

## Efforts toward a Sustainable Future in the State of Oregon

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## Summary

Oregon for decades has been seen as a leader in the United States for forward thinking with regard to the environment. There are several parallel efforts underway from the a coalition of western US states, to the State of Oregon government, to the Oregon State University campus that make Oregon a leader in a sustainable future. This paper presents a summary of these efforts, some of the potential drawbacks, and recommendations for others undertaking similar efforts.

**Keywords:** Sustainable, renewable energy, wave power, carbon emissions, LEED, Oregon.

## Introduction

Ever since the passage of the Oregon Bottle Bill in 1971, the people of the state of Oregon (Figure 1) have seen as world leaders in protecting the environment, and more recently, sustainability. The Oregon Bottle Bill was the first legislation in the United States requiring a refundable deposit on beer and soda bottles, and has since expanded to most drink containers, including water bottles. The willingness of Oregonians to try new ways of living, and adapt to changing circumstances, makes a sustainable future in Oregon likely. By using Oregon as a living laboratory, we can learn how to best implement workable solutions for the rest of the United States. Below is a summary of several ongoing efforts towards a sustainable future in Oregon.

## West Coast Governors' Agreement on Ocean Health

The West Coast Governors' Agreement on Ocean Health was signed on September 18, 2006, linking the three western US coastal states (Washington, Oregon, and California) in an action plan to make the west coast more sustainable. Many communities are dependent on the coast with its ports and abundance of fish and wildlife. The three states will work together involving the government, citizens, tribes, U.S. Congress, organizations, and universities to take control of maintaining the resources.

## **State Government Initiatives**

Through leadership in the both the Governor's office and the State Legislature, several initiatives have come to fruition that help set Oregon on the path of a sustainable future. Two of the most impactful are the renewable energy standards set for the year 2025 and the establishment of a Signature Research Center focused on sustainable technology.

## **Oregon State University**

Oregon State University (OSU), located in Corvallis, Oregon, is part of the eight-campus Oregon University System. OSU is the leading science and engineering university in the state, having over 4000 students in the College of Engineering. OSU is leading sustainability efforts in the state through its infrastructure, its research, and student efforts.

### ***LEED Buildings on Campus***

Oregon State University has three Leadership in Energy and Environmental Design (LEED) certified buildings. Being LEED certified means that the building is sustainable, safe and healthy, and is a standard for buildings established by the U.S. Green Building Council. The five key areas that make a building LEED certified are its sustainable site development, water savings, energy efficiency, materials selection, and indoor environmental quality. Oregon State University has decided that any new building must be designed to qualify for a "Silver" LEED rating or above. This includes any major renovations. Three recent examples of LEED designed buildings on campus are the Kelley Engineering Center, Weatherford Hall, and Kearney Hall.

### ***Research on Sustainability***

The College of Engineering at OSU has begun a research initiative on sustainable energy and infrastructure. Energy research focuses on ocean wave electrical power generation, distributed wind power, and transparent electronics for solar energy. In addition, OSU has one of the leading nuclear energy programs in the world and one of the few operating nuclear reactors on a university campus in the United States. The infrastructure focus concentrates on green building materials, repair and rehabilitation of aging infrastructure, energy efficiency assessment retrofits of existing building, and safe integration of electric cars into the traffic flow.

### ***Student Efforts***

Students are the future problem solvers, and OSU students have adopted several initiatives to make Oregon's future a sustainable one. Renewable Energy Certificates are one way to encourage the use of more renewable energy. These certificates are purchased at a premium by citizens from energy plants and that renewable energy is put onto the grid. Oregon State University students passed a student fee of \$8.50 per person per term to purchase the certificates that help the university use more renewable energy. Oregon State University is currently using 75% renewable energy. It is currently the 4<sup>th</sup> largest purchaser of renewable energy of the colleges in the nation. At Oregon State University the net emissions of CO<sub>2</sub> decreased by 29.6% from the fiscal year of 2007. Much of this was contributed from the renewable energy certificates. Oregon State University encourages carpooling to decrease the amount of emissions from travel and also encourages more energy certificates to be purchased.