HAYLE MCTi
21 January 2008

NICK HARRINGTON, GENERAL MANAGER, WAVE HUB

- What is Wave Hub?
- Why?
- Current position
- What it means for Hayle

WHY RENEWABLE ENERGY?

- Reduction of emissions, Kyoto targets
- Security of supply
- Cost

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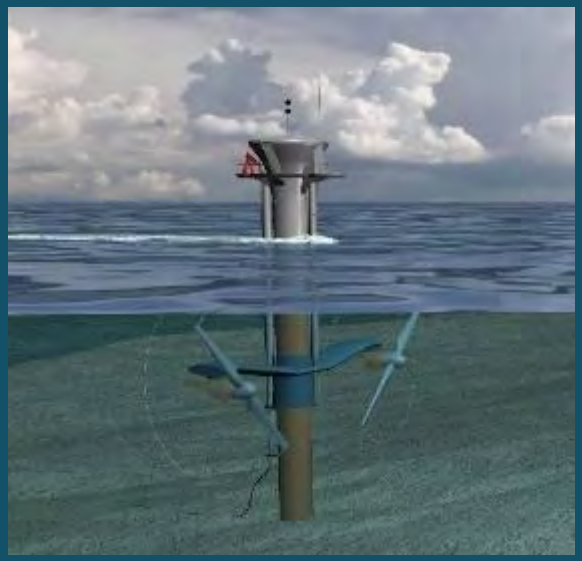
MARINE ENERGY

- Tidal Barrage
- Tidal Stream
- Wave Energy
  - Shoreline
  - Seabed
  - Shallow water
  - Deep water



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WHY IN SOUTH WEST?

- Strong wave and tidal resource
- Existing marine sector
- Academic base
- Opportunities in new industry

