



UNIVERSITY OF OREGON

**FIFTY LEADING ECONOMISTS WARN OREGON:  
GLOBAL WARMING TO COME WITH A BIG PRICE TAG**  
**Letter to Oregon Leaders Says State Faces Major Economic Costs If  
Global Warming Not Tackled**

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PORTLAND— More than 50 economists from across the Northwest and most of Oregon's major colleges and universities say that global warming poses an imminent threat to Oregon's \$121 billion economy. A new report says temperature increases, rising sea levels, and altered precipitation patterns will directly impact Oregon's Agricultural, Forestry, Tourism and Hydroelectric industries. These four sectors alone account for at least 25% of Oregon's economy.

In an open letter to the state's top decision makers, including Governor Ted Kulongoski, the economists describe a set of immediate actions to reduce global warming impacts while ensuring Oregon's future economic prosperity.

The economists' report cites regional and international global warming studies and, for the first time, analyzes the effect of expected further warming on eight sectors of the Oregon economy. The report notes that more than four dozen area scientists last year said they were "very certain" the Pacific Northwest is warming, that the region has been growing warmer faster than the global average, and that it is likely to warm three times as fast by the middle of the century.

Oregon's economists say that the impacts of this warming on Oregon resources and economy have no precedent in the state's history.

"The effects of global warming – higher temperatures, reduced snowpack, declining stream flows – are already hurting the bottom line of farmers and business people in other industries," said Eban Goodstein, an economist at Lewis and Clark College who participated in the process. "Aggressive action will be needed to limit future harm to Oregon businesses and households."

"Avoiding the economic risk of global warming is only prudent, like buying insurance for your home, car or business," said Noelwah Netusil, an economist at Reed College in Portland who also participated in developing the documents.

Oregon's economists describe steps government and business leaders can take to prepare the state's businesses, citizens and communities to deal with the expected effects of global warming, while moving to lower Oregon's own greenhouse gas emissions. The steps include:

- Acting to reduce emissions of regional global warming pollutants more quickly and encouraging reductions worldwide.
- Preparing for the risks that higher temperatures and rising sea levels pose to infrastructure, energy, water, wildlife, public health and economic development.
- Investing in the economic opportunities of energy efficiency, renewable energy and other technologies that reduce emissions and the risk of global warming.

Copies of the letter and companion report, “The Economic Impacts of Climate Change in Oregon: A Preliminary Assessment,” are available at

[http://ri.uoregon.edu/programs/GWS/climate\\_change\\_oregon.html](http://ri.uoregon.edu/programs/GWS/climate_change_oregon.html)

## **Responses to the Economists Letter and Report**

"The economists have answered a key question with this report: why does global warming matter? The implications of global warming extend beyond our environment and will have an impact on the bottom line – our economic well-being. That's why it is so important that we aggressively seek ways to reduce the effects of global warming as well as prepare to adapt to changes it is causing to our environment. The result will not only deliver cleaner air and a healthier environment - it will also deliver a stronger business climate and economic opportunities for the people of Oregon." -- Oregon Governor Ted Kulongoski

“This report makes clear that, at all levels, governments can and should take a leadership role in addressing global warming. Portland’s 12.5 percent emissions- reduction success is the result of City government working closely with businesses and residents to invest in renewable and energy efficient technologies, public transportation, reducing waste and saving taxpayers more than \$2 million a year in energy bills alone. This report reminds us that we have much more to do.” – Portland Mayor Tom Potter

"The warning from economists that climate change will come with a big price tag is a wake-up call for our community. This message underscores the need for the City of Eugene to expand our efforts to address the problem by reducing emissions while promoting business and job opportunities in industries that can reduce greenhouse gasses." – Eugene Mayor Kitty Piercy

"The economists make it clear that climate change is a bottom-line issue. Reducing emissions is essential, but not enough. We also have to look at how to do business differently in a new kind of Oregon." – Al Jubitz, member of Gov. Ted Kulongoski's Advisory Group on Global Warming, former owner of Jubitz Truck Stops

"Global warming of even two or three degrees spells trouble for Oregon tree fruit agriculture. Warming means more insects, which means pesticides or dead trees, and more sprinkler problems and maintenance. Even slightly warmer winters can prompt trees to produce more leaves than fruit, reducing our harvests." -- North Cheatham, retired orchardist.

