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# **Evergreen Jobs Initiative: Recovery Act Funds in Washington**

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Report on Performance and Outcomes (RCW 43.330.375)

**July 2010**

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## OVERVIEW AND OUTCOMES

The Evergreen Jobs Initiative is a comprehensive green economy jobs growth effort (RCW 43.330.370). The Department of Commerce (Commerce) and the Workforce Training and Education Coordinating Board (Workforce Board) are required to co-chair and consult with the Evergreen Jobs Leadership Team to focus Evergreen Jobs Initiative efforts (RCW 43.330.375). Commerce and the Workforce Board are responsible for coordinating efforts to ensure that federal training and education funds are captured and deployed to support green economy growth. The Evergreen Jobs Leadership Team includes business, labor, education, and government representatives who coordinate workforce and economic development efforts for a green economy and report performance results to the Governor and Legislature.

To launch this effort, Commerce and the Workforce Board procured and deployed federal funds to maximize Washington's ability to train and employ a workforce for the green economy. The Evergreen Jobs Leadership Team's early efforts focused on American Recovery and Reinvestment Act funds for job creation and training in Washington's renewable energy and energy efficiency sectors. This report summarizes the purpose of federal funds received, and includes an overview of the 2009 Employment Security survey on green jobs in Washington.

The Evergreen Jobs Leadership Team also presented status updates to the Senate Economic Development, Trade and Innovation Committee and the House Community and Economic Development and Trade Committee in 2010. A brief written report summarized the activities of the Leadership Team from July 2009 to January 2010.

More information on the Evergreen Jobs Leadership Team is available online on the [Workforce Board](#) and [Commerce](#) websites.

### **Summary of Washington's Job Performance in the Greening Economy**

In its first year of activity, the Evergreen Jobs Leadership Team has helped define "green" jobs, has coordinated state efforts to apply for targeted Recovery Act jobs and job training grants, and has tracked the progress of these grant programs as they are implemented throughout the state. The Evergreen Jobs Leadership Team presents the following progress as evidence that Washington has made progress toward the goals of the Evergreen Jobs Initiative:

- The state received over \$27 million in Recovery Act U.S. Department of Labor (DOL) and Department of Energy (DOE) green job training competitive grants.
- Washington received 54 percent of total requested Recovery Act green job competitive grant funds.
- 8,935 Washingtonians will be served through Recovery Act green jobs training and placement.
- The State Energy Program has invested nearly \$60 million of federal funds plus additional leveraged funds to accelerate job creation and retention in green sectors.
- The state received \$10.4 million for weatherization-related training and technical assistance activities. To date, these funds have weatherized over 5,000 low-income households and have created or retained nearly 200 FTEs.

## **Definition of Green Jobs**

“Green job” employees 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 is accepted by the Evergreen Jobs Leadership Team and the Employment Security Department. This definition of green jobs informs the methodology of the 2009 Washington State Green Jobs Economy Report, which is summarized at the end of this paper.

## **Coordination and Acceleration of State Efforts**

The Evergreen Jobs Leadership Team has coordinated state and local organizations’ efforts to identify, apply for, and secure sources of funding to grow greening sectors of the economy, particularly sources created by the American Recovery and Reinvestment Act of 2009.

The Leadership Team also sought projects that coincided with the Gregoire Administration’s five core principles used to guide its work in the federal recovery process:

- Get money in people’s pockets immediately.
- Create or save jobs in the near-term.
- Make innovative investments in areas that lay the foundation for Washington’s 21st century economy.
- Create strategic alliances with the private sector, non-profits, local governments and other state agencies that align goals and leverage resources.
- Apply unprecedented accountability and transparency principles.

The Leadership Team offered technical assistance to applicants throughout the Recovery Act grant procurement process. The Team performed a merit-based review to identify those applicants most likely to have the greatest impact on Washington’s goal to maintain and increase its leadership in the green economy. Once the Team endorsed applications, they were sent through the Governor’s formal endorsement process, which included a letter of support to the federal administering agency.

## **Data Unavailable in this Report**

Commerce and the Workforce Board are required to report on some information that is not available at this time (RCW 43.330.375). Examples include a description of green export activities, completion rates of programs that have not been operating long enough to report outcomes, and recommendations for new or expanded financial incentives related to green jobs and green technology. Commerce and the Workforce Board will provide more information on those matters in future reports as more data on the outcomes of the programs introduced in this report becomes available.