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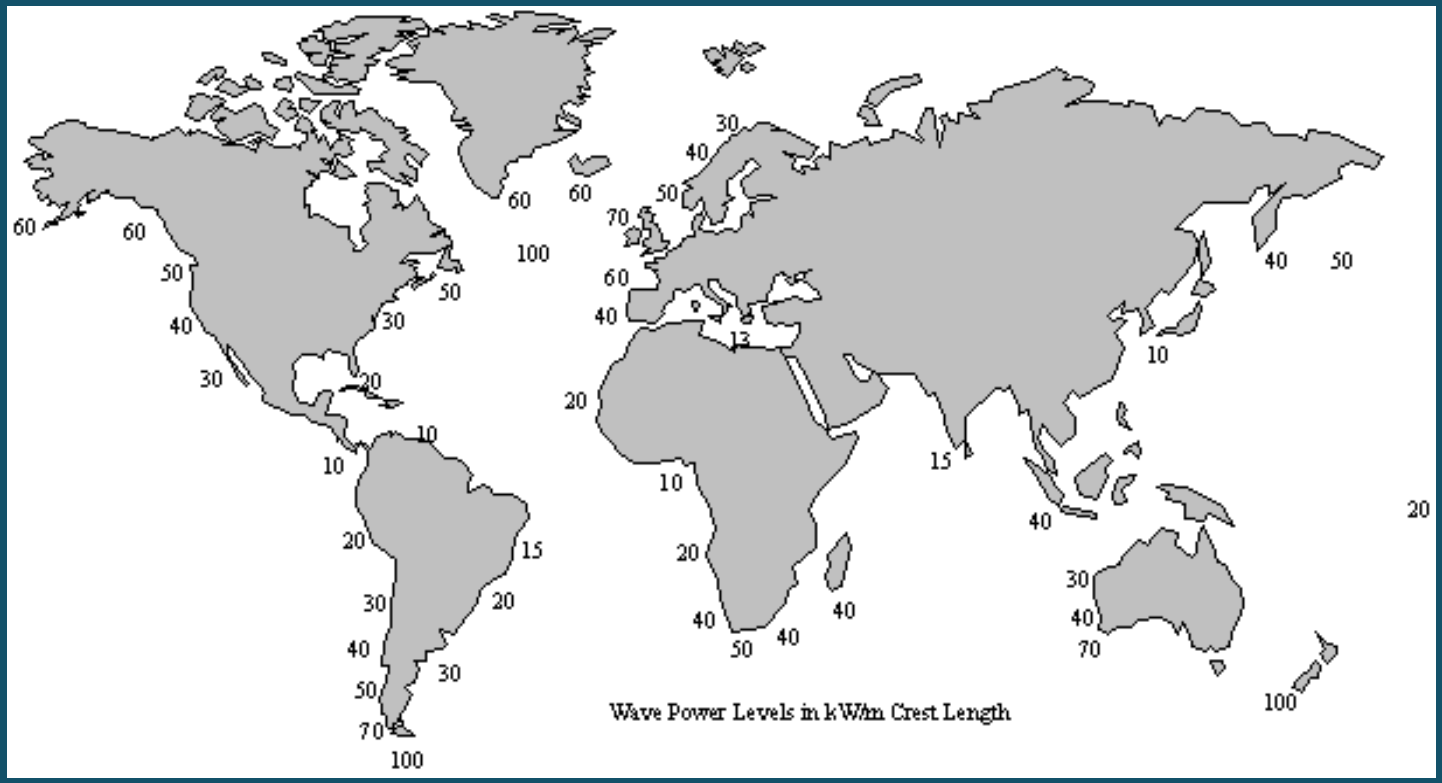
