

Focus On: Climate Change and Jobs

Job Growth in Washington's Clean Energy Industry has Increased Four-fold in the Past 10 Years

Washington is a national leader in addressing climate change. The steps we take to reduce our impact on the climate create opportunities to grow the economy. There are good, family wage jobs created by our focus on cleaner energy, smarter use of natural resources and adoption of advanced technology. This sector of our economy is growing rapidly.

State Energy Policy Office studies documented 3,800 clean energy jobs in 1998 and 8,400 jobs in 2004. This expansion is continuing, as we implement our current clean energy policies and advance new ones. The Washington Climate Advisory Team (CAT) expects the state to meet Governor Gregoire's job creation goal of 25,000 clean energy jobs by 2020. And, we could reach 31,000 family-wage jobs by 2025. Clean energy industries include:

- Energy efficiency.
- Renewable energy (including solar, wind, fuel cell, geothermal, and biomass).
- Smart energy (using technological advances to improve all steps of the energy production to end-consumption process).

Clean, Green and Competitive

Forbes magazine ranked Washington the 5th best state in the nation for business, and 3rd for environmental quality. Washington has low carbon emissions per capita (low "carbon footprint") and some of the nation's cleanest water. We have strong policies to promote energy efficiency and good air quality, as evidenced in low smog and ozone pollution in metro areas. The state also has the most buildings, on a per capita basis, that meet the U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED) standard. Washington is well-positioned to meet our greenhouse gas emission reduction goals, reduce our dependence on imported fuels, and capitalize on economic opportunities through growth of clean energy industries in our state. The state recently ranked

Washington's Clean Energy Industry at a Glance

- 241 organizations
- More than \$2.1 billion in 2004 revenues
- Larger than the state's logging industry (\$1.9 billion) and coffee/espresso shop industry (\$1.7 billion)
- Manufacturing sector has the highest revenues and paid the most in wages
- 8,400 jobs
- Average salary \$60,000
- Statewide impact: More clean energy organizations are clustered in Puget Sound, but the highest per capita jobs and revenues were in Eastern Washington
- Puget Sound clean technology firms grew by 24 percent (1997-2001) compared to 9 percent nationally (Washington Clean Tech Alliance)
- There is a 64 percent greater concentration of clean tech jobs in Washington State than the U.S. average

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4th nationally in entrepreneurial investment in clean energy businesses.

Clean energy is thriving and growing in Washington. But there are even broader opportunities in what is known as a “green economy.” Also called green collar jobs, clean economy, sustainable industry economy, and low carbon economy, the emerging green economy is anchored by clean energy. It also captures an ever-growing number of industries and innovations tied to climate change interventions and sustainable development techniques.

Renewable energy includes hydroelectricity, biomass, geothermal, wind, photovoltaic, and solar thermal. According to the U.S. Energy Information Administration, in 2006 renewable energies produced about six percent of total U.S. energy. The industry grossed revenues of \$40 billion and created nearly half a million jobs.

Energy efficiency is by far the largest element of the clean energy sector. The Environmental & Energy Study Institute (EESI) reported gross revenues over \$900 billion and 8 million jobs created in 2006. Their study includes manufacturing, recycling and construction.

Measuring the “Green Economy”

Federal and state labor and industry codes have not kept pace with new innovations – clean energy, nanotechnology and photonics are some of the industries that are not coded and captured in labor and industry statistics. Terminology and definitions of “green,” “clean,” and “sustainable” are hotly debated and are being used interchangeably; common definitions are needed.

By some measures, “green” business was a \$265 billion industry in 2005 (*Forbes*, Nov. 2007).

Green businesses have been growing at a rate of about 5 percent annually during the past three years. Two particularly hot areas are global carbon credit trading, which doubled to \$28 billion from 2005 to 2006, and construction and services associated with “green buildings” that meet LEED standards. Today, the green building industry is worth \$12 billion. Ten years ago, it was unquantifiable.

The American Solar Energy Society estimates that renewables and energy efficiency have the potential to generate up to 40 million jobs by 2030 – 1 in 4 U.S. jobs.

Targeting Clean Energy Growth in Washington

Study is needed to identify the best opportunities to spur growth of the clean energy economy in Washington. Proposed legislation creates a workforce development and training initiative to grow high-wage jobs in clean industries, and to provide needed education, training and financial support. The first step is a Labor Market Analysis, an interagency effort to identify high-demand clean energy industries to target and grow. This will provide a foundation to overlay clusters of opportunity – strengths of particular regions and communities in Washington – and help target the most effective future public and private investment in clean energy business development.

Helpful web sites

- Washington State's Climate Change web site: www.ecy.wa.gov/climatechange/index.htm
- Directory of Renewable Energy & Energy Efficiency Companies in Washington www.cted.wa.gov/site/637/default.aspx
- Washington Clean Technology Alliance: www.wacleantech.org
- Puget Sound Clean Cities Alliance: www.pugetsoundcleancities.org/
- U.S. Dept. of Energy Efficiency & Renewable Energy site: www.eere.energy.gov/
- Washington State Incentives for Solar Energy: www.dsireusa.org/
- Washington State Dept. of Community, Trade and Economic Development www.cted.wa.gov/energy
- American Solar Energy Society: <http://www.ases.org/>
- Forbes: www.forbes.com
- Environmental & Energy Study Institute: <http://www.eesi.org/>
- U.S. Green Building Council: <http://www.usgbc.org/>