

APPROPRIATIONS REQUEST FORM OREGON HOUSE DELEGATION FISCAL YEAR 2010

DEADLINE FOR SUBMISSION: FEBRUARY 20, 2009

PLEASE NOTE: As required by the House Appropriations Committee, all requests will be made public on the requesting Member's website.

1. Project Title: Permanent Magnet Generator - Wave Energy Buoy

2. Organization Name and address:

Columbia Power Technologies, LLC
1148 Kelley Engineering Center, Room 3079
Corvallis, OR 97331

3. Primary Contact name, phone number, mobile phone number, fax number and email:

4. Project Location Address (if different from Organization):

5. Please describe the requesting organization's main activities, and whether it is a public, private non-profit, or private for-profit entity:

Columbia Power Technologies, LLC is an independent private company founded in 2005 by Greenlight Energy Resources, Inc. Columbia Power intends to commercialize wave energy harvesting devices. To achieve this, the company has partnered with Oregon State University.

6. Briefly describe the activity or project for which funding is requested (please keep to 500 words or less.)

In conjunction with Oregon State University, Columbia Power has demonstrated a 5 kW ocean buoy off the coast of Oregon. This project resulted in the development of a highly efficient wave energy technology now under development in the FY09 appropriation. FY10 funds are needed to continue to develop, fabricate, install, test, and demonstrate a single buoy rated to at least 100kW and possibly as high as 500kW. The ultimate goal is to deploy and operate a multi-buoy system with a cumulative capacity of well approximately 5 MW in order to provide proof of concept for a 100MW or greater wave farm.

Federal/State Benefit:

- Low cost, efficient, readily available, scalable and deployable electric power at remote locations (including military facilities) around the world;
- High duty availability sources for electric power with simple, modular design for ease of maintenance;
- Elimination of fuel requirement reduces vulnerability in time of conflict/fuel shortages
- Non-polluting source of electric power;

- Power for communications, lighting, heating, cooling, desalination and other equipment at remote locations around the world; and
- Low profile buoys an advantage over other renewable technologies like wind.

Benefit to DoD:

Little doubt remains that the next frontier of American innovation will be in the realm of energy. There is an increasing need for diverse, reliable, non-polluting sources of low-cost electrical power throughout the world. With energy and fuel prices climbing ever higher the desire to reduce U.S. dependence on other countries for its energy needs is also on the rise. Legislation (EPACT 05 and EISA 07), affirmed that renewable energy is one of the nation's top priorities and that marine and hydrokinetic power are a crucial piece in the energy puzzle. The federal government is required to purchase at least 7.5% from renewable resources by 2013. Additionally, Congress has mandated that the DoD procure 25% of its energy needs from renewable sources by 2025.

7. Has this project received federal appropriations funding in past fiscal years?

Yes.

7a. If yes, please provide fiscal year, Department, Account, and funding amount of any previous funding.

\$1 Million in FY07 Defense Appropriations bill – Account Navy RDT&E
 \$2 Million in FY09 Defense Appropriations bill – Account Navy RDT&E

8. Federal agency and account from which funds are requested (Please be specific – e.g. Department of Housing and Urban Development, Economic Development Initiatives account):

Department of Defense, Navy RDT&E – Facilities Improvement

9. What is the purpose of the project? Why is it a valuable use of taxpayer funds? How will the project support efforts to improve the economy and create jobs in Oregon?

At present, power requirements in remote DoD locations throughout the U.S. and its Territories are met by fossil-fueled generators. Based on the present high cost per kilowatt hour at some of these remote locations and the projected cost of a commercial-grade 500 kW wave energy buoy, the system can offer a low-cost, competitive resource. This project will advance a state of the art wave energy converter to allow demonstration and deployment of wave energy buoys at a Navy facility in conjunction with Oregon State University.

Thus far, 4 full-time jobs have been created, 26 graduate student terms have been funded, and numerous machining and fabrication sub-contracts have been created in Oregon with the FY07 appropriated funding. The FY09 project (in progress) is creating 4 full time jobs, funding 3 graduate researchers, 3 university professors/advisors, research facility sub-contracts, 1 undergraduate intern, and providing subcontracts to Oregon based companies (Plasti-Fab). The FY10 funding (demonstration design and build) will begin a project that is planned to produce 12-14 full time engineering and management jobs, 3 graduate researchers and advisors, contracts to testing facilities, and construction subcontracts that include equivalent labor of 6 FTE. It is expected that during the entire R&D phase of this project, 12-24 jobs will be created. Commercial production is estimated to produce several hundred manufacturing jobs and more at the wave stations.

10. Have you requested funding for this project from other Members of Congress?

If so, who?

Yes.
Sen. Ron Wyden
Sen. Jeff Merkley

11. Funding Details:

a. Total project cost (all funding sources and all years):

Phase I - II Funding Table

PE 0603725N	FY 06	FY 07	FY 08	FY09	FY10	Total
Wave Energy Buoy		\$1 M	\$0 M	\$2 M	\$5 M	\$8 M
DOE STTR Grant	\$375 K	\$375 K	0	0		

b. Amount being requested for this project in Fiscal Year 2010:

\$5 Million

b. What other funding sources (local, regional, state) are contributing to this project or activity? (Please provide specific dollar amount or percentage.)

Direct Columbia Power Technologies private investment - \$1,685,000.
2006-2007 - \$530,000 Indirect Oregon State University investment through in-kind research.
2006-2008 - \$1,155,000 Additional project/operating expenses through private funding sources.

d. Do you expect to request federal funding in future years for this project?

Yes.

e. Breakdown/budget of the amount you are requesting for this project in FY 2010.

(e.g. salary \$40,000; computer \$3,000):

Design, Engineering & Modeling - \$2,000,000
Oceanographic Studies - \$150,000
Environmental Studies & Permits - \$300,000
Equipment & Material Supply - \$1,300,000
Prototype Assembly On-Shore - \$250,000
Prototype and Mooring Installation - \$100,000
Prototype Retrieval & Analyses - \$100,000
Project Management & Overhead - \$600,000
Contingency & Misc. Costs - \$200,000
Total Budget for FY10 – \$5,000,000

f. Please list public or private organizations that have supported/endorsed this project:

Oregon State University (OSU)
Ocean Renewable Energy Coalition
Department of Energy
National Renewable Energy Laboratory
Navy (NAVFAC, NFESC)
Electric Power Research Institute (EPRI)

Others?

g. Is this project scalable? (i.e. if partial funding is awarded, will the organization be able to use the funds in FY 2010?):

Yes.