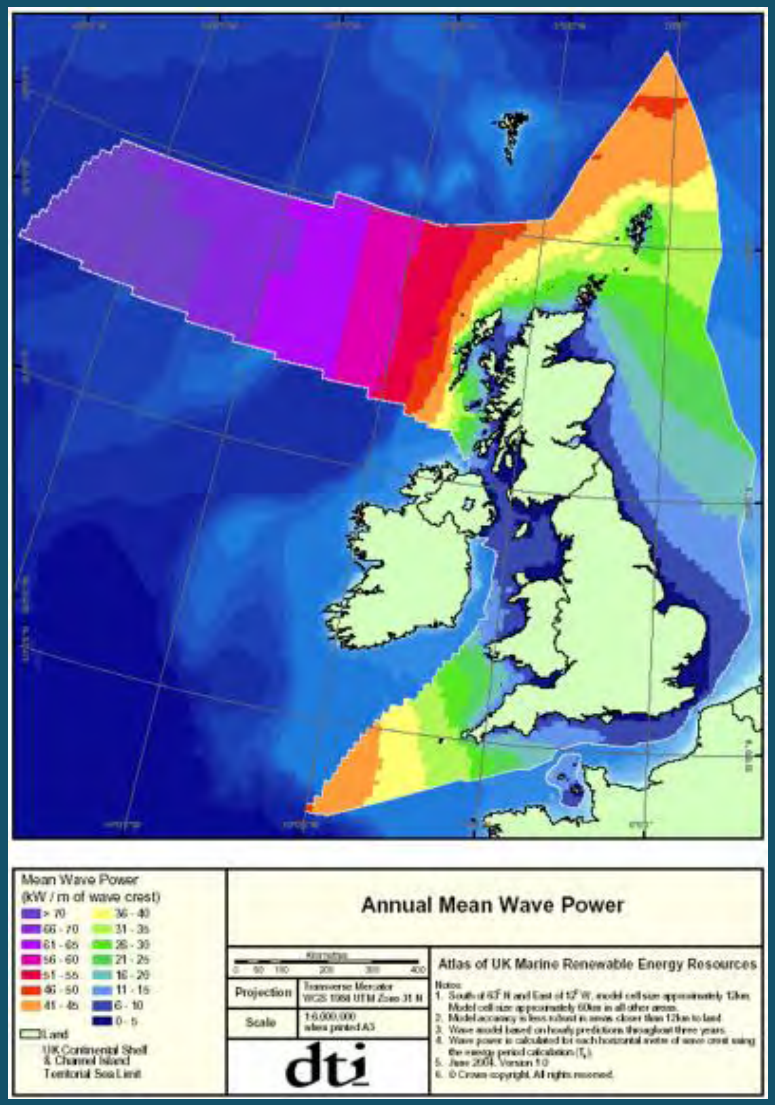
WAVE POWER LEVELS

