

An Analysis of Past and Current Cleantech Legislation in Washington State

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The United States, as a whole, is struggling to create a sustainable economic future. Some states, however, are emerging as leaders, with remodeled laws and policies designed to transform their economies. Washington is one of these leaders.

In 2006, Washington voters passed I-937 which called for fifteen percent of electricity to come from renewable resources such as solar, wind, water, and biomass by 2020. This is a stair-step process: Between 2012 and 2015 renewable energy is required to increase by three percent of total energy. Between 2015-2019, the requirement will increase to nine percent. After 2019, renewable sources will be at least fifteen percent (I-937). The initiative also required that companies invest at least four percent of annual retail revenue on “incremental costs of eligible renewable resources” (I-937). This initiative not only begins to change the energy focus from oil to renewable resources, it also makes efficiency more prevalent.

California also has a similar piece of legislation called the California Renewables Portfolio Standard (CRPS). The CRPS was established in 2002 and expanded in 2011. According to California.gov, “The RPS program requires investor-owned utilities, electric service providers, and community choice aggregators to increase procurement from eligible renewable energy resources to 33% of total procurement by 2020.” This means that 33% of energy used has to come from sustainable resources, including the energy used by fossil fuel burning and producing companies.

Another policy implemented in Washington proving its desire to become an energy and sustainability leader was Executive Order 07-02, in 2007, by Governor Christine Gregoire. The requirement called for a reduction of greenhouse gases in Washington State to a level below that of 1990. This would be a reduction of 10 million tons by 2020 (EO-07-02). This bill also calls for a step-by-step process: By 2035, the goal is to reduce carbon levels to 25 percent below the 1990s (30 million ton reduction), and, by 2050, be 50 percent below the 1990s (50 million ton reduction) (EO-07-02). The policy also called for 25,000 “Green Jobs,” up from the 8,400 job level of 2004, as well as a twenty percent reduction in expenditures on imported fuel by 2020. All of these numbers and statistics point to one thing; the State of Washington is acknowledging our need to move to a substantially greener economy.

Washington’s legislation also passed Engrossed Second House Bill 2815 which called for “creating a framework for reducing greenhouse gases emissions in the Washington Economy” (E2SHB 2815,1). This bill was designed to facilitate the development of a “regional multi-sector market-based system” that would help reduce GHGs emissions, consider other energy market strategies, and also ensure Washington has a “well trained workforce for our clean energy future” (E2SHB 2815).

During the 2013 legislative session, there have been more bills going through the House and Senate that are designed to build off of EO-07-02 to create a framework and develop the tools necessary to reach our carbon goal by 2020. One of these bills, dubbed the Carbon Pollution Action Bill, is Substitute Senate Bill 5802 which Governor Inslee himself presented to the Senate. This bill calls for a ten month survey to develop recommendations to achieve the state’s greenhouse gas emissions limits. In his testimony to the

Senate, Inslee mentioned his concern for future generations and the environment. The Governor argued that if we continue to be sedentary in dealing with our carbon problem it will cost a potential \$10 billion by 2020. “Paying a higher monthly bill,” said the Governor, “to research, develop, and implement new technologies and energy systems will vastly reduce the tab we pay in the end” (Inslee). This bill is the most far-reaching and important bill this session, in my opinion.

There are a few other current bills worth noting such as HB 1374 concerning the energy facility site evaluation council. This bill addresses the need for infrastructure relating to “safe and reliable” energy production in Washington as well as the region (HB 1374). HB 1826 updates requirements forcing utilities to develop new plans to integrate and address new energy markets.

SB 5796 addresses the huge amount of waste emergency systems use while sitting idle. The Department of Ecology argued against this bill saying it wouldn’t protect public health because it allows for some generators to be exempt from other codes; but they would support the bill if it were changed and made into a substitute bill.

