OPTA

OCEAN POWER TECHNOLOGIES AUSTRALASIA

JETRO ASIA PACIFIC GREEN TECH FORUM

November 2010

Ocean Power Technologies

PowerBuoy deployed off Tuckerton, New Jersey, 2005-2006; 2007-2009

PowerBuoy deployed for Iberdrola in Spain 2008

PowerBuoy deployed off Marine Corp Base Hawaii June 2007

PowerBuoy deployed off Marine Corp Base Hawaii Dec 2009

- Commenced active operations in 1994
  - Headquarters - Pennington, NJ
  - 60 employees
- Focus on electrical power generation from ocean waves
- Independent Grid certification (IEEE)
- Over 10 years experience in producing electrical power from ocean waves
- Ocean-tested and proprietary technology
  - 41 Patents issued & 16 pending
- Listings on Nasdaq and London's AIM market
  - Rapid commercialization under way with a defined growth plan

PowerBuoy Applications

Autonomous PowerBuoys (APB)

OPT's PowerBuoy deployed at sea for US Navy test September 2004

Projects

Where power is needed on location

•Autonomous Maritime Surveillance
– US Navy/Lockheed Martin/Homeland Security
– Surface Vessel Detection – Port & Expeditionary
•Other Applications
– Ocean surveillance – offshore oil & gas fields
– Open Ocean Aquaculture

Utility PowerBuoys

Site of Navy project in Hawaii

Projects

Power for the Utility Grid

- New Jersey Board of Public Utilities
- US Marine Corps Base Hawaii
- Australia 19 MW Wave Farm
- Japan Mitsui Engineering & Shipbuilding
- UK Department of Trade & Industry – Wave Hub
- OPT Wave Park-Reedsport, Oregon
- Scottish Executive EMEC - Orkney, Scotland