Source: World Energy Council website - based on Claesson, (1987)

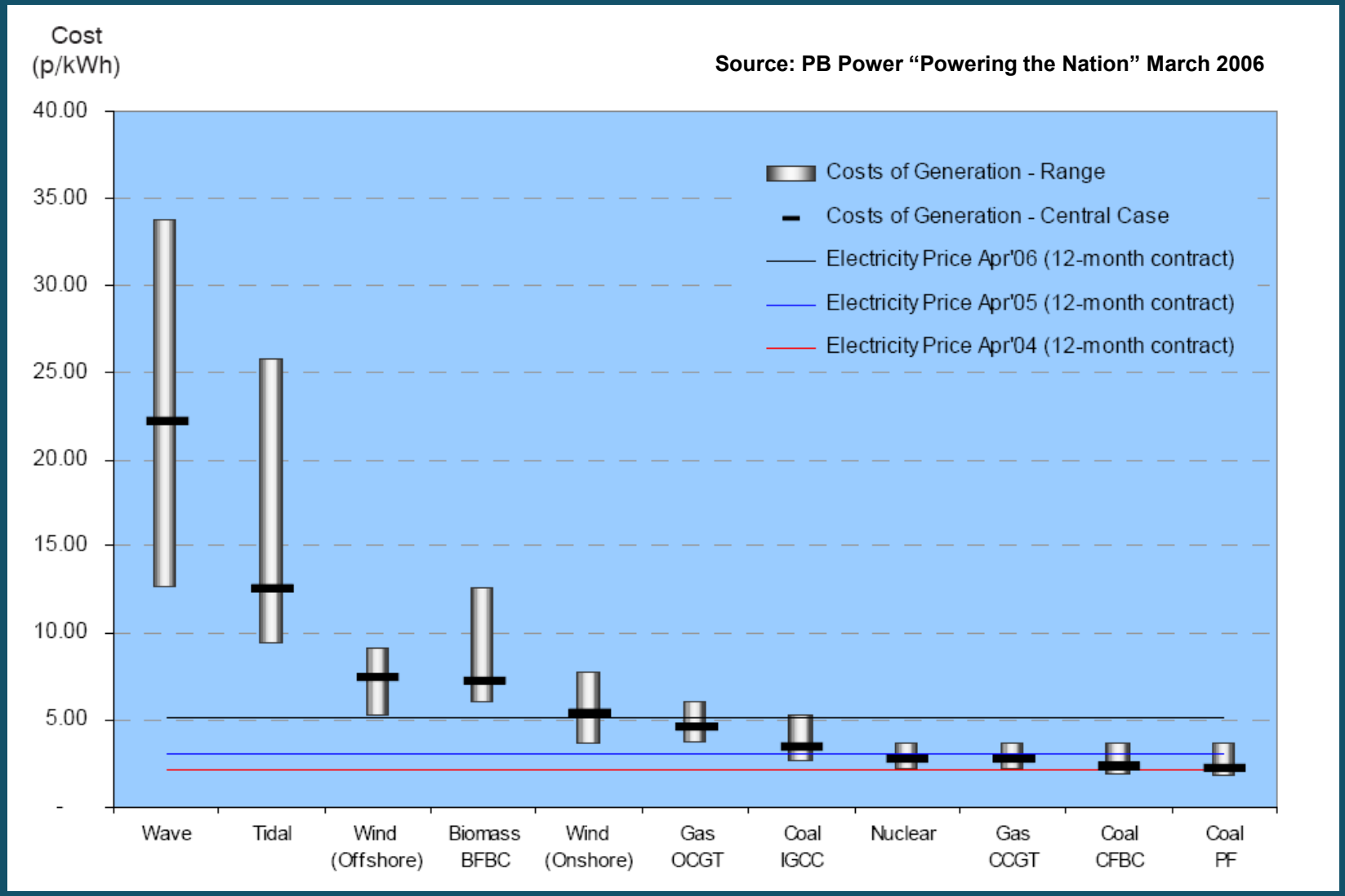


WAVE RESOURCE



STRONG EXISTING GRID

COSTS OF ELECTRICITY GENERATION



CHALLENGES FOR DEVICE DEVELOPERS

Concept

Research & development

Prototype tank testing

Full-scale prototype in real sea

Demonstration site

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WAVE HUB PROVIDES

- Consented sea area
- Grid connected 5MW per berth
- Monitoring and testing
- Power purchase agreement
- Opportunities to collaborate
- Access to suppliers and research base

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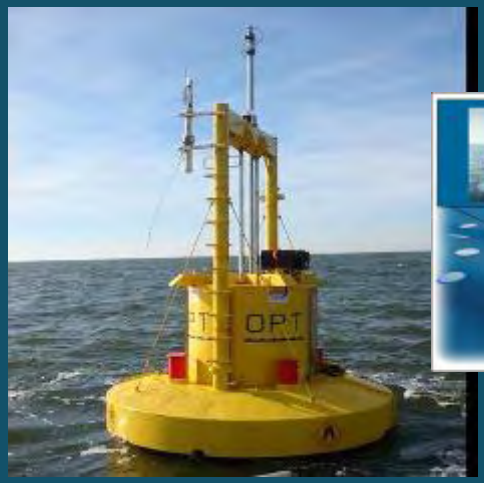
West Wave – PELAMIS

Fred Olsen – FO^3 BULDRA

Oceanlinx – DENNIS-AULD TURBINE

Ocean Power Technologies - POWERBUOY



WAVE HUB PROGRAMME

• Board conditional approval	April 2007
• Consents	September 2007
• Final sign off from Board	Q1 2008
• Financial close	Q1 2008
• Order cable	Q1 2008
• Construction	Summer 2009
• First devices deployed	Late summer 2009

