

Responding to the Climate Change Challenge

January 2009

2009 Green Jobs and Climate Action Legislation

Growing Washington's economy in a carbon-constrained world

Washington, and the rest of the world, must reduce its climate-changing greenhouse gas (GHG) pollution.

Doing so, we will create jobs, expand our greening economy, and make important progress toward energy independence while facing up to the great environmental threat of our time.

Confronting climate change will unleash technological innovation and further strengthen Washington's position as a green economy hub now and into the future. It will allow us to continue to be a winner in the worldwide competition in energy efficiency and new clean energy sources, creating quality jobs here in Washington state.

For these are reasons, Governor Chris Gregoire has asked the Legislature to support her 2009 legislative agenda to create green jobs and energy independence by:

- Investing in projects, energy efficiency, green buildings, clean-energy technology, and tax credits for clean cars.
- Driving reductions in climate-changing greenhouse gases through a combination of emission caps (tailored to specific sectors of our state's economy) with market incentives to achieve the reductions.

This is known as a cap-and-trade program.



Investing in efficient energy projects and green building is key to the future of Washington's green economy. Source: Seth Itzkan, Planet-TECH Associates

We must act quickly. If we fail to support key green jobs and enact climate action legislation this year, we will miss many of the immediate economic opportunities – and forfeit the ability to fully achieve the GHG reduction goals enacted in statute by state lawmakers in 2008.

Without the new legislation, our existing policies will achieve only 45 percent of the greenhouse gas reductions that our state laws call for.

Highlights of the Governor's Green Jobs and Climate Action package

The Governor's Green Jobs and Climate Action package will create jobs, stimulate the economy, and reduce climate-changing greenhouse gas pollution. It will strengthen our position in the global race towards a green economy, and it will lead the way to skilled, good-paying green jobs of the future. The key features of the package are:

Make targeted investments to stimulate our economy. The Governor's proposed 2009-11 budget includes new and ongoing investments totaling \$455 million to expand our green economy to maintain and create several thousand jobs. They include:

- \$419 million is invested in transportation projects and programs that will provide meaningful transportation options for Washington citizens, such as:
 - Investments in HOV lanes
 - Bike and pedestrian safe projects
 - Park and ride lots
 - More vanpool vehicles
 - Expanded commute reduction programs

Transportation investments also include highway system efficiency improvements such as:

- Biodiesel fuel for ferries
- Ramp metering
- Express lane system automation
- \$20 million in additional capital funding for the expansion of allowable Community Economic Revitalization Board (CERB) activities to include clean technology.
- \$10 million for energy efficiency and renewable energy projects in public facilities and publicly funded housing.
- \$6 million for the Energy Freedom Program to support biomass energy projects such as anaerobic digesters and biofuels processing equipment.

The Office of Financial Management estimates these investments will support 2,900 jobs in 2010 and 2011. The table on page 3 gives a breakdown of the \$455 million in investments.



New HOV Lane on Interstate-5 from Pierce County to the City of Tukwila. Source: WA Department of Transportation.



The Anaerobic Digestion Lab at the Washington State University. Source: Washington State University

Investments in Private Sector Jobs for 2010 and 2011	Dollar Amount (millions)
Energy Efficiency and Renewable Energy	
▪ Infrastructure	\$20.0
▪ Alternative Energy	\$10.0
▪ Energy Freedom Program	\$6.0
Sub Total	36.0
Transportation Infrastructure, Biofuels, and Other System Efficiency Projects	
▪ HOV systems	\$262.6
▪ Regional Mobility Grant Program	\$40.0
▪ Biofuel for ferries	\$30.8
▪ Bicycle and pedestrian improvements	\$27.0
▪ Express lane & ramp metering	\$14.0
▪ Vanpool program	\$12.0
▪ Commute Trip Reduction Program	\$11.5
▪ Incident Response Program	\$9.5
▪ Park & ride capacity	\$9.0
▪ Traffic Signal Timing and Coordination Program	\$2.7
Sub Total	\$419.1
Grand Total	\$455.1
Private sector jobs supported by these investments is 2,900 for 2010 and 2011.	

