

# Warwickshire **Climate Change Partnership**

11 January 2008

## Submission Form for Case Studies

Please Insert:

Name of Organisation: Ocean power Technologies Ltd

Name of Project: The PowerBuoy<sup>®</sup>

Category:

Chosen from:

1. Energy
2. Transport
3. Resource Efficiency
4. Adaptation
5. Communications and Education

Date: 13/12/2007

Please return to: Dr. Jacky Lawrence, Strategic Energy Manager, Environmental Management, E&E, WCC, PO Box 43, Warwick CV34 4SX.

Email : [climatechange@warwickshire.gov.uk](mailto:climatechange@warwickshire.gov.uk), Web : [www.warwickshire.gov.uk/climatechange](http://www.warwickshire.gov.uk/climatechange)



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Please use as much space in the boxes as you need

### **1 What climate change means to our organisation**

#### **1.1 Challenges and CSR –our vision for tackling climate change, our targets**

An environmentally responsible organisation needs to have strategies, performance commitments and leadership on climate change at the business unit and site level. A corporate strategy or national policy alone is not enough to deliver the changes required, and the benefits those changes can bring.

A description of our corporate commitment to tackling climate change, elements of our strategy and our targets can be seen below.

Ocean Power Technoloies Ltd corporate commitment to tackling climate change is through the technology it provides. It aims to supply low carbon technology

A description of our business unit / site level commitment to tackling climate change, elements of our strategy and our targets can be seen below.

N/A

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### **1.2 Innovation – why our organisation is involved in climate change projects**

Tackling climate change, not just in our own business, but helping others to tackle climate change, reduces long term risk and makes all businesses safer in the medium to long term.

A description of how tackling climate change has driven innovation can be seen below.

Climate change issues have brought about a business opportunity causing an increased demand for renewable energy. No one had yet to come up with a solution for capturing energy from waves and thus was a untapped resource

### **1.3 Opportunities – how climate change projects have benefited our organisation**

There are opportunities to be had from taking responsibility to tackle climate change, but these opportunities may lie outside of what a company has traditionally considered its core areas of influence.

Below is a description of how tackling climate change has presented our organisation with opportunities.

Now listed on two stock markets  
It has brought about Revenue from utilities contracts, and commercial companies  
It had brought about innovation  
The potential for wave energy in phenomenal it has the advantages that it is environmentally friendly/no security issues and no supply issues.

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### **2 Project Concept - what our organisation did.**

Below is listed the name of and a description of our project. Why we did it (the main driver). What the aims and objectives were. How it was expected to work, what had to done to make the project succeed and what the expected benefits of the scheme were.

Ocean Power Technologies harness energy using wave power. The company has created a PowerBuoy<sup>®</sup> wave generation system which uses a ocean going buoy to capture and convert wave energy into low cost, clean electricity.

The rising and falling of the wave off shore causes the buoy to move freely up and down. The resultant mechanical stroking is converted via sophisticated power take off to drive an electrical generator. The generated power is transmitted ashore via an under water cable.

The benefits of this technology include ...

- wave energy is the most concentrated source of renewable energy.
- Environmentally benign and non polluting : no fuel, no exhaust gases, no noise and minimal visual impact
- Scalable up to a large power station.

### **3 Project Partners – who was involved.**

The names of all the people, job titles and all other organisations that were involved in delivering this project are listed below.

New Jersey Board of Public Utilities  
US Navy  
Iberdrola  
Scottish Government  
Pacific Northwest Generating Cooperative

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### **4 What our business / organisation learned from becoming involved in climate change projects**

A description of what we learned in carrying out this project can be seen below, i.e. what the easy successes were, the overall outcome and what the barriers were.

What worked?

Ocean Power Technologies now have UK wave farms set up in Cornwall and Scotland

What didn't work?

There are many difficulties in starting such a project, such as

Funding difficulties – government support is required to bring in subsidies to bring down cost

Technology Development – Time consuming

Permitting and consent for deployment of wave farms is challenging

How this project generated enthusiasm, won hearts and minds and drove cultural change

N/A

What the unexpected knock-on effects of this project were - both good and bad.

Creates a more diverse portfolio of renewable energy

There has been a transfer of technology as new products have been developed e.g. the Autonomous power buoy

It has created exclusion zones for fish

The buoys act as artificial reefs

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### **5 How emissions were reduced by doing this project – i.e. quantified fuel and energy savings**

We list here the fuel and/ or energy savings associated with this project. The amount of greenhouse gas emissions, especially the amount of carbon dioxide, that have been saved or will be saved because of doing this project are quantified below.

The carbon trust has reported that 20% of the UKs electricity supply could be supplied from marine energy

### **6 What we would you do differently if we did this project again**

Below is a description of what we would do differently in this project if we started again from scratch.

N/A

### **7 Continuous Improvement**

Below is a description of what we intend to do next in tackling climate change within our organisation.

Looking to improve conversion technology to improve efficiency and lower costs

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Below is a description of what we would do if we were given £10,000 to do a climate change project.

N/A

## **8 Contact Details – where to go for further information on the above project**

Below is a list of all sources of information and relevant contact details for this project.

[www.oceanpowertechnologies.com](http://www.oceanpowertechnologies.com)

## **9 Any other useful information?**

Sources of other useful information and links are given below.

