



Draft Strategic Roadmap

Key Recommendation 4.2

Connecting the most promising resource to the grid to enable first demonstration farms:

Publicly funded pilot zones

Prepared for:

Forum Open Session Conference

23-24 February 2016, Edinburgh

OEF Session 7

Day 2 Wed 24 February 2016 1630-1730hrs

Menteith Room Level -1

Document produced by;	Ocean Energy Forum Secretariat with Simon Cheeseman (ORE Catapult) Secretariat Advisor – V1. 18 February 2016 (context and branding)
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Context;	<p>Following publication of the Forum's <i>Draft</i> Strategic Roadmap in October 2015 (where 6 key recommendations were outlined to help develop the ocean energy sector), the Forum has been tasked with producing action plans for each recommendation to help realise the aims and ambitions of the Roadmap. The actions plans will be reflected in the final Strategic Roadmap due to be published in November 2016.</p> <p>Key recommendation 4.2 Removing prohibitive grid costs and thus lowering total capital costs of projects makes them easier to finance. In Edinburgh, we will look at existing sites / examples and the challenges faced / lessons learned.</p>
About this Paper;	<p>The paper and the associated questions will be discussed at the Forum's open session conference in Edinburgh. All Forum members are welcome to participate and contribute to Session 7 discussion.</p> <p>We would particularly welcome representatives from public funding bodies, leading wave technology developers and the private investment community.</p>
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1. Context - Demonstration and pre-commercial: Getting the first farms in the water

The Ocean Energy Forum's Draft Strategic Roadmap (October 2015) outlines that the demonstration phase of technological and commercial maturation is characterised by multiple grid-connected devices-deployment in real sea conditions. Usually considered "R&D Phase 2", this is the *demonstration* phase and does not have to be commercially viable. From this stage onwards, devices are installed as pre-commercial arrays suitable to inform future large commercial farms. These arrays optimise space usage and resource extraction, and should be connected to a hub or substation feeding electricity to the shore.

2. Solutions to deliver the first demonstration farms and arrays

Technology-specific demonstration projects will be required, as learnings from a given pilot farm cannot be transferred from one ocean energy technology to another. For these early projects, risks cannot be insured and are too high for a single player, calling for public backing. Before the ocean energy sector can reach bankability and commercial viability necessary for industrial roll-out, the first ocean energy pilot farms must reach financial close. Demonstration and *pre-commercial* farms require a specific financing solution, as high levels of uncertainty and risk make them unsuitable for commercial debt or pure revenue-based finance.

In addition to the key recommendations for establishing an insurance fund and enabling a package approach to finance, the Roadmap also proposes a key recommendation for ***Publicly funded pilot zones***.

3. Approach for Forum session in Edinburgh

The session will start discussions to gain a consensus on what and how to develop an action plan that can help realise the ambitions of this key recommendation – e.g. suitable sites and costs. Forum Steering Committee Chairs will be in attendance. The session will be led by Simon Cheeseman or ORE Catapult.

We will look at different business models across different countries/ regions to help understand best practice noting that in-country policy can determine specific approaches (e.g. different in-county subsidy requirements). Following short presentations from project representatives giving feedback on challenges and experiences there will be discussion on:

- When would the zones be required?
- How large do these zones need to be?
- How do we address the limited visibility of long-term market support and hence public investment in publicly funded pilot zones?
- How do we cater for the needs of emerging 2nd generation technology – e.g. floating, mid-water tidal?