## **RECOVERY ACT GRANTS SECURED FOR GREEN JOBS AND GREEN ECONOMY PROJECTS**

Washington received approximately \$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 U.S. Department of Labor (DOL) and Department of Energy (DOE) are the federal administrative agencies for the state’s competitive grant Recovery Act funds.

For DOL grants alone, Washington received more than two times its per capita share of available funding, which was \$500 million nationally. For the DOE programs, Washington received more than 10 percent of the national smart grid award total.

As of July 2010, the state has received DOL funding through seven competitive grants and DOE funding through three competitive grants. A table diagramming all of these Recovery Act programs is below, followed by more detailed program summaries organized by their fund source.

### **Washington’s Competitive Green Job Grants Requested and Awarded (as of July 2010)**

Federal Agency	Total Recovery Act Applications from Washington	Total Recovery Act Awards in Washington	Total Expected Participants Served
DOL	\$36,172,494	\$15,989,440	7,150
DOE	\$14,348,859	\$11,098,859	1,785
<b>TOTAL</b>	<b>\$50,521,353</b>	<b>\$27,088,299</b>	<b>8,935</b>

Our state also qualified for green job and green economic development Recovery Act funds through formula grants, which are not included in the table of competitive awards on this page. Washington’s performance in some formula programs, like the Weatherization Assistance Program, qualified the state for additional performance-based funds. Those funds are not included in the table on this page because they were a competitive incentive within a formula grant.

### **Competitive U.S. Department of Labor Recovery Act Grants**

Washington’s DOL and DOE competitive grants of over \$27 million will serve 8,935 Washingtonians through jobs training and placement. The state received 54 percent of its requested Recovery Act funds. Washington won a grant in each of the five major DOL grant categories.

Most grant recipients are still beginning their programs and services. The Evergreen Jobs Leadership Team will report on more outcomes of these programs in future written reports as these programs become operational and begin reporting outcomes.

## Department of Labor Recovery Act Grants Won in Washington

Applicant	Grant Award	Project Description	Proposed Participants Served	Proposed Participants Placed
Apprenticeship and Nontraditional Employment for Women (ANEW)	\$60,000	Train women who are low-income, unemployed, veterans, at-risk youth, or have a criminal record	100	n/a; capacity building
H-CAP, Inc	\$500,000	Train emerging green occupations in health care	490	107
Northwest Energy Efficiency Council	\$3.8 million	Train and place targeted groups in energy efficiency occupations	675	473
Oregon Manufacturing Extension Partnership	\$959,000	Support renewable energy companies and manufacturers by retooling local workforces	261	58
Workforce Development Council of Seattle-King County	\$3.6 million	Train low-income and unemployed job seekers in deconstruction and materials use, green construction, and sustainable manufacturing	450	365
Workforce Education and Training Board	\$5.9 million	Train targeted populations in high demand, professional-technical occupations in commercial and public building energy efficiency	5,174	4,771
Employment Security Department	\$1 million	Create tools and reports that assist job seekers and professionals working to transition people to green jobs	n/a	n/a

### **Building Green Futures Capacity Grants**

Green Capacity Building Grants, totaling \$5.8 million nationally, will increase the training capacity of 62 current DOL grant recipients through a variety of strategies, and will offer training opportunities to help individuals acquire jobs in expanding green industries. These grants will help serve underserved communities throughout the country. Targeted communities include American Indians, women, at-risk youth, and farm workers.

**Apprenticeship and Non-traditional Employment for Women (ANEW)** received \$60,000 (Washington's portion of the \$100,000 total awarded to Oregon and Washington) for [Washington Green Capacity Building](#) to train 100 Washington women who are low-income, unemployed, veterans, at-risk youth, or have a criminal record. ANEW partners with veteran organizations and registered apprenticeship partners to expand pre-apprenticeship training and supportive services. For this particular grant, ANEW offers certificates in industrial safety, OSHA training and safety courses, first-aid/CPR, and introduction to green jobs.

**Estimate of workers to be trained:** 100

**Workers trained to date:** 46

**Expected completion rate:** 85 percent

**Expected placement rate:** Not applicable. This is a capacity-building grant.

**Date grant funds received:** December 1, 2009

**Disbursement to local level:** As of June 22, 2010, \$20,015.31 has been disbursed locally, with \$9,249.50 of that amount disbursed to Oregon Trades Women, Inc.

