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The Ocean Renewable Energy Group

Power for Tomorrow

Future Energy

Waves and Tides

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Resource

- Always there - “Why not done before?”
- 20-50 kW/metre of wave front at the beaches
 - more offshore
 - Strongest in winter - forecastable
- Likely ~150 tidal stream sites in passes and off headlands - ca 50 MW average
 - Daily slack periods, monthly and annual variations
 - all predictable and reliable

“We just took power for granted!”



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2007-Year of Change

- Clean Current tidal project operational
- Tacoma Narrows Feasibility Project
- AquaEnergy EA report submitted
- Numerous FERC applications
- Canoe Pass, Coastal Hydropower, SyncWave, Finavera projects being moved along
- BC Energy Policy
- Oregon wave focus takes hold



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2008-2013

Refinement of technical choices

- Small number of projects
- Limited number of modules
- Maybe multiple technologies tried on some sites
- Likely less than 5 MW
- Likely driven by technology developers
- Definitely cash-strapped

-Ratepayer and government partnership-



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2013-2017

Confidence building

- Larger projects - 10+ MW
 - Multiple modules
 - Narrower technology focus
 - Proof of reliability
 - Reduction of capital and O&M costs
 - Refinement of longer term cost estimates
 - Utility partnership
 - Sharing experience
 - Interconnection and integration experience
- Still a ratepayer/government partner\$hip-**



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2017-2030

Emerging power source

- Growing number of projects
- Larger projects - 20-100 MW
- Led by utilities and IPP's
- Unlike wind:
 - Several commercial wave energy technologies, and
 - Several commercial tidal stream technologies

-Competitive commercial electricity-



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Progress over 25 years?

- 5,000 MW wave and tidal in place and more to come
- Some commonality with offshore wind development in the region
- Fabrication, installation and support sector in the region
- Exports
 - Green electricity
 - Technology, services and projects



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Membership and information

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