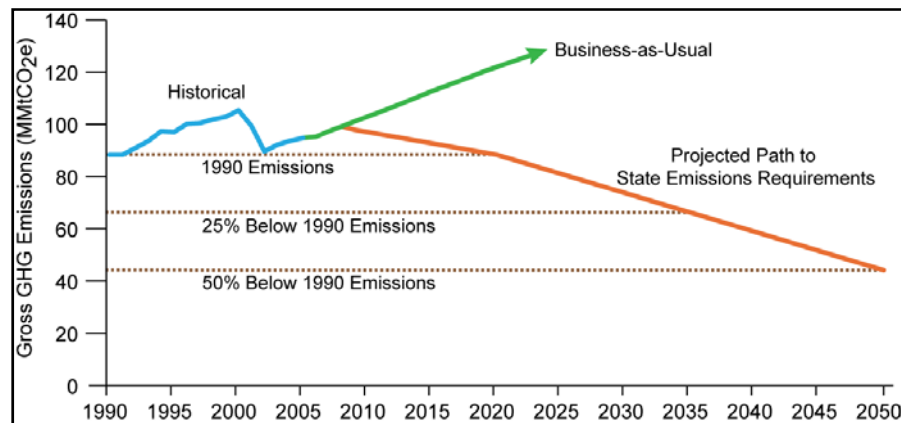
Plug-in hybrid electric vehicle tax credit. Plug-in hybrid electric vehicles and electric vehicles could displace petroleum with electricity, potentially reducing the amount of money spent on oil and the amount of GHG emissions. The Climate Action Team (CAT) recommended a sales and use tax exemption for alternative vehicles to include the new generation of plug-in hybrid (electric-gas) vehicles. The Governor is proposing a new sales tax exemption to encourage Washington residents to purchase new plug-in hybrid electric passenger cars, light duty trucks, and medium duty passenger vehicles. The tax exemption starts on July 1, 2009 and extends to January 1, 2014. The purchase of these “clean cars” will send an important signal to the marketplace.

Improve building codes. Based on recommendations from the CAT the Governor is asking the State Building Code Council to improve building energy efficiency by approximately 30 percent beyond the 2006 standards.

Washington Clean Energy Future. In partnership with the clean technology industry in our state, we propose to identify the strategic actions needed to ensure that Washington remains at the cutting edge of the green energy future.

Cap GHG emissions and create market incentives to drive reductions. To reduce climate-changing GHG pollution, we have to cap the GHG pollution that various sectors of our economy are allowed to release into the atmosphere. By capping GHG pollution, we will achieve the environmental certainty scientists say is critical if we are to slow the rate of climate change. The cap-and-trade program will provide emitters flexibility on how they make needed reductions. It will create the market incentives for businesses, governments, and others to invest in the technologies that will reduce GHG pollution.

In keeping with House Bill 2815, enacted in 2008, the Governor is asking the Legislature to authorize a GHG reduction system designed by Washington state, for Washington state, starting in 2012. It is based on the Western Climate Initiative (WCI) regional cap-and-trade design. Seen as a model for the U.S. cap-and-trade program, the regional program will:



Green Jobs Climate Action package is key to achieving state's greenhouse gas reduction goals in 2020, 2035 and 2050.

- Drive investment in the clean energy economy.
- Promote green jobs.
- Position Washington businesses to receive credit for early reductions of greenhouse gases.
- Protect Washington citizens' interests in the anticipated federal cap-and-trade program.

See the map on page 10 to see Washington's proposed cap-and-trade system in context.

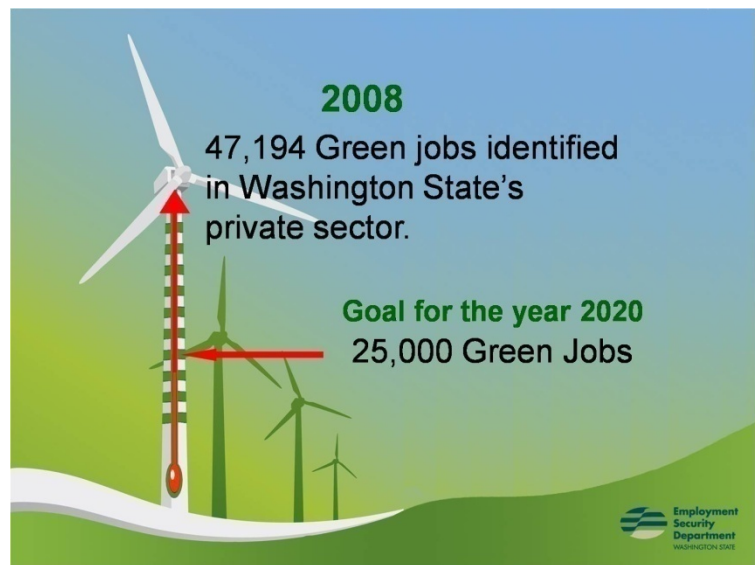
Why now? Because the economy won't wait

- By acting now, we provide businesses the certainty they need to start investing in the green economy, and creating jobs.
- Making businesses more energy efficient will provide a competitive advantage to Washington's businesses.
- Our cap and trade program will spur investments in existing and new industries and technologies to create jobs.
- Our program reduces our dependence on foreign oil.

- **Leadership by the states** will encourage adoption of a federal program happens sooner rather than later.
- **Many of the investments that we can make now** in curbing carbon pollution will pay for themselves over time through reduced expenditures on energy and fuel. The sooner they are in place, the sooner they begin to pay off.

