



The Business of
Marine Energy

Oceania Room | Te Papa Tongarewa | Wellington



Towards a Marine Energy Centre for New Zealand

AWATEA
Conference

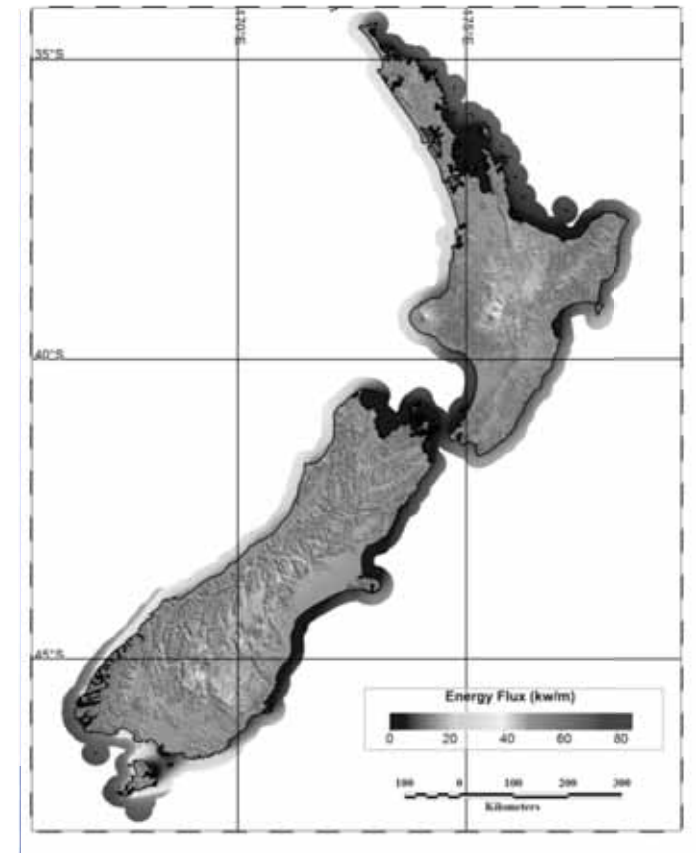
The Business of Marine Energy
May 2011





A Marine Energy Centre for New Zealand

- Not a new idea.
- World class tidal resources
- World class wave resources





NZ Marine Energy Trade Delegation to UK 2010
At SMD – Developers of the *Tidel* ocean current device

Kevin McGrath
Tangaroa Energy

David Moore
Grayson Engineering

Paul Tuckley
UKTI

Nick Inskip
HERA

Anthony Bellve
Energy Pacifica

Mike Lehan
Page Macrae Engineering





Visited research facilities including:

- NAREC
- Institute for Energy Systems
- Hydro – Environmental Research Centre
- University of Strathclyde
- European Marine Energy Centre in Orkney





Key Messages

- Europe is taking Marine Energy very seriously.
- UK is the global leader.
- The opportunity is now.





