Opportunities in Wave Energy
Oceanlinx

- Company formed as Energetech Australia in 1997
- GWH / Wavelinx Lda established 2008
- Headquarters Sydney: 25+ staff
- European & North American staff
- Global patents for OWC and turbine
- Strong shareholder base
Basic Concepts

Energy in waves is extracted through a Oscillating Water Column (OWC)...

... and converted into electricity by using a turbine-generator set.
OLX technology evolution

Mk1
500kW

Mk2
1.5MW

Mk3
>2.5MW

Timeline

1997-2006

2007-2008

2009-2010
OLX “Steel in the Water”

- **Full scale evaluation unit** (fixed to seabed)
  - Complete system design
  - International contracts
  - Real sea OWC operation
  - Demo Dennis Auld turbine
  - Near shore marine operations

- **1/3-scale research unit** (floating)
  - Offshore design and operation
  - No turbine just data
  - System dynamics and OWC operation
  - Marine operations experience

- **Pre Commercial scale unit** (floating)
  - Full structural demo
  - Two turbines
  - Power Matrix
  - Modelling verification
  - Design convergence

2005 - 2009

2007-2008

2009-2010
The Oceanlinx Mk3 Wave Energy Converter
Mark 3 PC

- Deployed in Port Kembla (Australia)
- 8 OWCs
- 2 chambers with turbines
- 6 damped chambers
- Demonstration scale device

- 200 m off shore
- Grid connected and exporting power
- Transformer and 11kV grid connection
Mk3 Wave Energy Converter

Main Features
- Approx 2,000 tonnes
- >2.5 MW rated capacity
- Survivability in a 100 years storm
- 25 year design life
- Fully certified design by mid 2010

Key Strengths
- Protection of PTO from wave energy
- No emissions or corrosive substances
- Unmanned and remotely controlled
- Simple hardware
- Single moving part (turbo-gen set)
Full Scale Demonstration in Portugal

- Wavelinx established
- Technology
  - Established and proven through private funding
- Government Grants Required
  - Balance private investment
  - Encourage early deployments
- Tariff
  - Revenue support mechanism to encourage energy generation
- Pilot Zone
  - Established: Portuguese Government
  - Operations: REN
Oceanlinx / Wavelinx
Strategic Partners & Ultimate Shareholders
Partners & Supply Chain

• Financial

• Academic / Research
  • Enhance and customise
  • Environmental & Policy

• Industrial
  • Ship yards – fabrication & assembly
  • Component suppliers
  • Offshore deployment and O&M
  • Electricity generation

• Government
  • Policy