Economic opportunities

Washington is well-positioned to capitalize on unique economic opportunities and build our competitive edge in the global clean-tech marketplace. We have abundant, low-cost hydroelectric power, a strong manufacturing base, significant natural resources to support renewable energy development, and strong research institutions. We're the most trade dependent state in the nation and the largest exporter per capita in the U.S. Investing in the green economy creates export opportunities in developing and manufacturing alternative technologies, such as solar components and smart grid technologies, and providing green building and design services.



The 2008 Green jobs survey shows Washington has already exceeded our green jobs goal for 2020. Source: WA State Employment Security Department

Our state's green economy already supports thousands of jobs in areas such as:

- Conservation and energy efficiency
- Manufacturing
- Design and construction
- Operations and maintenance
- Research and development
- Information technology
- Consulting and technical services

With the growing interest in sustainability and support for initiatives to reduce global-warming pollution, there is significant opportunity and potential for economic growth and new jobs in the green economy.

Why now? Because the planet won't wait

Washington is vulnerable to a changing climate, especially our snow-fed water supplies and nearly 40 communities along our 2,300 miles of shoreline that are threatened by rising sea levels. As climate changes, we can expect:

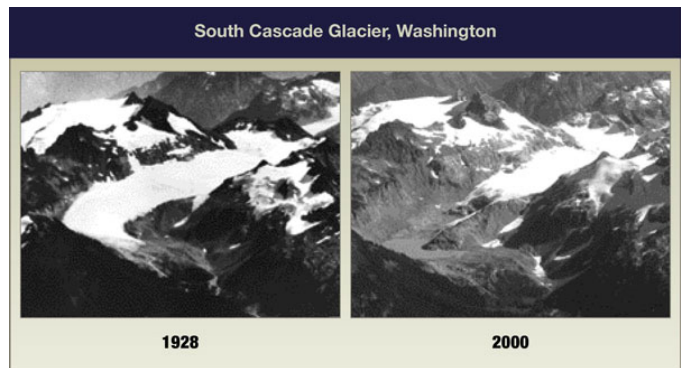
- An increasing pattern of extreme windstorms and heavy rain or snow.
- Droughts with severe impacts on fish, cities, farms and forests, including increased forest fires.
- Reduced snow pack (nature's storage system for summer stream flows), with more of our mountain precipitation falling as rain rather than snow, and therefore escaping immediately downstream.
- Devastating floods like the Lewis County flooding in December 2007 and the extreme flooding of many parts of western Washington in January 2009.
- Intense wildfires burning thousands of acres of forests.
- Coastal erosion and landslides from more frequent and intense storms combined with higher sea levels.

From January 2005 to January 2009, weather-related disasters led to 18 disaster declarations by Governor Gregoire. In his eight years in office, Governor Gary Locke declared 15 weather-related emergencies.

The key to the green economy: reductions in greenhouse gases

The key to capitalizing on the full potential of a greener, clean-energy economy is reducing climate-changing GHG emissions – shrinking our carbon footprint. Reducing these gases will be as transformative to our world as was the industrial revolution, which replaced brute labor with manufacturing and with machines to move people and goods in ways previously unimagined.

By placing a price on carbon, a cap-and-trade program encourages companies to find innovative ways to reduce their energy use, stimulates investment in clean renewable energy, and promotes green jobs that help protect the environment and support energy independence.



Aerial views of South Cascade Glacier, Washington, in 1928 and 2000. Over this time span, the glacier has lost half its volume and retreated 1.5 km. Source: USGS.



Aerial view of Lewis County flood – December 2007. Source: Washington State Dept. of Transportation

Will carbon reductions pencil out economically?

Cost-benefit analysis of Washington's carbon-reduction strategies is an evolving process. Detailed analysis follows on the heels of specific policy decisions. Based on policy development so far in Washington state, the evidence indicates that our carbon-reduction strategies will be a net benefit for the economy. Here's what we know:

- In 2006, a team of scientists and economists from Pacific Northwest universities conducted an economic analysis of climate change for the state of Washington.