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ECONOMIC BENEFITS

- 1,837 jobs in UK by 2035
- £560m GVA in UK

- 964 jobs in South West by 2035
- £332m GVA in South West

- 430 jobs in Cornwall by 2035
- £197m GVA in Cornwall

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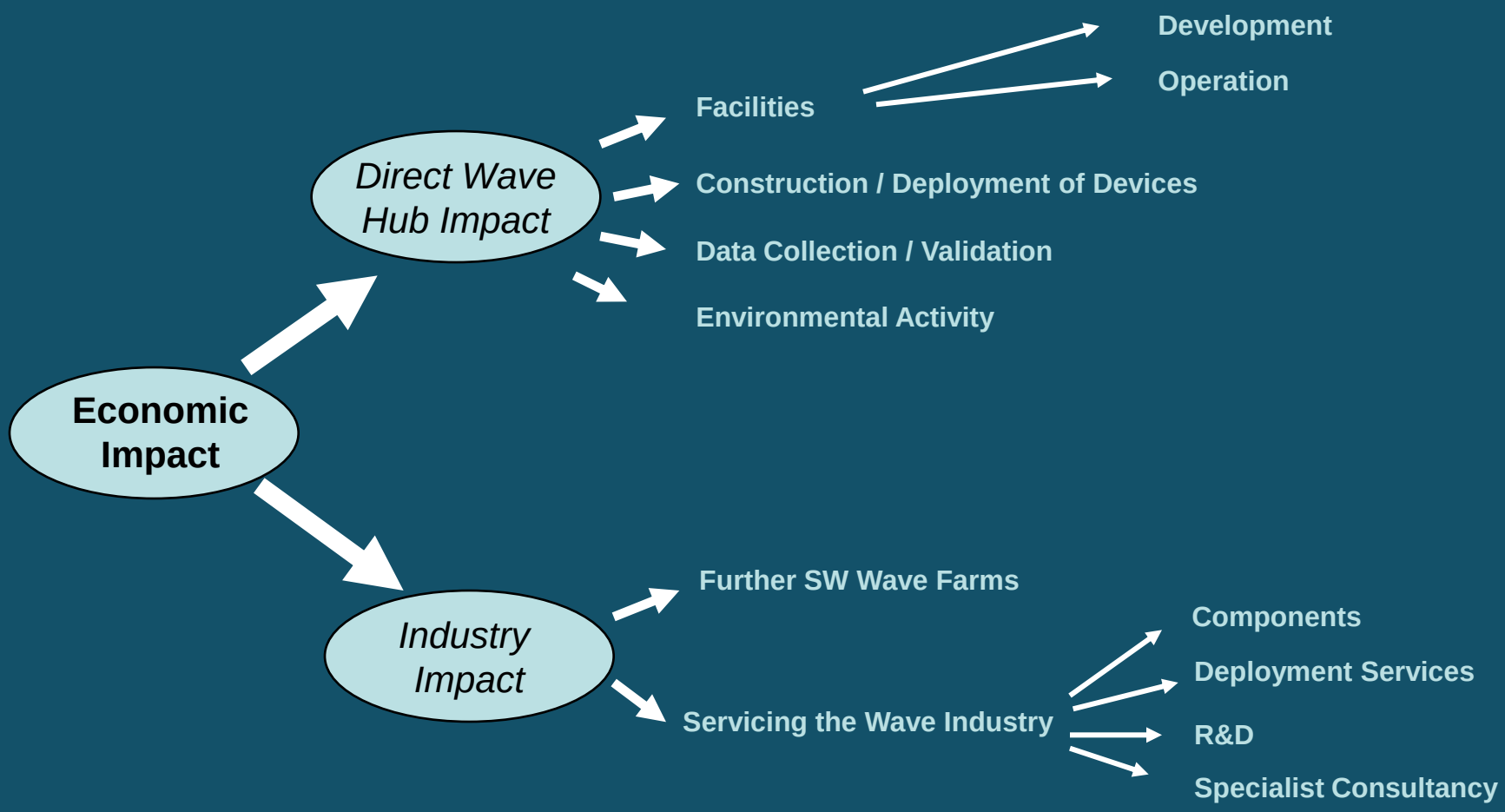
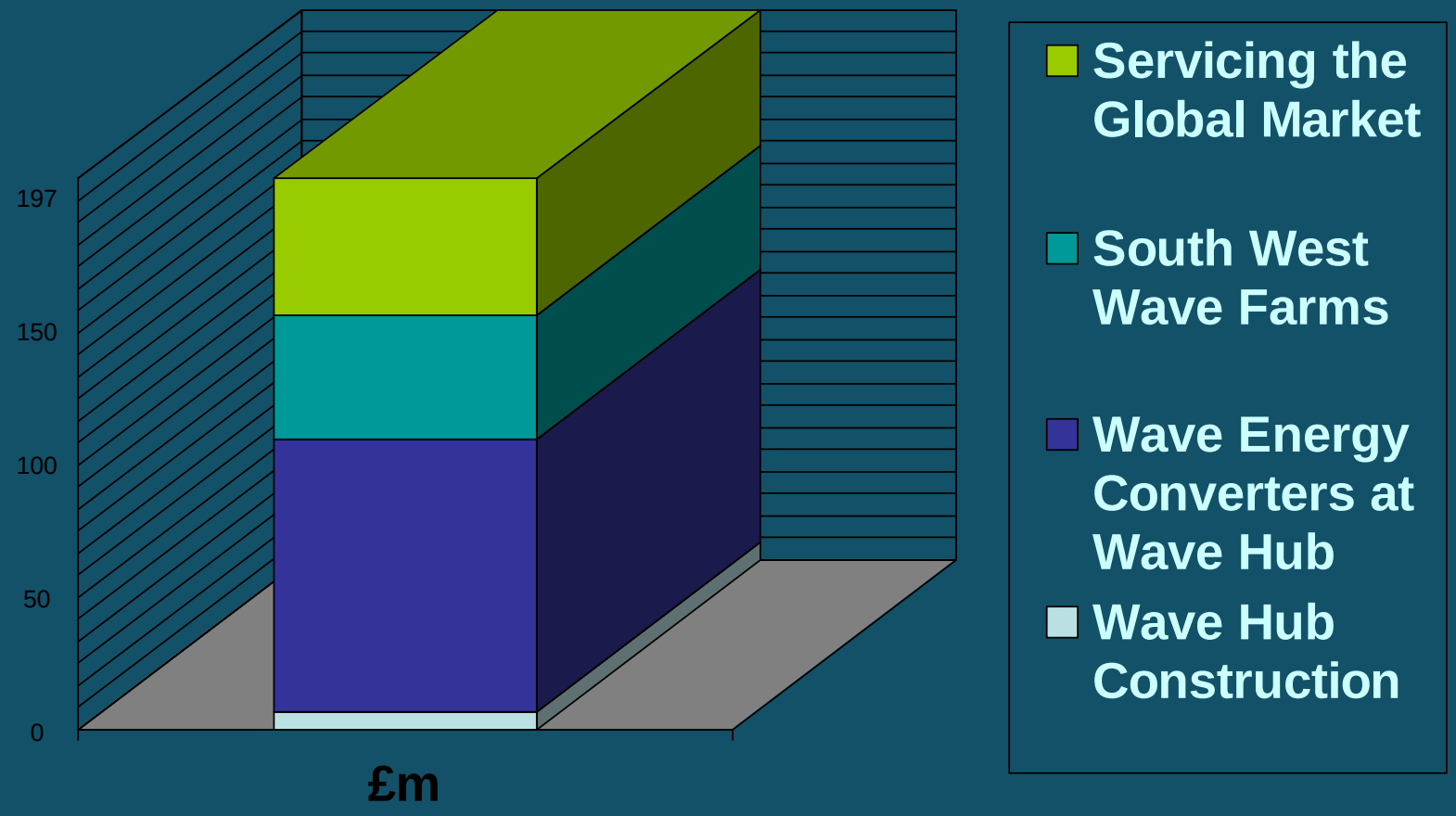
WAVE HUB ECONOMIC DEVELOPMENT

