



ETIPOCEAN

European Technology & Innovation Platform for Ocean Energy

Final Annual Workshop
Monday October 29th 2018

Final ETIP Ocean Workshop 29th October 2018

10.00-10.30: Registration, Coffee

10.30-11.00: Welcome and Introduction

11.00-12.00: Round Tables

12.00-12.10: Feedback from the roundtables

12.10-13.00: Lunch, networking

13.00-14.00: Round Tables

14.00-14.10: Coffee break

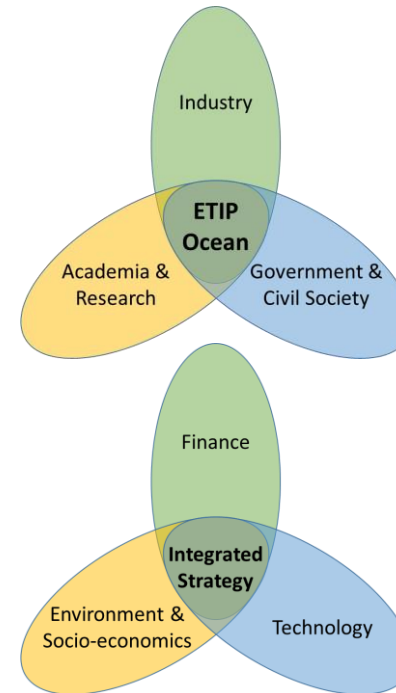
14.10-14.25: Feedback from the roundtables

14.25-15.00: Discussion about Integrated Strategy and ETIP Ocean 2

15.00-15.30: Wrap up, future steps, feedback from the Commission

The European Technology and Innovation Platform for Ocean Energy

- A hub for knowledge sharing and collaboration in the ocean energy sector
- Identify methods of overcoming barriers to sector commercialisation
- Define a common vision for the accelerated development of the sector
- Public engagement and education





Finances



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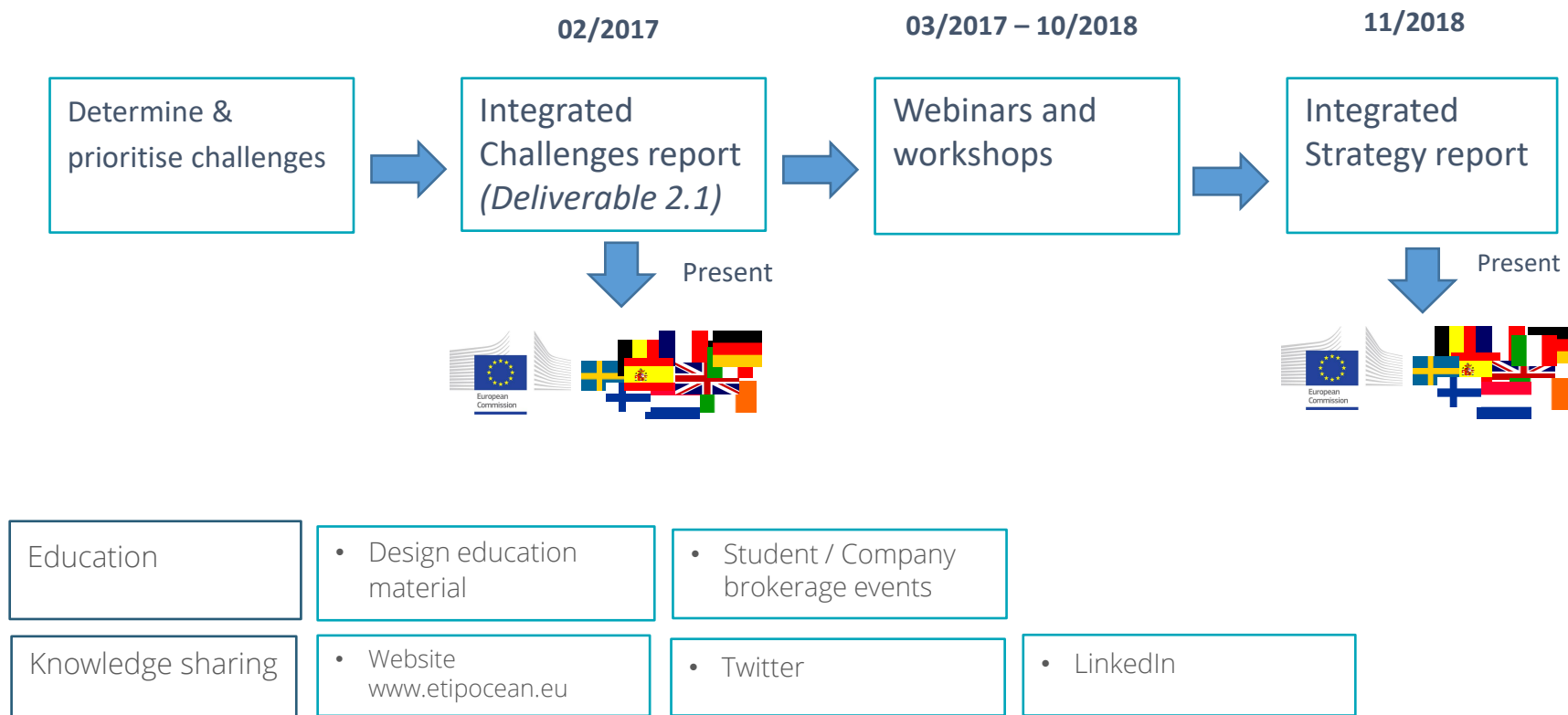