SB 5603 received a do-pass out of committee. This bill creates a Marine Advisory Council in the executive office to act as a communication link between state, local, tribal governments hopefully ensuring cohesion between governments regarding water resource management. Common understanding across all governmental levels about healthy environmental goals is crucial to the success of any legislation.

Another important bill is SSB 5648. According to the bill digest on the Washington State legislative website, SSB 5648 “removes unintended economic hardship on electric consumers and reinforces the policy intentions of I-937. This includes stabilizing electric prices, increasing conservation, creating high quality local jobs, and avoiding and mitigating potential future market distortions” (5684 Digest). This bill could have a positive impact on what I-937 had set up but never accomplished. The legislature needs to view energy, efficiency, and conservation goals from a holistic perspective rather than as they currently do, as individual, isolated issues.

All of the measures going through the Capitol right now can have positive impact on Washington’s economy as well as greenhouse gas reduction goals. In fact, according to the American Council for an Energy Efficient Economy, Washington ranks eighth out of all the states on its State Energy Efficiency Scorecard (ACEEE). The only problem is that most of the proposals are still just frameworks or guidelines rather than actual plans of action. Making effective change does involve preliminary planning and outlines, however at some point people need to begin physically working on issues rather than speculating about them. That’s why I believe SSB 5802 could be so impactful. It sets up a rigorous 10 month review and calls for actions to begin taking place to meet objectives. Past efforts like I-937 and EO-07-02 were a good starting place for focusing our goals but none of those goals have been realized. Greenhouse gas reductions are at the center of all energy, efficiency, and conservation plans; however without the proper tools and workforce to physically realize those goals, they are simply nothing but ideas.

Comparison of Clean Tech Job Growth by State and Metropolitan Area

According to an assessment done by the Brookings Institute, the top five states with the largest clean job growth between 2003 and 2010, in order, were California, New York, Florida, Illinois, and

Washington. In 2003, California was first with 239,064 green jobs, which then increased by 79,000 jobs (33%) to 318,156 jobs in 2010. New York, in second place, had 124,848 total jobs in '03 and 185,038 in '10 which was an increase of 61,000 jobs (49%). Third was Florida with 74,669 jobs in '03 which then jumped to 102,967 in '10 (37%). Illinois was fourth, at 86,048 which then increased 25% (20,000 jobs) to 106,375 jobs in '10. Fifth, was Washington at 69,106 jobs in 2003, but that number increased to 83,676 in 2010 (Brookings, 2011). This change was 14,500 jobs (21%). This shows that, although Washington does not have the largest population, it still competes with much larger states facilitating a green economy.

The Brookings study also shows the clean economy share of all state jobs in 2010.) Out of the top cleantech job growth states, Washington leads the pack with 2.8%. The next closest are New York and California with 2.1% of their state jobs in the green sector (Brookings, 2011).

The Brookings assessment also provided data on the “Aggregate of Clean Economy Jobs in the 100 Largest Metropolitan Areas.” The top ten largest clean economy metropolitan areas in 2010 were:

- Atlanta-Sandy Springs-Marietta GA,
- Boston-Cambridge-Quincy MA-NH,
- Dallas-Fort Worth-Arlington TX,
- Houston-Sugar Land-Baytown TX,
- Los Angeles-Long Beach-Santa Ana CA,
- Minneapolis-St. Paul-Bloomington MN-WI,
- Philadelphia-Camden-Wilmington PA-NJ-DE-MD,
- San Francisco-Oakland-Fremont CA,
- Seattle-Tacoma-Bellevue WA, and
- Washington-Arlington-Alexandria DC-VA-MO-WV (Brookings 2011).

Seattle-Tacoma was the smallest of all of these Metropolitan areas with 21,760 jobs in 2003 and 31,340 jobs in 2010, an annual change of 44% during that time period.

