

Alternative Energy Development in Eastern Oregon

Matthew Getchell, Paul Meuse, Elizabeth O'Casey, Abigail Sigmon

Alternative Energy Development in Eastern Oregon

Executive Summary

Major priorities identified by the regional advisory committee for the 10-county Eastern Region of Oregon include enhancing local capacity, infrastructure enhancements, and alternative energy development. Our team has focused on alternative energy development in Grant County, pinpointing areas of increased need in public facilities of John Day. *If we can simultaneously reduce fossil fuel consumption, and increase renewable production and increase efficiency, then the regional energy mix will be more environmentally sustainable while also stimulating the local economy.* Our research suggests that alternative energy development in this region could provide incentives for surrounding localities to adopt successful and economical energy practices through the framework developed in our business plan. In seeking to initiate broader scale alternative energy development in the 10-county Eastern region our social business plan consists of a) establishing a consulting firm specializing in rural solar energy development and b) facilitating the dissemination of solar water heaters in public buildings by acquiring loans and grants for the purpose of financing solar water heaters and helping to secure federal, state, and other rebates. As a pilot project for our social business plan our team will focus on securing funding for the implementation of a solar water heating system for the Blue Mountain Hospital in the eastern Oregon community of John Day.

Identification of Needs and Opportunities

The community of John Day has a population of just fewer than 2,000 people. According to the 2010 US Census, the unemployment rate in John Day has reached 11.8% compared to the national average of 8.6%. Similarly, average household income is \$39,651 per year compared to the national average of \$50,935. The declining economy in John Day can be directly linked to the declining timber and milling economy in the Eastern region and throughout Oregon more generally. Formerly, the timber industry was John Day's most profitable source of revenue. Currently this region is dependent upon recreation, retirement, and government industries for economic growth. As the largest city in Grant County and a city illustrative of the declining economic status and potential for renewable energy development throughout the 10-county Eastern Oregon region, the community of John Day can prove a viable case study in realizing significant environmental, economic, and social development by utilizing our social business plan.

Proposed Strategy or Plan

Our proposed solution to increase the diversity of the energy mix and combat the declining economy in a region devoid of large mainstays of energy is centered on facilitating the *installation of solar water heaters in public buildings* in John Day. To begin, we propose outlining appropriate grants and loans relevant to renovating the Blue Mountain Hospital in John Day with the aim of installing a long-term, cost-effective solar water heating system.

According to a US Department of Energy Study released in 2011, healthcare systems and hospitals are some of a community's largest consumers of water. Costs related to water include water supply, sewage, hot water energy, and transportation of water. This study identified five major areas of savings in hospital water usage. The largest area of saving is in sanitary water

use, followed by heating, ventilation, and air conditioning systems, medical processes, cafeteria services, and laundry. While this study focused on a 321-bed hospital as its case study, the overall benefits seen by the case study hospital transcends region and size. Blue Mountain Hospital, for example, has 25 beds, full-service cafeteria, emergency room, hospice department, as well as laboratory, radiology, and physical therapy services. Moreover through the installation of solar water heaters, Blue Mountain Hospital would be able to save 70-90% of energy needed to perform all current functions of water within the hospital.

Business

The solar energy market is widely considered to be more mature than competing energy markets like those of natural gas, oil, wind, and nuclear energy. According to a report released by the Gotham Research Group in early 2012, close to 75% of Americans believe that the American economy and job market would benefit from the solar water heating industry. The Gotham report also notes that the largest obstacle standing in the way of installing solar water heaters throughout the country is the cost of installation.

Our research has shown various sources of loans, grants, and rebates are available for the installation of green technologies in Eastern Oregon. More specifically, we have identified the Solar Energy Loan Program (SELP) offered through the Oregon Department of Energy that provides low interest loans for projects that reduce energy dependence or produce energy through renewable resources. Additionally, the Community Renewable Energy Feasibility Fund Program (CREFF) provides grants for solar thermal projects and small-scale energy loan programs. There are also rebates available for the installation of solar water heaters through the Business Energy Efficiency Rebate for Existing Buildings with the caveat that businesses must be served by PGE, Pacific Power, NW Natural or Cascade Natural Gas in Oregon. In 2011, the state of Oregon passed the Energy Incentives Program (previously known as the Business Energy Tax Credit program). This policy can provide tax credits for projects ranging in cost from a few thousand dollars to over \$20,000.

Positive impacts of the installation of solar water heaters include emission free energy after installation, general cost effectiveness (the initial cost is recovered in 4-6 years after installation), 50-90% of yearly hot water needs can be provided by solar thermal water heaters (this translates to 50-80% energy savings, energy independence, job development and an increase in skilled workers), and solar water heaters are considered self-contained because they generate energy on-site.

By establishing a consulting firm equipped to procure grants and loans necessary to install cost-effective solar water heating systems in rural areas, our social business plan will be a crucial step in helping the 10-county Eastern Oregon region work towards energy independence in addition to providing significant socio-economic stimulation to struggling rural communities. If this example of alternative technology proves cost-effective and successful, we believe other counties in Eastern Oregon (and throughout the state) can be incentivized to follow suit.