European Marine Energy Centre





Stromness Harbour - Orkney







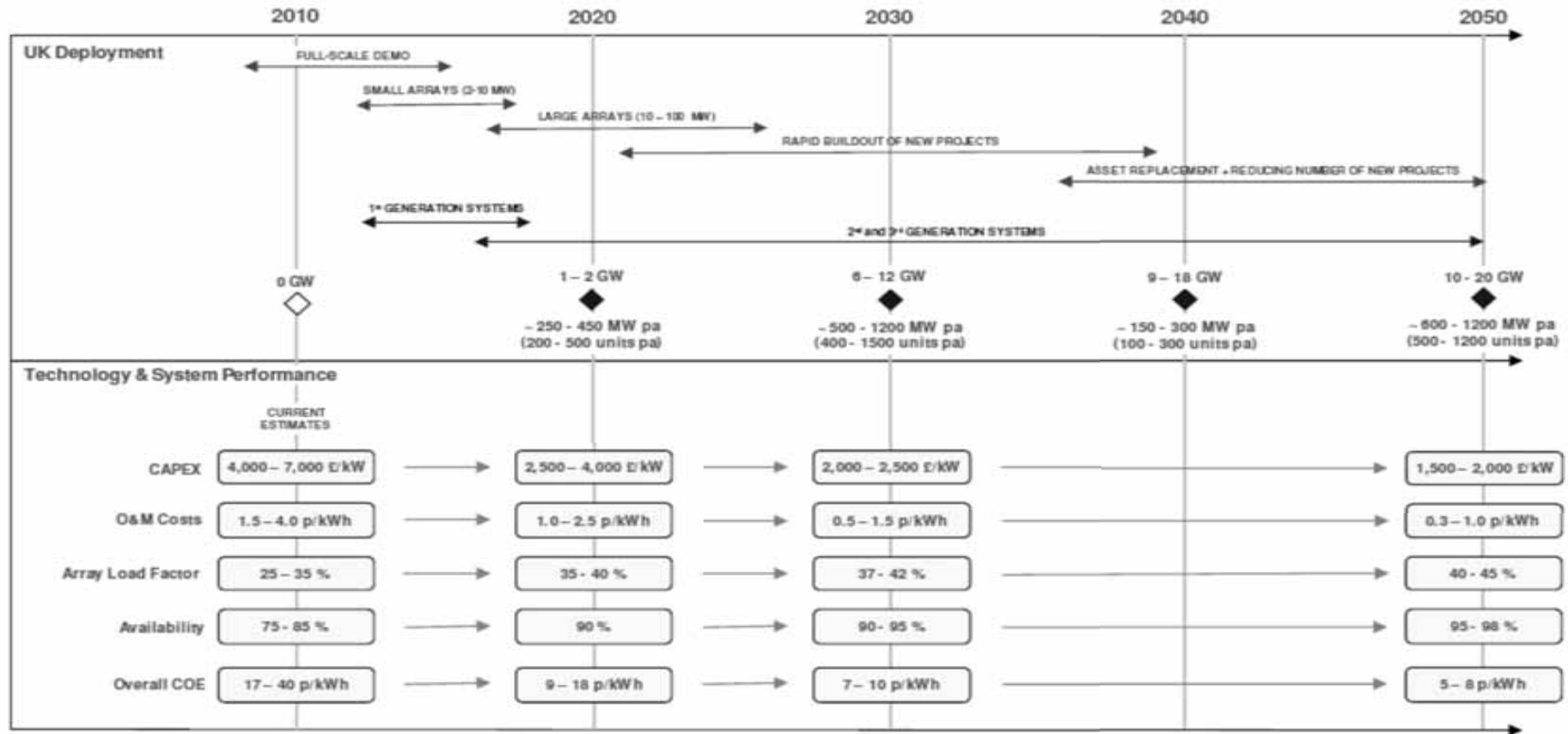
UK Marine Energy Support

Development Support Pathway



UK Marine Energy deployment Strategy

Appendix 1 – UK Marine Energy Deployment Strategy and Technology Development Targets





The Imperative

- Others are looking at establishing test centers in our region.
- We have a window of opportunity.
- The successful establishment of a marine energy test centre provides the basis for a supportive environment for collaboration and development of an industry.
- Provides a mechanism and reason for Government to engage with the industry.





Towards: NZMEC

- Report back at stakeholder briefing session
- Opportunity to ‘twin’ with EMEC
- Explore level of interest in looking further at developing a NZ Marine Energy Centre





NZMEC

- Is this something we want to do or not?





Questions

- What form of operation would work for NZ?
- Where would the best location(s) be?
- How are we going to fund this & how are we going to make it happen?
- Who should be involved?





Next Steps

- Form a working group to answer those questions.
- Report back on options.
- Select and present preferred option.
- Develop an implementation strategy
- Adopt a project timeline





Proposed Time Line

Task	2010				2011				2012				2013			
Form working group																
Investigate options																
Report back on options																
Select & present preferred option																
Develop implementation strategy																
Implementation																
Operation																





Activity Plan

- Site Proposals Wave and /or Tidal
- Costs
- Funding
- Relationships





Wave and or Tidal Considerations

- Wave and/or tidal site.
- Proximity of wave and tidal site to NZMEC support facilities.
- Wave and/or tidal characteristics within useful range.
- Required depths for device types.
- Seabed characteristics suitable for device types.
- Weather factors, sea conditions etc.
- Proximity to harbour / industrial facilities.
- Within 2 hours travel by sea from loading wharf to test site.
- Proximity to grid connection.
- Consent issues or constraints.
- IWI and local support
- Other uses such as shipping, fishing, recreational, research etc.