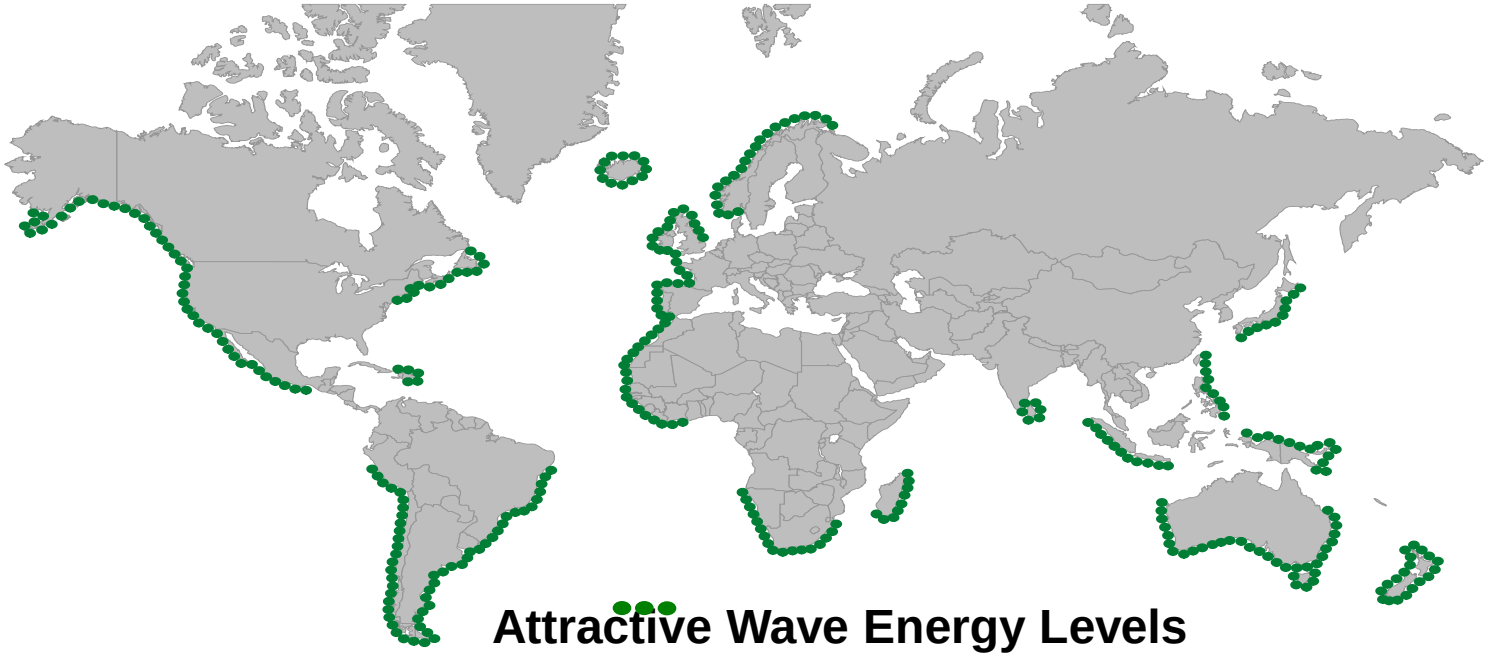
PowerBuoys for Wave Power

- Initial products rated at 150 kW; 500 kW products available in 2013
- Wave park ratings in 100's of MW's attained by grouping into arrays
- Operating wave range of 1.5 to 7m
- Automatically locks up for storm and hurricane wave conditions above 7m
- Designed to survive 100 year storm wave conditions
  - 24m - Orkney Islands, Scotland
  - 20m - Bay of Biscay, Spain
  - 18m – Portland Victoria
- Demonstrated survivability in storms/hurricanes

OPTA Wave Power Station View From Shore

OPT PowerBuoy Deployment - Spain

Japan has Best Potential in NE Asia



Attractive Wave Energy Levels

2TW of energy, the equivalent of twice the world's electricity production, could be harvested from the world's oceans *(World Energy Council)*