### **Energy Training Partnership Grants**

Over \$100 million in Energy Training Partnership Grants will help dislocated workers and others, including veterans, women, African Americans and Latinos, find jobs in expanding green industries and related occupations. Nationally, 25 projects ranging from approximately \$1.4 to \$5 million each will receive grants that are built on strategic business and labor partnerships.

**H-CAP Inc.** was awarded \$500,000 to provide training for workers in King County, Washington to train in [emerging green occupations in health care](#). Nationwide approximately 3,000 job seekers will receive training. Here in Washington, the Service Employees International Union Health Care 1199NW division is developing a curriculum focused on hospital green practices like waste management, recycling, and worker safety. H-CAP will evaluate environmental impact reductions related to energy efficiency and new cleaning methods that will reduce pollution, waste, and water usage.

**Estimate of workers to be trained:** 490

**Expected placements:** 107

**Date grant funds received:** January 15, 2010

**Disbursement to local level:** \$502,399

**The Northwest Energy Efficiency Council** received \$3.87 million from the Department of Labor for the [Sound Energy Efficiency Development project](#) (SEED). SEED will train and place older youth, dislocated workers, incumbent workers, veterans, women, individuals with disabilities, and others in energy efficiency occupations. The project partners multiple cities, counties, colleges, workforce agencies, labor unions, and others to help recipients earn industry-recognized certificates in residential energy auditing, building operator, and OSHA safety.

**Estimate of workers to be trained:** 675

**Expected placements:** 473

**Date grant funds received:** February 12, 2010

**The Oregon Manufacturing Extension Partnership** was awarded \$959,000 from the Department of Labor to help build a [skilled workforce in Southwest Washington](#) and northwest Oregon (\$5 million total awarded to Oregon and Washington). The project, locally named Renew Northwest, will support renewable energy companies and local manufacturers by retooling the local workforce with new jobs skills. Credentials include sustainable manufacturing and process manufacturing and sustainability. Additional training and credentials will be determined by employer needs as identified in a 2010 employer assessment.

**Estimate of workers to be trained:** 261 (69 unemployed, 192 incumbent workers)

**Expected completions:** 241

**Expected placements:** 58

**Expected training-related placements:** 52

**Date grant funds received:** January 2010

**Disbursement to local level:** An estimated \$959,000 will go to Cowlitz, Wahkiakum, and Clark Counties to benefit 124 participants seeking training, a degree, or certificate.

### **Pathways Out of Poverty Grants**

For individuals who are living below or near the poverty level, the current economic downturn has created a unique set of challenges, and has heightened the need to find pathways out of poverty and into employment. These individuals may lack basic literacy and job readiness skills, and they may face other barriers to employment, such as the need for childcare or transportation. Pathways Out of Poverty grants will integrate training and supportive services into cohesive programs that will help targeted populations find pathways out of poverty and into economic self-sufficiency through employment in energy efficiency and renewable energy industries. Despite the economic downturn, these industries present many potential opportunities for individuals to learn new skills and competencies, gain employment, and advance along career pathways.

These investments will prepare participants for employment within energy efficiency and renewable energy industries and are designed to:

- Include sound recruitment and referral strategies for targeted populations;
- Integrate basic skills and work-readiness training with occupational skills training, as necessary;
- Combine supportive services with training services to help participants overcome barriers to employment, as necessary and;
- Provide training services at times and locations that are easily accessible to targeted populations.

**Workforce Development Council of Seattle-King County** received a \$3.6 million Pathways Out of Poverty grant for the [GreenLight Project](#). The project will train King County low-income and unemployed individuals for jobs in deconstruction and materials use, green construction, and sustainable manufacturing. It brings together the City of Seattle and the King County Housing Authorities, labor organizations, grassroots and community development partners, education and training institutions, the Workforce Development Council of Seattle-King County, and local lawmakers.

