



INDUSTRIAL TECHNOLOGIES PROGRAM

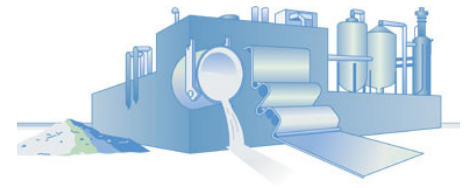
Idaho *Save Energy Now* – Industries of the Future

Currently, Idaho is facing capacity constraints with electricity generation and peak transmission capacity, which could be alleviated by greater efficiency in the industrial sector. Idaho’s Office of Energy Resources (OER) has identified a significant barrier for industrial facilities to implement efficiency projects — a lack of technical plant personnel. OER has developed a project to build professional industrial energy engineering expertise to sustain the state’s progress on energy and environmental issues and to continue to undertake independent energy efforts in the future. This will be accomplished by demonstrating the value of in-house energy engineering expertise and by offering assistance in efficiency project implementation.

OER has been working with the U.S. Department of Energy (DOE) Industrial Technologies Program (ITP) for nearly a decade and seeks to continue that collaboration to further advance industrial efficiency efforts in Idaho. OER has developed a program to increase implementation of *Save*

Energy Now (SEN) assessment-identified projects at J.R. Simplot (a local industrial company), to produce an investment-grade clean heat and power (CHP) feasibility study that will be a unique industry-utility partnership, for an estimated 100 MW CHP plant and to develop a data tracking system to report on the impacts of implemented efficiency projects. OER will leverage its existing funds to conduct Energy Saving Assessments (ESA) to enhance the outcomes of the project. OER may also use the ESAs as a model for conducting the CHP feasibility study.

OER will also embark on a process to install a large Sorption Heat Pump Demonstration Project at a food processing facility in Idaho. The process includes a detailed engineering feasibility study to determine whether detailed engineering and eventual construction should follow. The energy savings and performance of the system will be tracked and incorporated into a case study, thus serving as a model for other food processors.



Benefits

- Reduced energy intensity by 2.5 percent each year for 10 years
- Agreed with J.R. Simplot energy engineers to save twice the annual cost of their services
- Improved OER reporting capabilities and a sustainable project infrastructure
- Estimated annual energy savings of 0.055 TBtu and 7.56 million kWh
- Improved air quality and source fuel efficiency through displacement of coal-fired boilers with natural gas
- Elimination of transmission line losses due to project proximity to large urban loads
- Demonstration of the technical and economic viability of the sorption heat pump

Applications in Our Nation’s Industry

This project will establish and strengthen the partnership that the state has with local industry and academia. In addition, it will not only reduce the energy intensity of industrial manufacturers in Idaho, but will also provide a replicable project demonstration and a foundation for training the next generation of energy engineers.



Project Description

In order to demonstrate the value of efficiency implementation, OER will provide 50 percent of the cost-share funding needed for J.R. Simplot to hire two energy engineers to install SEN assessment-identified projects. A CHP analysis will also be conducted at the Amalgamated Sugar Company plant in Nampa, Idaho. The Idaho Power Company has agreed to co-fund the CHP feasibility study with OER. These projects will serve as demonstrations of the business case for improved energy efficiency. In addition to the use of DOE grant funds, both J.R. Simplot and OER will leverage internal resources to share the total costs of the project. Specific project elements include

- Implementing an energy-engineering-demonstration project and a SEN assessment at J.R. Simplot, which will be followed by a case study of the project
- Requesting qualifications, proposals, and a resulting contract to evaluate the potential, considerations, and benefits of a 100 MW CHP project at a food processing facility in Idaho
- Consulting with the State of Idaho's Information Technology Department and the Idaho Power Company to develop an energy- and environmental-results tracking system.

Progress and Milestones

The project's planned tasks include

- J.R. Simplot will report progress to OER on a quarterly basis, and more often as needed
- J.R. Simplot will develop a case study of the project by June 2011 that details the project results, lessons learned, cultural shifts, and business case for in-house energy expertise
- OER will present on this demonstration project at the Northwest Food Processors Association (NFPA) Expo
- OER and Idaho Power Company will co-fund the 100 MW CHP feasibility Study at Amalgamated Sugar, the results of the study will be placed into Idaho Power's Integrated Resource Planning process and will be presented at the Northwest Food Processors convention as a model project.
- Project progress will be tracked and reported in writing, verbally, and through the development of a tracking system.

Primary Investigator

Idaho Office of Energy Resources,
Boise, ID

Project Partners

J.R. Simplot Company, Boise, ID
Idaho Power Company, Boise, ID
Northwest Energy Efficiency Alliance, Portland, OR
Washington State University – Extension Energy Program, Olympia, WA

A Strong Energy Portfolio for a Strong America

Energy efficiency and clean, renewable energy will mean a stronger economy, a cleaner environment, and greater energy independence for America. Working with a wide array of state, community, industry, and university partners, the U.S. Department of Energy's Office of Energy Efficiency and Renewable Energy invests in a diverse portfolio of energy technologies.

For Additional Information

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