puget Sound (CAMPS)** received \$1 million in SEP funds to function as an Advanced Manufacturing Consortium to assist Washington manufacturing businesses in developing and marketing their energy related products. These funds were leveraged by \$4,604,543 in additional funding. The completed project is helping members to collaboratively retool, diversify, and support advanced innovation in the wind and solar markets. The CAMPS project estimates energy savings of 100 megawatts, and the grant fund supported five FTEs.
- **Van Dyk-S Holsteins** received a \$1 million contract (\$731,000 loan / \$313,000 grant) to install an anaerobic digester that processes dairy manure. The dairy provided \$1,198,560 in match funds. The project is complete and currently operational. The digester brought state-of-the-art technology to the region, and offered a less expensive approach to manure management and biogas production. The full energy production capacity is approximately 25.6 megawatt-hours per day. The SEP contract supported two FTEs.
- **SGL Automotive Carbon Fibers** received a \$2 million grant while leveraging \$2 million in match funding. The SEP funding provided incentive for the company, a joint venture between the SGL Group and BMW, to invest in energy-efficient equipment for the production of carbon fiber for automotive frames at its Moses Lake plant. The project is complete, and Commerce is processing energy savings and close-out data. SGL and BMW has announced that they are beginning construction on second production line, which will add another 80 jobs at the

plant. Also, BMW and Boeing announced a collaborative agreement to conduct joint research for carbon fiber recycling and to share manufacturing knowledge.

- The **Community Energy Efficiency Program (CEEP)** offers a community-level approach to residential and small commercial energy efficiency retrofits. In 2009, the Washington State Legislature directed the Washington State University Energy Program to develop a pilot community-based energy upgrade program with \$14.5 million in funding from the U.S. Department of Energy State Energy Program and American Recovery and Reinvestment Act (ARRA). Eight projects were developed under the Community Energy Efficiency Pilot.

In 2012, the Legislature authorized an additional \$15 million of capital budget funds to extend the existing community and utility partnership through June 2013 and to expand service areas. The program was renamed the Community Energy Efficiency Program, or CEEP. In 2013, the Legislature authorized \$10 million of capital budget funds for continuation of CEEP through June 2015.

As of June 2013, 25,989 residential and 1,154 commercial energy upgrades have been completed under CEEP. As indicated in the table, 55 percent were manufactured homes, 32 percent were multi-family units and 12 percent were single-family homes.

Results from CEEP efforts ending in July 2012 included over:

- \$13 million in local support, including additional consumer spending and utility-provided financial incentives and operational support.
- \$1.7 million in reduced annual energy costs for participating homeowners and businesses.



These projects used a variety of program delivery models and reached a varied building stock, including:

- Whole-house comprehensive upgrades for single-family homes;
- Direct installation of targeted energy efficiency measures for manufactured homes, multi-family units and single-family homes;
- Small commercial upgrade programs targeted toward tenant-occupied commercial spaces;
- Multi-family-focused building shell upgrades, including rental and owner-occupied buildings.

Key Project Descriptions:

Puget Sound Energy and Avista Utilities, supported by the efforts of subcontractor UCONS LLC., partnered with the WSU Energy Program to utilize CEEP funds to treat over 6,000 manufactured homes throughout the utilities' natural gas and electric service area, with the goal of reducing customers' annual bills by 10 to 20 percent. These projects provided duct sealing and direct-install measures, including lighting and showerhead upgrades, to all eligible customers.

Clark Public Utilities, along with Clark County and the City of Vancouver, targeted near-low income households with a neighborhood door-to-door marketing approach called Project Energy Savings.

The goal of this campaign was to bring energy efficiency education, evaluations, home upgrades and loans to households that are at 80 percent or below area median income. Clark Public Utilities utilized GIS data to identify high-priority neighborhoods based on age of home, heating source and household income levels.

The Sustainable Living Center in Walla Walla, Washington, leveraged marketing and outreach investments made with Community Energy Efficiency Pilot program funds in 2009-2012 to continue successful program delivery in eastern Washington communities, including Walla Walla and nearby communities. Sustainable Living Center provided energy efficiency upgrade services to over 600 homes in the last program year – double the goal they set out to accomplish. Sustainable Living Center focused project efforts on enriching and expanding the workforce community by adding an additional 18 contracting companies to their vendor network, with the intent of supporting local economic vitality in the energy efficiency trades.

State-Funded Projects

- **Washington Public School Energy Efficiency** - Washington's 2010 Supplemental Capital Budget included an appropriation of \$100 million for energy cost savings grants for K-12 public schools and higher education facilities. Commerce coordinated \$50 million of the competitive Jobs Act for Public K-12 and Higher Education grants. The Superintendent of Public Instruction awarded an additional \$50 million for performance-based contracts to deliver operational cost savings at school facilities. The immediate goal of the funds was to create family-wage jobs; the long-term goal was to reduce the energy costs at state education facilities.