**Estimate of workers to be trained:** 450

**Workers trained to date:** Currently in start-up/contract negotiation phase

**Expected completions:** 406

**Expected placements:** 365

**Date grant funds received:** Fully executed grant packet received February 24, 2010

### **State Energy Sector Partnership and Training Grants**

The Energy Training Partnership grant program will train the workforce to enter the energy efficiency and renewable energy industries, as well as green occupations within other industries. These grants invest in partnerships made up of diverse stakeholders including labor organizations, public or private employers in the energy efficiency and renewable energy industries, and the workforce system. The grantees will utilize these partnerships to design and

distribute training approaches that lead to portable industry credentials and employment, including registered apprenticeships. The program targets workers impacted by national energy and environmental policy, individuals in need of updated renewable energy and energy efficiency training, and unemployed workers.

**The Washington State Workforce Education and Training Board** received a \$5.9 million [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 will be targeted to dislocated construction workers, those who want to update their skills to include energy efficient construction, at-risk youth, low-income adults, people with disabilities, and veterans. Apprentices and journey workers in Washington's building and construction trades will receive certifications in green skills, energy management, commercial and residential energy auditing, and photovoltaic installation and design.

**Estimate of workers to be trained:** 5,174 by December 30, 2012

**Expected completion rate:** 90 percent

**Expected placement rate:** 87 percent

**Expected training-related placement rate:** 86 percent

**Date grant funds received:** February 24, 2010

**Disbursement to local level:** On May 1, 2010, \$5.5 million was disbursed to three sub-grantees in the Spokane area, Snohomish County, and the Seattle-King County Workforce Development Councils

### **Labor Market Improvement Grants**

Department of Labor State Labor Market Information Improvement Grants, totaling \$48.8 million nationwide, will support the collection and dissemination of labor market information, and will enhance the labor exchange infrastructure to provide career opportunities within clean energy industries nationwide. Grantees will be able to employ strategies that enable job seekers to connect with green job banks and help ensure that workers find employment after completing training. Thirty awards ranging from about \$763,000 to \$4 million were made to state workforce agencies to utilize data for workforce development strategies. Multiple state workforce agencies partnering as a consortium will use this program to gather information that is likely to have a regional, multi-state or national impact.

**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 will 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, and an online training resource to promote the understanding of workforce and economic concepts and the green economy.

## Competitive Department of Energy Smart Grid Grants

In April 2010, the U.S. Department of Energy announced the award selections for the Recovery Act Smart Grid Workforce Training and Development Grants that will help prepare the next generation of workers in the utility and electrical manufacturing industries.

### Department of Energy Recovery Act Grants Won in Washington

Applicant	Grant Award	Project Description	Proposed Participants Served	Proposed Participants Placed
Washington State University	\$2.5 million	strengthen B.S., M.S. and PhD degrees specializing in power engineering, create undergraduate and graduate programs in clean energy smart grid engineering	450	450
Incremental Systems Corporation	\$3.6 million	develop real-time training simulations for smart grid operators so that operators, engineers, and students can learn to prevent major power system events	120	120
Centralia College Center of Excellence for Energy Technology	\$4,998,859	deliver flexible, customized, and accessible training to potential and current employees, including underserved populations	1,215	n/a Mostly incumbent workers

**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 will strengthen B.S., M.S. and PhD degrees specializing in power engineering and create undergraduate and graduate programs in clean energy smart grid engineering. Partners include a national laboratory, utilities, business, industry and the Bonneville Power Administration.

**Incremental Systems Corporation** received \$3.6 million in Recovery Act funding. Located in Issaquah, they will develop massive real-time simulations for training smart grid operators. Real-time simulations will be 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 will be used to train and certify 120 military veterans as North American Electric Reliability Corporation's system operators and place them in energy industry jobs.

**The Centralia College Center of Excellence for Energy Technology Program** received \$4.9 million in Recovery Act funding and will become the Pacific Northwest Regional Center of Excellence for Clean Energy. A comprehensive online training center will implement and deliver flexible, customized, and accessible training to potential and current employees, including underserved populations. Partners include consumer and investor-owned utilities; Bonneville Power Administration; organized labor; Pacific Northwest National Laboratory; and other

private sector companies and colleges and universities in Washington, Oregon, Idaho, and Montana.

## **Recovery Act Formula Funds**

### **The Low-Income Weatherization Assistance Program**

Washington received \$10.4 million for weatherization-related Training and Technical Assistance activities funded through the Recovery Act and administered by the Department of Energy. Washington's weatherization program incorporates the following fields: energy and resource conservation; energy efficiency improvements; weatherization-related repairs, indoor air quality improvements, health and safety improvements; and client conservation education. In the first quarter of 2010 alone, training and technical assistance service providers have logged over 5,000 hours of training in these weatherization job categories. Over 5,000 low-income households have been weatherized with the use of Recovery Act funding and nearly 200 FTEs have been retained or created.

