

Executive Summary

Purpose

In OIT's vision, the Renewable Energy and Smart Grid Consortium (RESG) will bring together partners who share a common goal of promoting and developing renewable energy solutions with the intent of shaping the future energy outlook for the state of Oregon, and potentially, the nation.

Working with OIT through the Consortium, you will be connected to talented faculty members with a wealth of experience in industry, government, and academia and hundreds of regional, national, and global industry contacts. You will also have access to state-of-the-art equipment and research facilities, and a large pool of uniquely qualified student engineering talent in OIT's first-in-the-nation Renewable Energy Engineering program as well as our software, mechanical, and other engineering programs.

By participating in the Consortium, you can increase your business network, extend your research capabilities, and build a knowledge base in areas relevant to your organization's current and evolving needs. You will network with a range of innovators with which you can partner to solve current and emerging challenges for your organization, your industry, and the community. By leveraging resources, you may be able to help your organization grow and gain market share.

Even if your organization is not specifically identified with the energy sector, your business will benefit as broad-scale infrastructure improvements evolve, as the next generation of energy engineers is prepared to meet even greater challenges, as knowledge is disseminated, and as processes are developed that encourage industry-university collaboration and innovation.

The consortium is intended to provide effective solutions to compelling issues by creating a venue for a range of industry partners to develop and implement an alternative energy infrastructure.

Goals

Within three years:

- Create a network of at least five companies that are working on client-focused, collaborative applied research;
- Conduct at least three demonstration projects with member companies;
- Generate proof of concept testing of emerging technologies;
- Generate jointly-owned strategic IP;
- Develop an immediate, relevant workforce by supporting OIT's engineering educational programs and providing students with real-world opportunities;
- Gain valued-partner status for OIT with consortium members and industries.

What's Different About the Renewable Energy & Smart Grid Consortium?

The OIT Renewable Energy & Smart Grid Consortium is envisioned as an industry-led initiative critically distinguished from other research consortia in several ways:

- 1) Activities are more applied. The intent is to perform testing, development and deployment work.
- 2) OIT offers early access to the IP created to the consortium members.
- 3) OIT offers attractive faculty and overhead rates for applied research activities.

As an industry-led group, members will determine the organizational structure and Consortium activities in collaboration with OIT.

OIT will convene the group and participate as an intellectual resource and provide administrative support.

OIT's Office of Innovation and Technology Transfer is available to assist in the management of the IP created.

Renewable Energy and Smart Grid Consortium

Consortium Organization, Program Areas, and Types of Projects

The Consortium is envisioned as an industry-led initiative with OIT convening the group, participating as an intellectual resource and providing administrative support. Within the general focus on renewable energy and smart grid technologies, members may develop applied research projects in up to four primary specializations, determined by faculty expertise and capacity, and member interest and objectives. As a member, you may participate in general consortium activities, or collaborate on specific projects related to one or more of the specializations, shown in the table below. These areas represent OIT faculty and faculty areas of expertise, but may be refined as members identify specific research topics.

Figure 1: Renewable Energy and Smart Grid Consortium Programs

Renewable Energy & Smart Grid Industry Consortium			
Advanced Renewable Energy Technologies	Electric Power	Energy Storage	Smart Grid/ Embedded Systems
<ul style="list-style-type: none"> ▪ Dye Sensitized Solar Cells ▪ Clean Coal Technologies ▪ CO₂ Sequestration ▪ Biomass Conversion Technologies 	<ul style="list-style-type: none"> ▪ Power System Modeling and Analysis ▪ Distributed Power Systems ▪ Power Conditioning 	<ul style="list-style-type: none"> ▪ Batteries ▪ Fuel Cells ▪ Hydrogen 	<ul style="list-style-type: none"> ▪ Protocol Development and Testing ▪ Testing of Integrated Development Environments ▪ Web-based distribution of sensor network data

The advisory board and technical teams will identify common research and development areas, based on member's needs, OIT faculty expertise, and the overall program strategy. Projects will be managed and implemented through various means of collaboration, and may be conducted as part of courses, faculty-led projects, and undergraduate or graduate research. As membership grows and projects evolve, the Consortium may establish partnerships with other universities and institutions qualified to carry out the proposed work.

Program Contact Information

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Information is also available at: <http://www.oit.edu/partnerships>