It is clear that there is more of a market for clean tech job opportunities in other states than there is in Washington. This is because those states have larger populations, which correlates directly to a higher demand for those services. Washington State and its companies are left with two options, either they can look at creating public policy to create those jobs or they could look at taking clean tech opportunities into other states. Washington has one of the highest renewable energy markets in the US because of its hydroelectric generation as well as silicon production. I think job creation in Washington will come from energy efficiency, construction, transportation, agriculture, and software. This is currently where most green jobs exist and where job projections point. Washington needs to continue to develop public policy that both improves environmental standards as well as creates new market opportunities for clean technology companies.

Clean Tech Jobs in Washington

In 2011, the Washington State Employment Security Department conducted a study called the *Green-Economy Jobs Report* (GEJR). This study was a result of prior legislation, E2SHB 2227, which required that the Employment Security Department, along with other agencies, conduct surveys every two years to

update labor market research on “job growth in the green economy, current projected recruitment and skill requirements of green employers, wage benefits within green industries”, and “the education and training requirements of entry-level and incumbent workers in green economy industries” (GEJR, 7). *The Green Economy Survey* (GES), which is what the report was based on, breaks the green economy into four core areas, “increasing energy efficiency, producing renewable energy, preventing and reducing environmental pollution, and providing mitigation and clean-up of environmental pollution” (GEJR, 12). Each of these areas accounts for all of the numerous industries and economic sectors. Green jobs can be found in every part of the economy.

The survey identified and estimated 120,305 green jobs; 104,955 of these are private and 15,348 are public (GEJR). The survey also estimated that nearly 87% of all green jobs are in the private sector. The four largest industries identified in the survey were, construction with 24.8% of green jobs, administrative support and agriculture with 10%, and professional science and technology services with 7% (GEJR). The top green occupations listed in this survey were farmworkers and laborers, crop, nursery and greenhouse with 7,835 green jobs. Next, were electricians with 4,359 green jobs. Third, were heating, air conditioning, and refrigeration mechanics and installers with 3,371 green jobs. Fourth from the top were carpenters with 3,284 green jobs. The survey also broke data up into Industries by core area. According to the survey, the “preventing and reducing pollution” core area had the most jobs with an estimated 49,329. Increasing energy efficiency was next with 37,449 green jobs. Providing mitigation or cleanup of environmental pollution ranked third with 13,339 green jobs, and pulling up the rear was producing renewable energy with 4,839 green jobs (GEJR, 2011).

One thing that Washington can do to compete with larger populations is to incent clean tech job growth. Be it tax breaks, refunds, loans, or grants, giving people and businesses incentives to change can have extremely positive results. Washington has a few state, local, and NGO programs but much more can be done. Some incentives are the City of Seattle’s Community Power Works Loan Program, the Evergreen Sustainable Development Standard for Affordable Housing, and the Northwest Energy Efficiency Alliance’s Smart Water, Heat Rebate Program (Database of State incentives for Renewables and Efficiency).

Projections of Clean Tech Jobs

A segment in the 2009 discussion draft of *Washington State’s Green Economy: A Strategic Framework* (WSGE), points out that although Washington is a leader in hydroelectric and energy efficiency “there is significant work that can be done to improve research and development, utility and public benefit policies and programs, appliance standards, state leadership in adopting energy-efficiency practices, and financial and information incentives” (WSGE, 36). Washington is also an attractive location for solar because of our ability to produce solar grade silicon, which is the raw material used in solar products. Washington’s inexpensive hydropower and silicon production, well-equipped information-technology industries, and easy access to a global market are all reasons why Washington is a worthy place for a solar market. According to the WSGE, if silicon production continues to grow with the market “Washington’s solar silicon industry could grow from \$150 million in 2007 to more than \$600 million by 2016 (WSGE, 57).

Clean Edge Inc. estimated that “Washington and Oregon jobs in bioenergy will increase from 3,207 today to 6,946 by 2025” (WSGE, 46). Washington is ranked fourth among 19 western states after California, Texas, and Oregon. For available biomass, Washington State has the third highest number of organic operations of all states in the country (WSGE, 47). These types of markets leave an expansive amount of market opportunity for Washington residents to cash in on.