In August, Commerce won \$7 million additional Department of Energy Recovery Act funds to complement and expand the existing Weatherization Assistance Program. States with high performing weatherization programs qualified to compete for this additional Sustainable Energy Resources for Consumers (SERC) funding. Commerce will administer the SERC awards through 11 local weatherization contractors. The contractors will install renewable energy systems and cutting-edge energy efficiency technologies in homes to help families save more on their energy bills. Examples of sustainable energy systems that qualify for the SERC funds include solar heating systems, solar photovoltaic panels, insulation technologies, high-efficiency appliances, tankless hot water systems, high-efficiency combination boilers for hot water and heat, and ductless heat pump systems. Commerce is working with local Weatherization Assistance Program contractors to establish program goals and timelines including estimates for the number of units completed.

### **The State Energy Program**

Since October 2009, 24 out of 174 applicants have been chosen to receive funding under the State Energy Program's push to accelerate green job creation and retention in a growing green economy. Through this Recovery Act program, the U.S. Department of Energy allocated \$60.9 million to the state for loans and grants. To date, we estimate 4,078 jobs will be created, approximately 2,386 of which are temporary jobs.<sup>1</sup>

All Recovery Act grant and loan programs are required by Commerce to leverage at least a one-to-one match in funding. All contracts will be in place by the end of September 2010, and all of the funds will be spent by the end of 2011.

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<sup>1</sup> Not every grant and loan program has clearly divided permanent, retained, and temporary job categories.

Below are several examples of how State Energy Program funding has been put to use to retain and create jobs, expand Washington's green infrastructure and create effective and efficient ways to generate economic prosperity:

- **Renewal Energy Composite Solutions, LLC** in Clark County received a \$1 million grant to switch a portion of a boat manufacturing plant to small wind turbine production. This project will create 101 permanent and 99 temporary jobs and leverage \$5 million in additional funding.
- **Barr-Tech, LLC** in Lincoln County received a \$1.5 million loan and a \$500,000 grant for an anaerobic digester to process local food waste. The project will create 117 permanent and 41 temporary jobs and is expected to leverage \$9.7 million in additional funding.
- **GR Silicate Nanofibers and Carbonates** in King County received a \$1.4 million loan for the use of nano-materials to reduce greenhouse gas emissions by capturing carbon dioxide gas from the Grays Harbor Paper flue and converting it to calcium carbonate for use in paper. This project will create 15 permanent and 280 temporary jobs and leverage \$5 million in additional funding.

For a full listing of State Energy Program projects, go to the Commerce [Energy Policy Division](#) Web site.

### **Workforce Investment Act Green Jobs Training**

Washington's Employment Security Department also received Recovery Act funds through a Workforce Investment Act (WIA) grant allotment. These funds were not limited to energy efficiency or renewable energy training, but there have been some training participants who received specialized jobs training through this funding. Between June 2009 and June 2010, 249 Washingtonians received training in green occupations through WIA-funded, Workforce Development Council-administered contracted classes.

## **NEW FUNDING SOURCES FOR JOBS IN THE GREEN ECONOMY**

The Recovery Act was the primary focus of the Evergreen Jobs Leadership Team's efforts this year, in accordance with the Evergreen Jobs Act. This section includes examples of new non-Recovery Act funds for jobs and economic development in green sectors that have occurred in the last year.

### **Energy Efficiency Jobs in Schools and Jobs Referendums in Washington**

During the 2010 Legislative Session the supplemental capital budget included \$100 million for energy cost savings grants in public schools and higher education facilities. Commerce is coordinating \$50 million of the competitive Jobs Act for Public K-12 and Higher Education grants. The immediate goal of the funds is to create jobs; the long-term goal is to reduce the energy costs at state education facilities. The Superintendent of Public Instruction was directed to award the other \$50 million for performance-based contracts at school facilities that deliver operational cost savings to school facilities. More information on the outcomes of those programs will be included in future reports.