Site Options - Wave

LOCATION	SERVICED BY	RANK
North Taranaki	Port Taranaki	1=
South Wellington	Wellington Harbour	1=
Southland	Bluff Harbour	2
West Auckland	Onehunga Wharf	3
Westport	Westport	4





Site Options - Tidal

LOCATION	SERVICED BY	RANK
Cook Strait	Wellington Harbour	1
Tory Channel	Picton	2
Foveaux Strait	Bluff Harbour	3
Kaipara Harbour	Onehunga Wharf	4
Manukau Harbour	Onehunga Wharf	5





Conclusion

All sites represent a compromise





NZMEC - Gateway Strategy

Goal: Develop a NZ Marine Energy Industry

By:

- Attracting device developers from Europe to test in NZ.
- Develop relationships between device developers and NZ manufacturers.
- Develop relationships between device developers and site developers.
- Providing a gateway to Asia for European device developers
- Foster the development of wave and tidal energy sites in the Asia / Pacific.
- Attracting device developers from Japan, China & Korea to test in NZ.
- Providing a pathway to Europe for Asian device developers.
- Providing a monetisation pathway for NZ research providers.





Gateway to Asia / Pacific



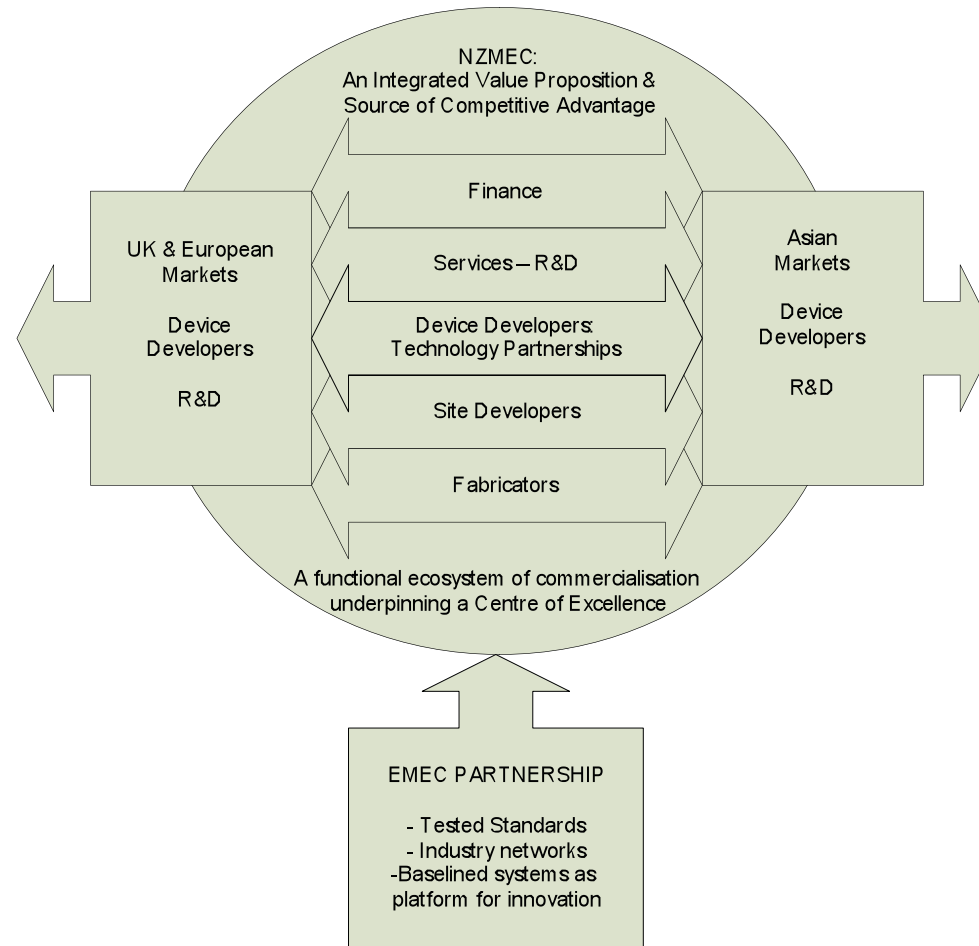


Gateway to Europe





NZMEC Value Proposition





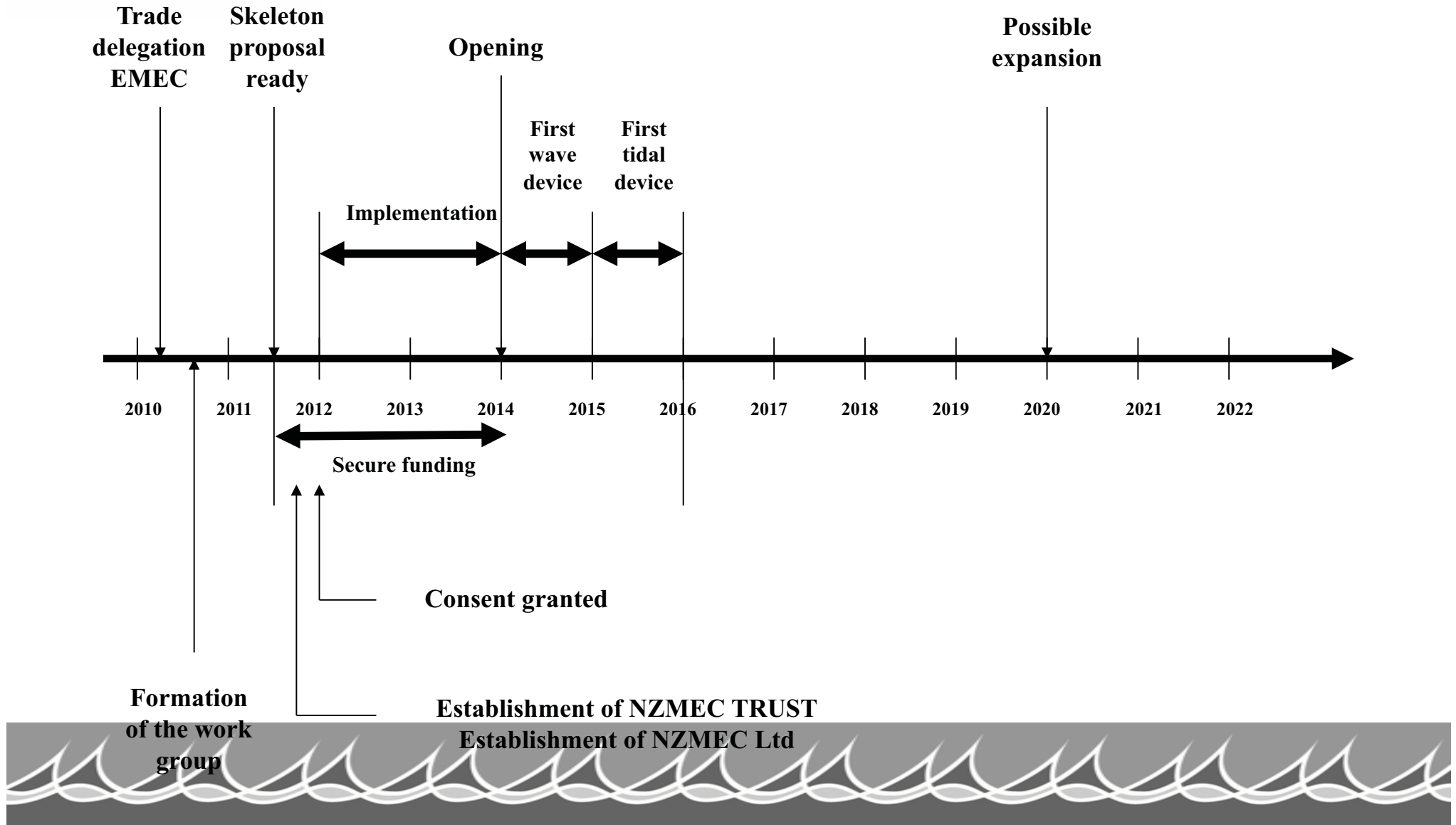
Briefings

- Minister for Energy
Hekia Parata
- Minister for Economic Development
David Carter
- Minister for Science & Innovation
Wayne Mapp





Timeline





Reminders:

- **Europe is taking Marine Energy very seriously.**

NZ Industry is taking the opportunity very seriously.

MEDF shows that Government has been supporting industry development.

Support for AWATEA's role with the IEA shows that NZ is serious about contributing to shaping the international future of marine energy.

- **UK is the global leader.**

NZ has the opportunity to work closely with UK companies and research entities.

Need to make sure we don't lock away resources or create roadblocks to development.

Need to encourage and foster international collaboration .

- **The opportunity is now.**

UK companies are interested now in getting devices in the water in NZ.

They are looking to collaborate with NZ companies now to access the Asia Pacific market.

We need to provide a supportive environment for collaboration now.

EMEC say the opportunity is now.





Strategic alliances are better made before the pie is baked rather than after it is cut up.

THANK YOU





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