The Jobs Act awarded grants of up to \$5 million. At least 5 percent of each grant-round award went to small public school districts with fewer than 1,000 full-time equivalent students. The program has executed 72 contracts totaling \$42.6 million. As of June 1, 2013, 64 projects had been completed and Commerce had paid \$40.8 million in grants. Eight projects remained open or in progress. The primary reasons for delay or incompleteness were a change in the scope or the original work was to have been completed over two or three years. Extending the work over a two or three year period was common with K-12 schools that could only complete extensive projects (like replacing boilers) during the summer when school was not in session.

The primary purpose of the Jobs Act was to create family wage jobs throughout Washington, specifically in the construction industry. As of March 31, 2013, approximately 995 jobs had been created. This figure is based on a ratio of 8.1 jobs per \$1 million spent in construction costs. The ratio was derived from Jobs Act Quarterly Reports submitted by the grantees for Government Management Accountability and Performance (GMAP) reporting. The program's total construction costs were approximately \$122 million. A total of 80 apprenticeships were created by the Jobs Act. Even projects that were not required to follow the apprenticeship utilization standards nonetheless hired apprentices, which was an unexpected outcome. As an added value, these projects generated over \$8 million in sales tax revenues. The Jobs Act for Public K-12 and Higher Education successfully mobilized and enhanced local assets that strengthen community ability to meet the economic and social needs of families, workers, and employers.

- **2012 Energy Efficiency Grants for Higher Education and Local Governments** - Engrossed Senate Bill 5127 as passed by the 2012 Legislature included an appropriation for \$38 million to the Department of Commerce for energy cost savings. Section 301 appropriated \$18 million to local governments (at least 10 percent set aside for small cities or towns, population of 5,000 or less). Section 307 appropriated \$20 million to higher education. The program's immediate goal was to stimulate Washington's economy by creating jobs. The long-term goal was to reduce energy costs at the state's public education facilities and local agencies. The grants were to be used solely for energy and operational cost-saving improvements.

For Commerce the Energy Efficiency Grants program held three rounds of competitive solicitation:

- Round One closed July 2, 2012 (for both higher education and local governments). For this round, 10 grants were awarded to Higher Education institutions totaling \$4.6 million in grant funding toward \$16.5 million in total project costs. Twenty grants were awarded to local government entities totaling \$7.1 million in grants toward \$33.7 million in total project costs.
- Round Two closed January 15, 2013 (for both higher education and local governments). For this round, 12 grants were awarded to higher education institutions totaling \$7.4 million in grant funding toward \$19.8 million in total project costs. Thirty grants were awarded to local government entities totaling \$8.7 million in grants toward \$42.2 million in total project costs. For the small cities and towns stipulation, seven jurisdictions with populations of 5,000 or less received \$1.9 million in grants toward \$4.6 million in total project costs.
- Round Three closed May 20, 2013 (for higher education only). For this round, seven grants were awarded to higher education institutions totaling \$8.1 million in grant funding toward \$14.8 million in total project costs.

Project examples include:

Higher Education

Bellevue College in Bellevue - Founded more than 50 years, ago Bellevue College serves 37,000 students from the city of Bellevue and other cities and towns in east King County. The college is undertaking a campus-wide water, and interior and exterior lighting retrofit project. New controls and an energy dashboard will help ensure equipment is operating at its maximum efficiency. The 7kW solar PV system will supply power for the campus' educational kiosk.

- Anticipated number of jobs funded: 23
- Total project costs: \$2,896,852
- Anticipated annual savings: \$205,000
- Grant award: \$815,000

Local Government

Ferry County Memorial Hospital in Republic - The hospital opened its doors in 1945 and has been in its current building since June 1975. Most of the hospital's HVAC and hot water equipment has reached the end of its useful life. New HVAC systems, hot water heaters, interior

and exterior lighting, and appliances will make certain the hospital continues to provide medical service to people in Republic and Ferry counties.

- Anticipated number of jobs funded: 22
- Total project costs: \$2,713,246
- Anticipated annual savings: \$100,094
- Grant award: \$500,000

Local Government (Small Cities or Towns)

City of Royal City - This farming community of 2,193 lies in the heart of the Columbia Basin. Royal City's wastewater treatment plant needs upgrading. The city is using its grant to install new dissolved-oxygen controls and new blowers for mixing and aeration.

- Anticipated number of jobs funded: 2
- Total project costs: \$265,398
- Anticipated annual savings: \$1,565
- Grant award: \$244,812

Commerce's goal was to have the grant funds constitute 25 percent or less of the total project cost (leverage ratio of 3:1). The leverage ratio for higher education (all three rounds combined) was 1.56, for local governments (combined rounds one and two) it was 3.79, and for small cities or towns (round two only) the ratio was 1.24.