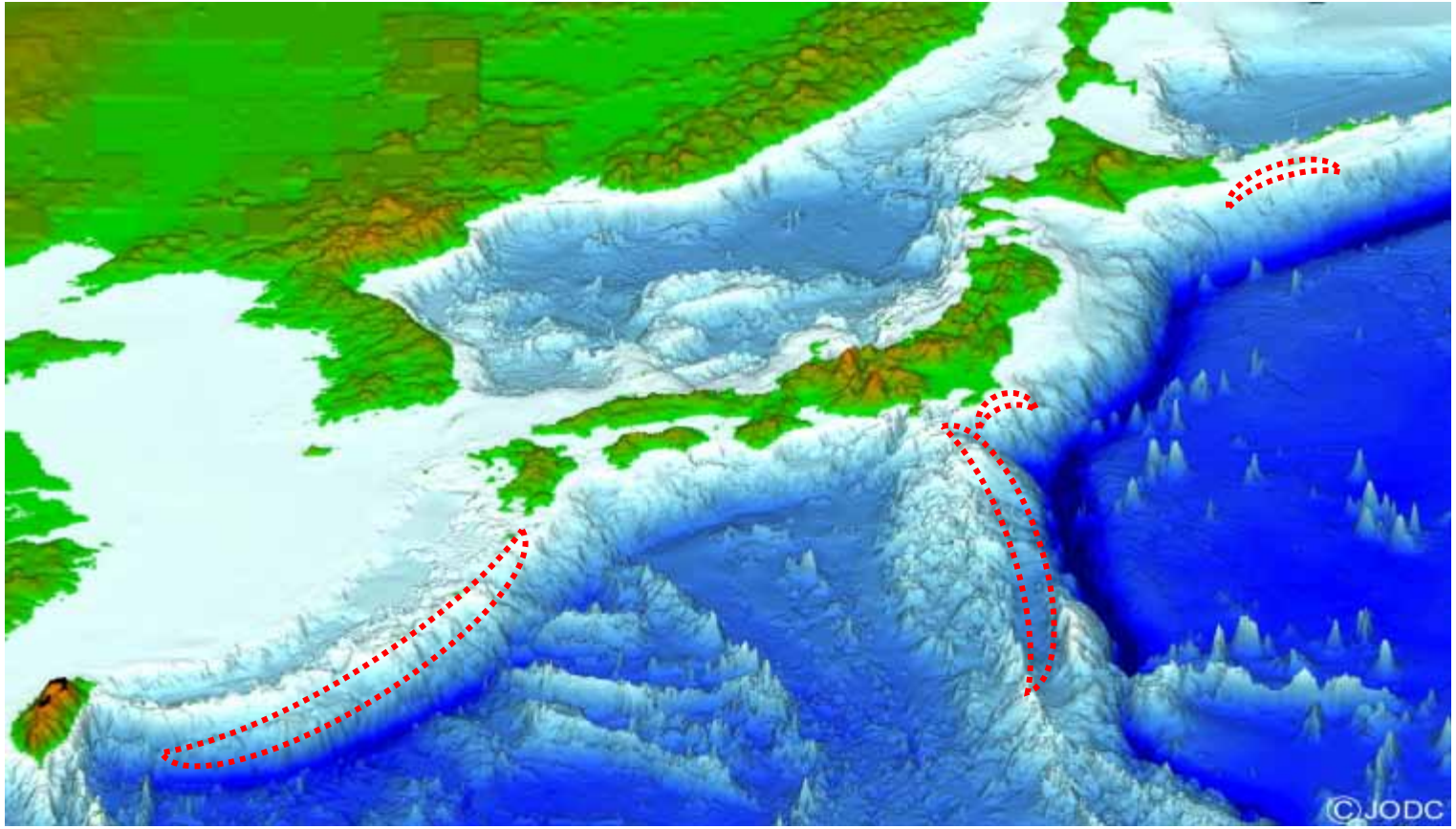
波力発電の事業展開 Stage 1　離島発電

現状発電コストが非常に高い（100円/kWh～）離島発電から入り、発電効率アップとコストダウンを進めながら全国に展開する。

【このシナリオの欠点】

- 離島内の電力需要と電源構成が制約となり、発電ファーム規模がせいぜい１０MWぐらいまでに制約される
- 規模が小さいので電力系統インフラが相対的に高コスト

日本近海で波力発電に最も適した海域
波パワーが大きく、陸地に近い沖合が大型波力発電海域の候補になる。



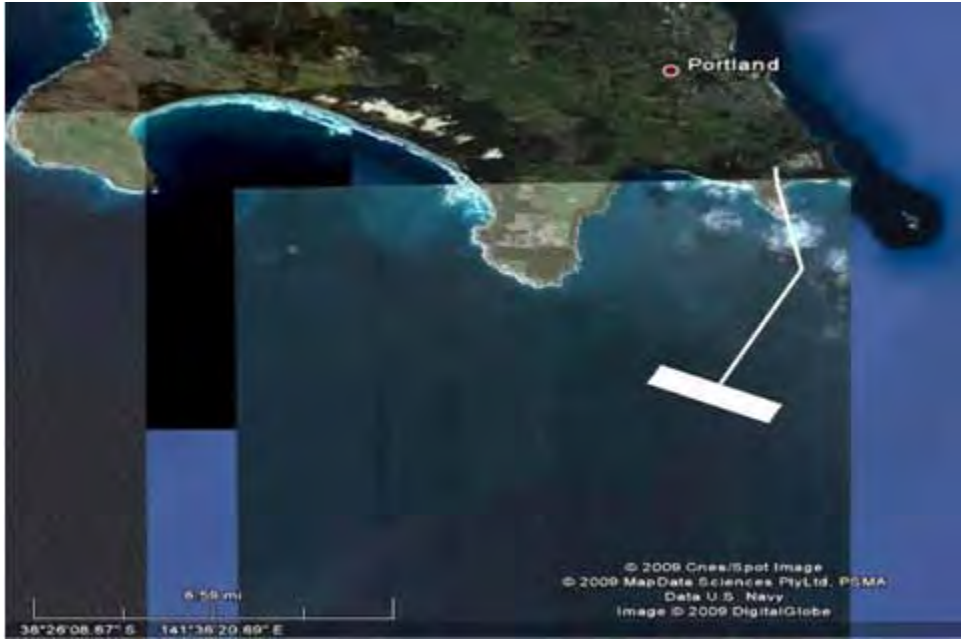
PORTLAND PROJECT 2010

Victorian Wave Partners

- 19 MW in 3 stages, demonstrating cost reduction path
  - 1.5 MW 2013/14 (technical demo)
  - 5.0 MW 2014/15 (expansion)
  - 12.5 MW 2015 (commercial demo)
- 5 year staged Program - over $200 million
- Federal Funding $66.5m, Potential Victorian Government Support
- Building on previous Portland base
- 1.8 million tonnes of CO_2 avoided

Portland Project Area

- 20 ha
- Expansion potential
- Next to Alcoa (600MW)
- Near local grid
- Near Pac Hydro substation
- Excellent local service
- infrastructure



Global Contracts, Partners and Future Projects