## **BACKGROUND**

### **How were the letter and report developed?**

The economists' letter and report, "The Economic Impacts of Climate Change in Oregon," grew out of a meeting of economists, resource scientists, policymakers, and business representatives at Lewis & Clark College last May. Resource Innovations, a research program at the University of Oregon, organized the meeting to discuss the potential economic impacts of climate change in Oregon. The economists, who come from around the Northwest and almost all of Oregon's public universities and private colleges, took as their starting point a scientific consensus statement on global warming produced by Oregon State University in 2004, "Scientific Consensus on the Likely Impacts of Climate Change in the Pacific Northwest." After the economists drafted their report, its principles were endorsed by colleagues around the country.

### **What are the key areas of scientific consensus regarding climate change in Oregon and the Northwest?**

Scientists across the Pacific Northwest agree global warming has already led to increased temperatures, reduced mountain snowpack, rising sea levels, and altered precipitation patterns.

Scientists now recognize that emissions of carbon dioxide, methane, and other global warming pollutants from burned fossil fuels and other activities are contributing to the unusual increase in average global temperatures observed during the late 20<sup>th</sup> century. Scientists say that in the Pacific Northwest average temperatures have already increased by 1.3 degrees Fahrenheit, slightly higher than the global temperature rise. Scientists expect the warming trend to continue, with projected increases of 2.7 degrees Fahrenheit by the 2020s and 5.4 degrees Fahrenheit by the 2050s considered likely in the Pacific Northwest. The average water content of the Northwest snowpack declined by 30 percent between 1950 and the 1990s. Some projections indicate a further reduction by as much as half by 2040. Snowpack is the region's largest "freshwater reservoir," with no obvious or affordable substitutes for the fresh water it supplies to Oregon's farms, forests, businesses, and households.

Sea levels rose between four and eight inches during the twentieth century, and a similar or larger rise is projected for this century. Effects associated with this rise in Oregon, such as accelerated beach erosion, will vary by location, depending on beach slope, landforms, the vulnerability of coastal infrastructures, and other factors. The region from Florence OR, north will likely experience the largest impacts.

## What are the likely economic impacts of these ecological and atmospheric changes?

The economists noted that the changes in temperatures, snowpack, sea level rise, and precipitation patterns will reduce snowpack and lower river flows, affecting many Oregonians in the near term. Jobs, incomes, and the Oregon's overall quality-of-life will all be adversely affected in the future as the impacts of global warming become more pronounced.

Some of the sectors especially vulnerable to global warming impacts include:

- **Agriculture.** The sector contributes \$11.5 billion to Oregon's economy each year, including \$4.1 billion in crop production. Drought and streamflow declines will push irrigation demands beyond the capacity of reservoirs in some river basins, and altered temperatures are likely to displace temperature-sensitive high-value crops like Pinot Noir wine grapes from their current growing areas and diminish other sectors of the farm economy.
- **Forestry and Forest Products.** The sector contributes \$10 billion to the state annually, and public and private forests occupy nearly half of Oregon's land area. Reduced snowpack and an increase in the frequency of droughts are likely to increase insect infestations and exacerbate wildfires, especially on the eastside. These changes will impact the forest products industry, rural communities, and the urban-wildland interface around communities, and the public agencies charged with fire response and disaster management.
- **Tourism.** Travel spending contributes more than \$6 billion to Oregon each year and employs almost 100,000 Oregonians. Snowpack declines put Oregon's \$200 million snow sports industry at risk, while coastal erosion and higher wave action caused by rising sea levels will diminish the state's multi-billion-dollar beach economy.
- **Hydroelectricity:** Dams in the Columbia River Basin generate over \$7 billion in wholesale power each year, including surplus power exported out-of-state to meet demand elsewhere. Altered streamflows could reduce power exports by at least \$230 million by 2030, according to the Northwest Power and Conservation Council.

These four sectors alone account for hundreds of thousands of jobs and nearly \$35 billion of economic output.