In 2010, the Legislature also authorized a referendum that would authorize \$500 million in state bonds to pay for energy-efficiency projects in state buildings (EHB 2651, Laws of 2010, ch. 35). If ratified, it would promote job creation by authorizing bonds to construct energy efficiency savings improvements to schools, including higher education buildings. The measure would create an estimated 38,000 jobs and save \$190 million in energy costs. The Evergreen Jobs Leadership Team is currently analyzing the workforce requirements needed for the public works efficiency projects if they are authorized in November.

### **Innovative Public-Private Partnership**

In August of this year, the DOE awarded \$30 million from its Weatherization Assistance Program funding to support projects that demonstrate innovative approaches to weatherizing low-income homes nationwide. Commerce's weatherization program partnered with Cascadia Consulting Group to submit one of the 16 applications selected nationwide. This award will be used to collaborate with western Washington Community Development Financial Institutions (CDFIs) and utility companies to establish the Replicable Innovative Sustainability Energy (RISE) Weatherization Pilot. The RISE program will establish a loan fund exclusively for low-income weatherization. These funds will also create a one-stop shop offering utility rebates, below-market loans, a carbon incentive fund, and subsidies for property owners and developers of multifamily low-income buildings.

Washington was one of only four states to receive the \$3 million maximum. Those funds will be leveraged at 3:1 creating a \$9 million program. RISE will create 169 jobs in two years, and many of those positions may be sustained in subsequent years. Commerce anticipates weatherizing 2,240 low-income units, reducing greenhouse gas emission by nearly 19,000 metric tons and creating \$27 million in energy bill savings for low-income households.

## **2009 WASHINGTON STATE GREEN ECONOMY JOBS REPORT SUMMARY**

In March of 2010, the Employment Security Department's Labor Market and Economic Analysis division released its 2009 Washington State Green Economy Jobs report, which was prepared in accordance with the Evergreen Jobs Act. The report defined the green economy and tallied green jobs through employer surveys. The Executive Summary of that report appears here. The [full report](#) is available on the Employment Security Department's website.

In 2008, the Legislature directed the Employment Security Department to conduct a survey to determine how many "green jobs" existed in the state. That initial survey focused on industries that seemed most likely to have jobs in defined "green" activities and only included firms in the private sector.

In 2009, the Legislature requested a follow-up survey to see if the number of these "green" jobs had changed. Employment Security was directed to expand the survey to include public sector and additional private-sector industries.

### **2009 Green Economy Report Conclusions**

The overall findings suggest that the number of jobs identified by employers is growing, and that green jobs exist in some form in virtually all industries across the state, although concentrations vary. Most of the growth appears to be in existing occupations, and the majority of employers continue to use traditional job titles to describe green jobs.

### **Definition of Green Jobs, Survey Methodology**

The 2009 survey repeated the use of 2008's scientifically rigorous survey and sampling process, and used the same definitions. Green job employees are directly and predominantly engaged in at least one of the four green-economy core areas:

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

More than 13,000 employers responded to the 2009 survey, a 70 percent response rate.

### **How Many Green Jobs are There?**

An estimated 76,137 private sector green jobs and an additional 23,182 public sector green jobs were identified in the 2009 survey. Altogether, the survey identified 99,319 green jobs in Washington in 2009. This amounted to 3.3 percent of total employment covered by unemployment insurance in Washington State, up from 1.6 percent in 2008. The data suggests that green jobs are more prevalent across the entire economy and exist in more industries than previously anticipated.

## **What's Responsible for the Increase?**

The number of private sector green jobs was substantially higher than the 2008 survey results, which estimated 47,194 green jobs. This result was unexpected by researchers in part because of the weak condition of the economy during both years. Additional analysis of the results revealed that among the private-sector industries that were surveyed in 2008 and again in 2009, the number of green jobs grew by 32.4 percent (15,100). Moreover, almost half of this increase was due to the expanded number of industries and firms included in the survey. Most of the growth among industries surveyed in both 2008 and 2009 occurred in firms that did not report having green jobs in the 2008 survey. Possible reasons include greater awareness among employers about what constitutes a green job, new hiring, and changes in the types of products or services offered by employers.

Many factors may account for the differences between the 2008 and 2009 survey results. Therefore, exercise caution when drawing conclusions about the nature and extent of green job growth based on these comparisons.

