

**Testimony of Dr. George W. Taylor, Chief Executive Officer  
Ocean Power Technologies, Inc.**

**Before The**

**United States Committee on Commerce, Science, and Transportation  
Subcommittee on Technology, Innovation, and Competitiveness**

**Concerning**

**Alternative Energy Technologies**

**June 14, 2006**

Good Morning Chairman Ensign and distinguished Committee members. My name is Dr. George Taylor and I am the Chief Executive Officer of Ocean Power Technologies, Inc. I am honored to be here today to share with you the progress that has been made toward the commercialization of wave energy conversion technology as a means of supplying clean, renewable – and much needed – power to our Nation’s electricity grid. And while significant progress has been made, there is much more to do to realize the potential of the energy stored in our Earth’s oceans. I hope that in the next few minutes I can impress upon you that wave energy is commercially viable, that it has the potential to supply significant amounts of power in areas where it is needed most, and that the Federal government can and should play a role in encouraging and supporting the growth of this rapidly advancing technology.

Let me start by saying why we believe wave energy makes sense for the United States. More than 53% of the US population lives near the coast. So in the future, where are we going to put the power stations?

We contend that the ocean is one of the best answers. In fact the world’s energy demand could be met if only 0.2 percent of the oceans’ untapped energy could be captured. And while we do not propose that all of the Nation’s power needs can be supplied from wave energy – we believe that a significant portion can. For example, several hundred square miles of area off the California coast, could supply the electrical power needs for all of California's homes.

The Electrical Power Research Institute, EPRI, has conducted a comprehensive economic study of wave power generation. This study concludes that the economics of wave energy could be at least as favorable as wind generation if the same resources that have been invested in wind and solar energy were invested in wave energy. We believe the cost of wave generated energy has the potential – with the proper investment – to approach that of conventional energy in the next five years.

Wave energy has the distinct advantage over other renewable energy sources, in that it has high power density, excellent availability, and predictability. Water is about 1000 times more dense than air allowing smaller, lower cost wave energy conversion devices to extract more energy

from a smaller footprint. Think of waves as a natural means of storing energy. Solar radiation creates wind. Wind creates waves. Long after the winds subside, the waves continue. And waves don't know night from day – which is why on some parts of the coast the availability of a wave power station could be as high as 80 to 90 percent. One of the major advantages of wave power is that at nighttime, when electrical energy usage is low, wave energy can be used for economically powering desalination and hydrogen production utilizing the surrounding water. Wave propagation is also highly predictable as much as 24 hours in advance. Availability and predictability are two features that have caught the attention of electric utilities as they search for emerging technologies that can supply reliable power to our Nation's grid.

While there has been much debate concerning the aesthetics of other forms of renewable energy, our wave power systems are primarily concealed below the surface of the ocean. They have very low surface profiles, making them almost invisible from land. In discussions with coastal residents we have learned that the low visual impact of our system is seen as a tremendous benefit.

I would now like to give you a brief overview of our company, with emphasis on where we are from the standpoint of commercialization. Ocean Power Technologies, Inc. (OPT), based in New Jersey, is focused on commercializing its proprietary PowerBuoy™ technology for both utility scale wave power stations that are connected to the grid, as well as autonomous remote power systems for ocean-based defense and security systems.

From 1994 to 2003, our company was primarily focused on research and development and ocean testing of small PowerBuoys.

Since then, we have been developing for the US Navy a wave power station at Marine Corps Base Hawaii, that will be connected to the Oahu grid. This project has received strong support from the Hawaii and New Jersey congressional delegations, for which we are very appreciative. It is also important to note that an independent Environmental Assessment was conducted, with a Finding of No Significant Impact. In addition, in September of 2004 we successfully ocean-tested off the State of Washington a prototype of our autonomous PowerBuoy system with Lockheed Martin, under a Navy contract.

Various governments in Europe have put in place strong initiatives to foster wave energy projects. Recognizing the European demand for renewable wave energy, we have signed agreements with Total and Iberdrola to develop wave power stations in France and Spain. Total is one of the largest oil and gas companies in the world, and Iberdrola is Europe's largest utility in renewable energy. These projects are now moving forward.

In 2005, we completed the installation of a PowerBuoy off the coast of Atlantic City, New Jersey to further validate the viability of the technology. This project was funded by the New Jersey Board of Public Utilities as part of their significant support of green energy.

In early 2006, we received a contract from the Department of Homeland Security for the first phase of a project to provide power for ocean-based security systems.

Today, our company is evaluating additional opportunities in the United States for utility scale wave power stations. However, as we seek to progress from demonstrations to the implementation of large, commercial wave power stations, we believe there needs to be a more cohesive National policy in place to facilitate the commercial roll-out of wave power technologies. Other countries are doing just that.

Today we have momentum. While Europe profited in the early years of wind energy development, we believe that the US is in a strong position to lead the world in wave energy commercialization.

We request your action to include wave energy in this Nation's comprehensive policy to increase utilization of renewable energy. This will serve to give a strong message to the Nation's utilities, capital markets and investment community that wave power projects are recognized by the Government as an important source of renewable energy. With the resulting commitment of all those parties, will come the development needed to make wave energy commercially competitive.

To that end, I encourage Congress and this Committee to consider the following actions:

1. Provide support for wave energy commensurate with that which has been provided previously for wind and solar energy.
2. Include wave energy in the Production Tax Credit (PTC).
3. Modify FERC statues to allow for the rapid permitting of wave power stations.
4. Insure that the MMS rules that are being developed allow for the timely development of pilot scale wave energy projects.

In conclusion, let me thank you for your judgment to include wave energy in this hearing. The success of new technologies is about vision, leadership, and courage to do what has never been done before.