- Beginning of an industry
- Early mover advantage
- Wind turbine analogy

WAVE ENERGY - ECONOMIC DEVELOPMENT (Source AD Little 2007)



ECONOMIC BENEFITS (Source AD Little 2007)

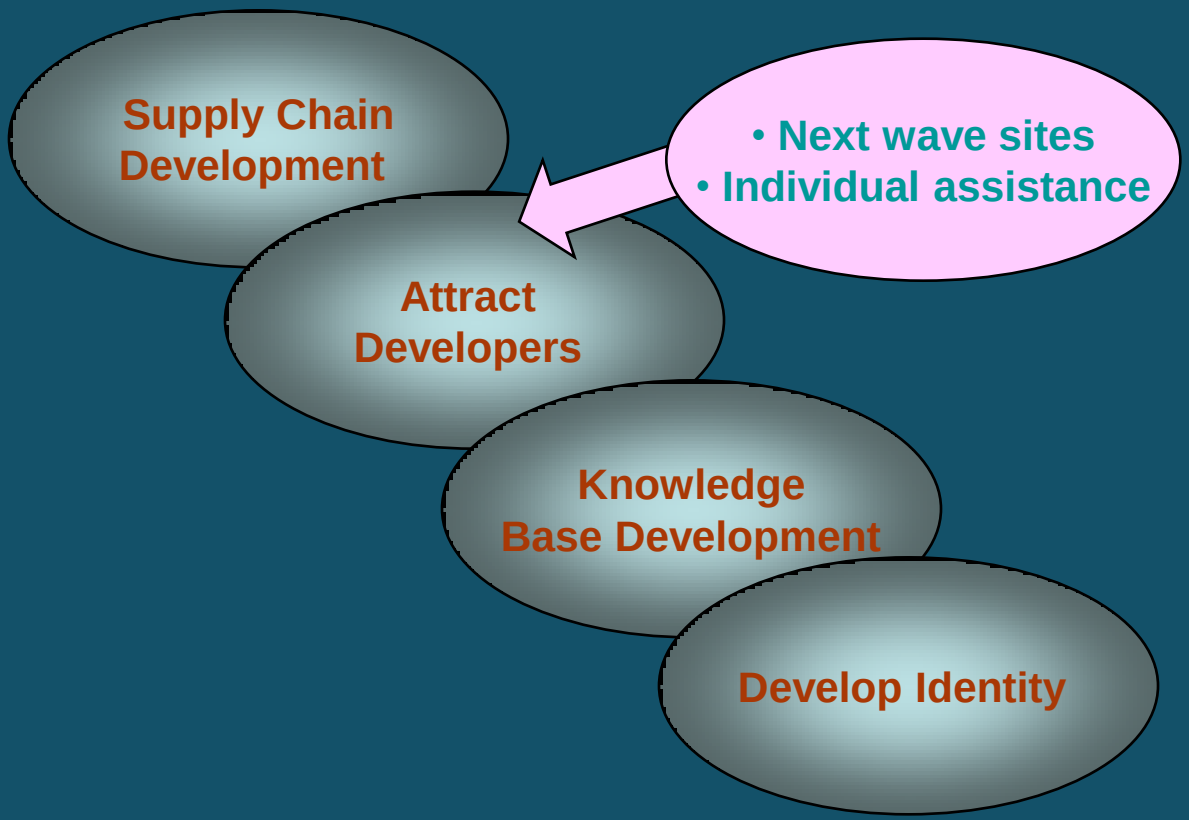


- 197m GVA in Cornwall by 2035

Wave Hub Economic Development

- Supply Chain Development
  - Supplier Directory
  - Supplier Facilitation
  - R&D funding
- Attract Developers
- Knowledge Base Development
- Develop Identity

Wave Hub Economic Development



Wave Hub Economic Development

Supply Chain Development

Attract Developers

Knowledge Base Development

Develop Identity

PRI-MaRE
- Research capacity
- Knowledge transfer
- Networking

OPPORTUNITIES FOR NEW BUSINESS INVOLVEMENT

- Environment
  - Eco-system modelling
  - Coastal process understanding
  - Underwater technology
- Technology
  - Modelling and design
  - Control systems
  - Composites
  - Waves and understanding the resource
  - Moorings
  - Electro-hydraulics
  - Manufacture / assembly

OPPORTUNITIES FOR NEW BUSINESS INVOLVEMENT

- Consultancy
  - Development
  - Deployment of wave energy devices
  - Operations and maintenance
- Testing and standards
- Facilities and servicing

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BENEFITS TO HAYLE

- Image as home of Wave Hub
- Wave Hub office
- Developers' local staff
- Maintenance base?
- Manufacturing base?
- Base for support and consultancy companies?

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BUT…

- Suitability of harbour
- Availability of premises

FURTHER INFORMATION:

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