## **Green Industries and Occupations**

So far, green-economy studies in Washington State and across the nation have identified no new industries and only a few new occupations that are uniquely “green” such as wind turbine technicians and solar panel installers. For the most part, environmentally friendly activities and responsibilities are being added to existing jobs.

In 2009, the construction industry had more green jobs than any other, with 29,410 (38.6 percent), primarily in the core area of “increasing energy efficiency.” The agriculture industry was second, with 12,027 green jobs, most in the core area of “preventing and reducing environmental pollution.” Major industries least likely to have green jobs were finance and insurance; and real estate, rental, and leasing.

The most common green occupation in 2009 was agricultural workers, followed by electricians. There were considerable differences between the public and private sectors. More than two-thirds of all public-sector jobs fell within the “preventing and reducing environmental pollution” core area, while the private sector was somewhat more evenly split between “increasing energy efficiency” (44.3 percent) and “preventing and reducing environmental pollution” (39.9 percent).

## **The Four Core Areas**

The overall findings across the four core areas show that, in 2009:

**Preventing and reducing environmental pollution** accounted for 46 percent (46,004) of all positions, compared to 33.2 percent in 2008. This core area had the largest employment in agriculture-related industries and occupations, followed by positions in some skilled trades and construction-related industries, and in other scientific-technical occupations.

**Increasing energy efficiency** was the second-largest core area, accounting for 38.9 percent (38,894) of all green positions, compared to 52.9 percent in 2008. Construction-related industries and occupations accounted for most of the employment in energy efficiency, followed by professional and technical services industries, such as architecture and engineering.

**Providing mitigation or cleanup of environmental pollution** accounted for 11.6 percent (11,617) of all positions, compared to 9.5 percent in 2008. Most of these positions were in the professional and technical services industries and in occupations such as environmental engineers and some public-sector service occupations.

**Producing renewable energy** represented 3.5 percent (3,464) of all positions, up slightly from 4.3 percent in 2008. Construction-related industries and occupations, as well as professional and technical services occupations, accounted for the majority of all positions in this core area. The number of positions by core area may exceed the number of green jobs because some green jobs were allocated to multiple core areas.

### **Geographical Differences**

Among Washington's 12 workforce development areas, the Benton-Franklin region had the most green jobs (8.2 percent) as a percentage of its overall employment. Snohomish County had the lowest percentage, at 2.1 percent. King County had the largest number (32,857) and percentage (33.1 percent) of green jobs for all of Washington, although green jobs comprised only 2.7 percent of the county's total employment.

### **Earnings and Education**

The 2009 Washington State Green Economy Jobs report incorporates data from other sources that were not collected as part of the Green Jobs Survey, such as earnings and educational requirements. Based on these secondary data sources, total average earnings for all green jobs in Washington were tabulated at more than \$5.1 billion in 2009.

Median annual earnings are generally highest for professional or technical occupations that require long-term, post-secondary education or degrees, such as managers and engineers. As a group, skilled trades occupations related to the construction industry represented the largest employment in green jobs, with median annual earnings that range from approximately \$40,000 to \$55,000.

Among the 25 occupations with the largest number of green jobs, the most commonly required education/training level is at the mid-level, which requires one to four years of postsecondary coursework and/or on-the-job training. Occupations requiring this level of training include electricians, carpenters, and managers.

## ADDITIONAL RESOURCES

The Evergreen Jobs Leadership Team members and their organizations relied on these documents and resources to develop a strategic approach to increasing the state's funding prospects:

- [Evergreen Jobs Initiative](#) (RCW 43.330.370)
- [Evergreen Jobs Efforts](#) (RCW 43.330.375)
- [Greenhouse Gas Emissions Act](#) (E2SHB 2815, Laws of 2008, ch. 14)
- [The Next Washington](#) – Growing Jobs and Income in a Global Economy: 2007 – 2017
- [High Skills, High Wages 2008-2018](#): Washington's Strategic Plan for Workforce Development
- Principles from the [Washington State Energy Plan](#) draft
- [Skills for the Next Washington](#)
- [Adult Basic Education](#): Creating Opportunities for Washington's Emerging Workforce
- Washington Economic Development Commission's 2009 strategic report: [The Washington Innovation Economy](#)
- Higher Education Coordinating Board's [2008 Strategic Master Plan for Higher Education](#)
- [2009 Washington State Green Economy Jobs](#) Employment Security Department