They reached three conclusions about the effects of climate change on the state's economy:

- Climate change impacts are visible today, and the economic effects are becoming apparent.
 - The costs of climate change will grow as temperatures and sea levels rise.
 - Climate change will also provide economic opportunities.
- In 2007, Washington's Climate Advisory Team (CAT) explored climate strategies in all sectors of the state's economy. Through five Technical Working Groups, the CAT conducted significant analysis of potential policy options for specific sectors of the economy. An outside economic consulting group analyzed the net present-value costs and benefits for many of the CAT strategies. The analysis showed that the CAT strategies (along with the recent policies and initiatives already undertaken by state government in the past few years) could, if fully implemented, provide an overall economic benefit to Washington residents and businesses. The net cumulative benefit for the quantified CAT strategies and recent actions is estimated to be over \$900 million by 2020 (Net Present Value 2008–2020, in 2006 dollars).
- In 2008, a second Climate Action Team (CAT) was appointed to review the strategies from the original CAT and recommend the most promising strategies for the Governor and Legislature to pursue. The group's recommendations focused on those with the greatest likelihood to be economically viable in helping to achieve Washington's GHG reduction goals. These recommendations formed the basis for the Governor's 2009 legislative package on green jobs and climate action. If Governor Gregoire's proposed cap-and-trade legislation is enacted in 2009, there will be ample time to adjust carbon allowances in various economic sectors if needed. The cap won't go into effect until 2012. In the intervening years, adjustments can be made if economic conditions require.

The 2006 research team, led by the University of Oregon reported:

"When electricity, water rates and availability, sea level rise and potential health effects are taken into account, virtually every sector of Washington's \$268.5 billion economy may be affected by climate change."

What's the green economy?

The green economy is, in reality, the "greening" of our existing economy through the development of new products, techniques and services. It's the development and use of products and services that promote environmental protection and/or energy security.

Washington state's economic development and employment experts have identified four major green industry categories:

- Clean energy: efficiency, renewable, and alternative
- Green building
- Green transportation
- Environmental protection – specifically, waste management and water conservation

The new economy is forming now; we can lead, or take what's left over

Whether the new economy happens in a regional, national or international system, the clean-energy future is coming. The question is: to what extent will we shape that system, to ensure that it really works, both for our planet and for the unique needs of our state? The choice is ours to make, and the stakes couldn't be higher. Not only must that system truly reduce emissions, it must also be fair and workable for Washington families and our industries.

If we do this right, we can ensure that middle and low income Washingtonians benefit from the transition to a clean energy economy, and that we win the market share in that economy to help drive our economic recovery and secure our future prosperity.

We are innovators in Washington state, and if we unleash that innovation on this challenge, we will thrive. If we forfeit our leadership position at this critical juncture, our economy could suffer as other regions secure the investments and the jobs in the greening economy.

We are in the global race, and we're off to a good start. Through past efforts like our Clean Cars law, and our renewable energy standards, we are attacking the problem and driving investment and innovation. We must win this race, and we must have a hand in shaping the system.

The Four Green Core Areas

The overall findings for the four green core areas show that:

- **Energy Efficiency accounts for over half of all green jobs.** Construction-related industries and occupations account for 70 percent of employment in the energy efficiency area, followed by professional and technical services such as architecture and engineering.
- **Preventing or Reducing Pollution was the second largest green core area, accounting for one-third of all green jobs.** Agriculture-related industry sectors and occupations represent over half of all employment in this green area, followed by construction, and waste management and remediation services.
- **Mitigation and Cleanup of Pollution was the third largest green core area, accounting for just nine percent of all green jobs.** Professional and technical services, and waste management and remediation services, represent over two-thirds of employment in this green area.
- **Renewable Energy provided just over four percent of all green jobs.** Construction-related industries and occupations, and professional and technical services, account for nearly half of all employment in this core area, followed by agriculture-related sectors, and electrical equipment manufacturing.

Eighty-six percent of total green employment is represented by just six industry sectors, with the largest proportion coming from construction and agriculture-related industries. The prominence of these two industry sectors is in part a reflection of their status as key drivers of the Washington economy. Similarly, the distribution of occupations is also heavily-weighted in these two industry sectors. The largest construction-related occupations represent 40 percent of all green employment.

Source: WA State Employment Security Department

Through the actions we've already taken, and through creating and leading the Western Climate Initiative, which includes seven states and four provinces comprising over 70 percent of the Canadian economy and 20 percent of the U.S. economy, we are in the race and we are shaping the system to come. If we continue to lead, we will draw investment and spur innovation in our economy, and we will ensure that Washington's citizens and industries are winners in the carbon constrained future that lies ahead.

If we continue to build a regional GHG reduction system in the West, just as they are doing in the Northeast and the Midwest, our voice will be heard and we will strengthen our position in the global race for prosperity. If we falter, we will lose.

Fighting climate change isn't just the right thing to do; it's the only thing to do.

More information

Visit the web sites below for more information.

- Washington's Climate Change web site
www.ecy.wa.gov/climatechange/index.htm
- Washington's Green Economy
www.ecy.wa.gov/climatechange/GreenEconomy.htm
- Economy and the Environment
www.ecy.wa.gov/economy.html

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The map below shows Washington's proposed cap-and-trade system in context. It is based on the regional cap-and-trade design of the Western Climate Initiative, chaired by our state. Seen as a model for the U.S., the regional and state cap-and-trade program will drive investment in the green economy of the state and western region.