Obtaining actual data on projected clean tech job growth proved to be very challenging. What I was able to find was data from the Employment Security Department (ESD) on industries that are expected to grow both in the short term and long term future. In King County, there are a few industries I think are worth noting. One of these industries is aircraft structure, surfaces, rigging, and system assemblers. The ESD estimated there were 3,212 jobs in 2010 with an annual job growth rate of 3.0 percent until 2020 (WA ESD). Another industry that shows a growing trend is architecture, both landscape and naval, with an estimated 2,720 green jobs and a growth rate of 2.1 percent. The third industry is civil engineering. This industry had an estimated 5,971 green jobs with a growth rate of 1.6 percent annually. As a point of reference, Thurston County only has 903 jobs in this industry and is expected to grow at one percent. State wide civil engineering had 13,470 green jobs and a growth rate of 1.8 percent (WA ESD). Another massive industry with green jobs is software development. In King County, this industry had 12,592 green jobs and was growing about 2.5 percent annually.

As we try and shift our economy from a traditional economy to a green economy, developing our infrastructure, systems of transportation, software and energy efficiency, as well as education will be crucial to our success.

Conclusions and Recommendations

Washington is clearly in good position to capitalize on a rapidly growing clean technology industry, but other states are too. This leaves Washington at a competitive disadvantage because most of those other competing states are much larger in population, like California and Texas. States with larger populations have more of a demand for clean tech services, therefore starting them off with a larger potential market than Washington. If Washington wants to compete it will need to create strategies to overcome and compensate for its population disadvantage. Washington not only has competitors inside the US but also abroad, this too needs to be viewed as competition for Washington. Moving forward, there should be a comprehensive analysis of public policy and legislation that has been passed throughout the nation to determine if any could be successfully adopted by Washington. Doing so would not only allow Washington to come up to speed with other leading states but also cement its position as a clean tech leader.

Bibliography

American Council for an Energy-Efficient Economy. [*State Energy Efficiency Policy Database*](#). N.p., Oct. 2010. Web. 2013.

California Renewables Portfolio Standard (RPS). In *CA.GOV*. Retrieved 2013

Database of State Incentives for Renewables & E . [Washington Incentives/Policies](#). North Carolina State University, 2012-2013. Web. 11 Mar. 2013.

Mauro, Mark, Jonathan Rothwell, and Devashree Saha. [Sizing the Clean Economy](#). Battelle, Technology Partnership Practice , 2011. Web. 2013.

Nicholson, Mac. "Senate Bill Report SB 5648." *leg.wa.gov*. Senate Committee, 2013. Web. 2013.

Richards, Scott. "House Bill Report HB 1374." *leg.wa.gov*. House Committee, 2013. Web. 2013.

State of Washington. *Engrossed Second Substitute House Bill 2815*. Olympia: Secretary of State, 2008. Print.

Washington Secretary of State . *I-937*. 2005. Print.

Washington State Department of Community, Trade & Economic Development. *Washington State's Green Economy: A Strategic Framework*. Discussion Draft ed. Washington, CTED, 2009. Print.

Washington State Employment Security Department. *Green-Economy Jobs Report*. Washington State ESD, 2012. Print.

Washington State Employment Security Department. [Learn about an Occupation](#). N.p., 2013. Web. 2013.

Washington State Legislature. *Executive Order 07-02*. N.p.: Governor Christine Gregoire, 2007. Print.

References

Washington State Energy Strategy

Washington State Climate Challenge

Western Climate Initiative

Washington Innovation Partnerships

Evergreen Jobs Act

Washington State Apprenticeship Council

House Bill 3120 and 2758

Evergreen Jobs Effort

Washington Innovation Economy

Washington State Departments of Ecology, Transportation, and Job Security