Commerce estimates a total of 1,064 jobs will be created in the construction industry from these projects. This number is based on a ratio of 8.1 jobs per \$1 million in construction costs, which was calculated from previous Jobs Act quarterly reports submitted by the grantees for Government Management Accountability and Performance reporting. As of March 31, 2013, 125 jobs have been reported to Commerce. The number of apprenticeships created by the Energy Efficiency Grants program is not known at this time. This is because many of the projects have not yet begun construction.

- **State-Funded Energy Operational Cost Savings Projects for K-12 Schools** - Washington's 2012 Jobs Now Act Supplemental Capital Budget appropriated \$40 million in grant funding to the Office of Superintendent of Public Instruction solely for energy operational cost savings improvements to K-12 school facilities. An additional \$7 million was appropriated in the 2013-15 Capital Budget. The immediate goals of the funds were to stimulate building construction-industry jobs and reduce the energy-use costs of schools. Long-term economic, environmental and social benefits include much needed improvements to the indoor environmental qualities of the school buildings, i.e., comfort and air quality; reductions in CO₂ emissions; and increased life of the buildings systems.

The \$40 million was awarded to school districts in three rounds. The first was to fund the most competitive grant applications that remained unfunded on the March 2012 application list. Fourteen districts were awarded \$5.9 million in May 2012 as reported in last year's report. The remaining \$34 million was granted in two new competitive rounds. Twenty one grants totaling \$15 million were awarded in November 2012 and twenty-six districts were awarded \$16.9 million in April 2013. The \$34 million, leveraged with utility incentives, energy savings and district

contributions will result in over \$73 million in Washington school improvements. The average grant grew in these two most recent rounds from an energy program average of \$529,000 to \$712,000. Each of the two rounds left applications unfunded. In November 28 applications totaling \$19.9 million in grant requests remained unfunded. This is the largest number of grants to remain unfunded since the program began in 2009.

Enrollment of grant recipient districts range from the smallest, with 22 students, to the largest with nearly 50,000 students. Grants were as evenly dispersed throughout the state. The majority of the grants were to districts on the west side of the mountains, with 32% of the grants going to districts south of Olympia. The actual distribution of grants can be seen on the OSPI School Facilities Portal Map at <https://eds.ospi.k12.wa.us/GIS/Facilities/index.html>. To date 167 unique school districts have received one or more energy grants. This is more than half of our 295 districts.

School districts continue to use the Department of Enterprise Services (DES) Energy Program for consultant procurement and project management services. Sixty-four percent of districts selected their Energy Services Company (ESCO) from the DES pre-qualified list. There were 13 separate consultant firms representing school district projects, including non-ESCO engineering firms. To qualify for the funds, school districts conducted investment-grade audits of their facilities identifying energy conservation measures ranging from lighting updates, heating and cooling system replacements to building envelope improvements. These projects will result in over \$72 million dollars in building improvements, supporting an estimated 844 jobs in Washington State. Many of the projects began in June, 2013 with completion dates as early as the start of school this past September.

Districts are required to conduct a measurement and verification one year after project completion. This audit of the facility verifies that the energy measures installed are producing the estimated savings. Energy improvements such as heating and ventilation systems require measurement and verification reporting for three years. This audit allows districts to make necessary adjustments in operations if the savings are not being realized.

Evergreen Jobs Leadership Team Recommendations

As the green economy continues to emerge and grow, our state's policymakers can continue to foster it through investments, policy emphasis and guidance. The Evergreen Jobs Leadership Team recommends the following:

I. Washington must pursue and maintain policies that support green jobs across a wide range of industries as the economy is "greening" broadly.

There are few exclusively green industries that boast significant new job creation. Rather, many industries that are not traditionally thought of as green are "greening up," creating new job pathways and investment opportunities. An example of such would be the focus on efficiency by the [Northwest Food Processors](#). Washington must be smarter about predicting where future green jobs will be. Rather than focus only on traditional notions of green industries, e.g., wind turbines, Washington should look to competitive, promising industries that are growing rapidly. Aerospace, for example, is an industry not commonly thought of as a

green industry, but is nonetheless greening to meet consumer demand for energy efficiency (the Boeing 787 is 20 percent more fuel-efficient than its competitor) and green manufacturing processes. Efficiency should be a theme across multiple manufacturing and industrial sectors, particularly regarding industrial processes. In the energy sector the state's Renewable Portfolio Standards have promoted the expansion of renewable sources of energy.

II. Scale up the green economy by using the public sector as a source of demand for cost-effective, environmentally-friendly goods and services.

As a green promoter and policy maker, the state can commit to enduring incentives that support the greening of the economy. As a customer, the state can support green products and processes. Washingtonians fuel a large demand for green products and processes compared to other states. Also, Washington's state government has been a leader nationally in recognizing and fostering its green economy. The state should explore other ways of incenting and taking advantage of public demand for green goods and services such as cost-effective energy retrofits and acquisition of low-carbon fleet vehicles, as is being done in some cases through "extent practicable" rules. It should also consider exploring obstacles to more proactive implementation, such as program designs and organizational cultures.

III. Implement the State Energy Strategy's recommendations in three areas of emphasis.

The Legislature tasked the Department of Commerce with updating the State's Energy Strategy, delivered in December 2011. That document provides a broad policy framework for meeting three goals of competitive energy prices, job growth, and meeting greenhouse gas reduction targets. The strategy identified the following areas for particular attention:

a) **Transportation — *Increase transportation efficiency while reducing carbon emissions.*** Transportation is the state's largest energy use sector, and the least-efficient sector. Beginning with the first Washington State Energy Strategy in 1993, state policy makers have recognized the key role of transportation in energy planning, and the current energy strategy expands upon that emphasis.

b) **Building retrofits — *Create a strong foundation of energy efficiency.*** The buildings component of the energy strategy starts with a strong foundation – three decades of effort to improve how efficiently energy is used to heat, cool, illuminate, and power homes, and businesses. In addition to saving energy, making buildings more energy efficient is an effective job-creation strategy. Energy retrofit work promises to help restore employment in the construction industry, where employment is down by one third since the beginning of the recession in 2007.

c) **Distributed energy — *Increase use of alternative and renewable energy resources.*** The third component of the 2011 State Energy Strategy focuses on energy supply—specifically the potential to increase the amount of local district heating and cooling and energy produced using smaller, alternative, and renewable resources such as solar, wind, manure, or waste industrial heat. These locally-generated and circulated energy systems are collectively referred to as distributed energy. Distributed energy resources align with the goals to increase jobs in new clean energy industries and to reduce negative climate impacts by displacing fossil fuels. Realizing this potential will require improving the ability to cost-effectively integrate alternative resources into the state's overall energy supply system.

d) **Support state and federal efforts to put a price on carbon**—Reducing carbon emissions is an integral goal of the State Energy Strategy and cuts across all three of the areas listed above. Carbon pricing helps reduce carbon emissions, stimulates the energy market to make clean energy more viable and affordable, and supports the creation of clean energy jobs. Washington should continue exploring carbon pricing options.

IV. Continue to prepare Washington’s workforce for the green economy.

In concert with boosting green job opportunities, Washington must continue to take steps to supply the skilled workforce needed to fill those jobs. The state must continue to build the K-12, college, and university pipeline by developing and implementing programs of study in STEM with curricula that prepare students for the green economy. This includes Career and Technical Education programs and pre-apprenticeships that apply STEM knowledge.

- Maintain and consider increasing the number of school districts providing a Career and Technical Education exploratory course in green design and technology.
- Consider offering Programs of Study that provide sequences of green technology and related courses that articulate from secondary to postsecondary certificate, associate, and bachelor degree programs.
- Identify energy sector foundation skill standards and incorporate the standards into appropriate curriculum at skill centers, comprehensive high schools, and colleges and universities.
- Expand apprenticeship preparation opportunities for youth including green economy pre-apprenticeships for the building trades and clean energy occupations.
- Continue to support rigorous preparation of secondary students for postsecondary success at colleges and universities that prepare them for careers in the green economy.

Programs of Study are not limited to K-12 but include postsecondary programs. These programs should include industry-based endorsements and certifications that demonstrate graduates have mastered industry-defined skill standards, including green economy competencies such as sustainable business practices, and lean production methods and standards. Postsecondary institutions must also have the capacity to supply the numbers of completers that match employer demand for workers with the required skill sets.

- Identify the postsecondary offerings that are part of Programs of Study to prepare Washingtonians for careers in the state’s green economy.
- Integrate green economy foundation knowledge, competencies and practices into appropriate course offerings.
- Support skills certification laddering for trades employees and the use of portable skills certifications linked to industry skill standards.

- Maintain and consider increasing the capacity of the community and technical colleges, and four-year colleges and universities to deliver training for occupations related to renewable energy, energy efficiency, and pollution prevention and mitigation.
- Continue to use regional skill panels, Centers of Excellence, business forums, program advisory committees and other partnerships of stakeholders that include business, labor, Workforce Development Councils, and education and training providers to assess regional employers' needs for new and enhanced skills and to develop and implement plans to meet the needs.
- Continue and consider increasing investments in Joint Apprenticeship Training Committees' skill enhancement initiatives for registered apprentices and journey workers in building and construction trades. The workplace competencies, practices and skill requirements for many occupations will need to adapt to future changes in Washington's green economy.
- Maintain and consider increased funding for the Job Skills Program to provide customized training for employers who want to develop the skills in their workforce needed to compete successfully in the green economy.