Steering Committee

- Composed of the leading companies, research organisations and other key stakeholders in the sector
- Provides guidance on ETIP Ocean strategy and prioritisation



ETIP Ocean activities



ETIP Ocean – results

- 14 Priority challenges – 14 webinars
 - Total – 688 registrations (49 per webinar)
 - Technology average - 54.16
 - Finance average – 50
 - Environment and Socio-economic average - 40.75
 - VIMEO views – 1230 (average 95) in the last 10 months
 - Max – 484, min -15
 - Technology average – 165 views

Category	Challenge
Technology	Developing novel concepts for improved power take-offs (PTOs)
	Increasing device reliability and survivability
	Investigating alternative materials and manufacturing processes for device structures
	Investigating novel devices before moving towards convergence of design
	Defining and enforcing standards for stage progression through scale testing
	Developing and implementing optimisation tools
Financial	Providing warranties and performance guaranties
	Linking stage-gate development processes to funding decisions
	Maintaining grant funding for early TRL technologies
	Establishing long term revenue support
Environment and socio-economics	Enhancing social impact and acceptance
	Minimising negative environmental impacts
	Facilitating knowledge transfer and collaboration
	Implementing adaptive management systems

Finance webinars

Warranties, guarantees and insurance

Presentations:

- Michael Bullock (Renewable Risk Advisers)
- Rémi Gruet (Ocean Energy Europe)

Webinar findings:

- A public insurance fund, will allow a small amount of risk bearing capital to leverage significantly more project finance and commercial debt.
- A public insurance fund can help projects that do not have sufficient revenue support in the form of a PPA or feed-in tariff.



Finance webinars

Funding OE Technology Development Using PCP and Stage-Gate Development Processes

Presentations:

- Tim Hurst and David Langston (Wave Energy Scotland)
- Patrik Moller (CorPower Ocean)

Webinar findings:

- PCP is a good funding model (up-to 100%) for the technologies that don't exist yet.
- The competitive nature of the PCP is a positive driver for the participating companies.
- Common metrics creates greater investor and industrial confidence.



Finance webinars

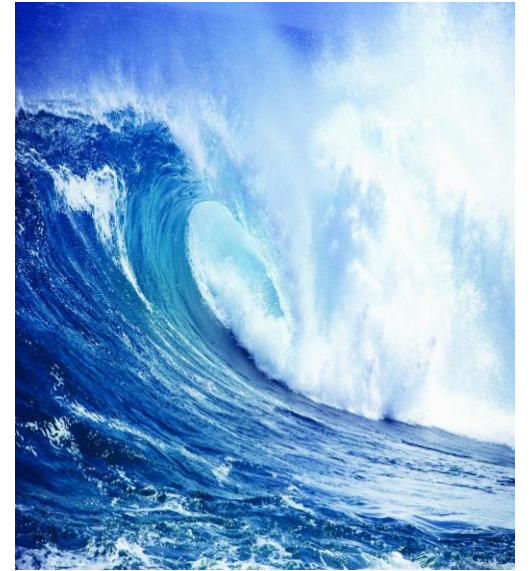
Maintaining grant funding for early TRL technologies

Presentations:

- Peter Coyle, Chairman (MRIA)
- Andrew Smith, Founder (Deja Blue Consulting)

Webinar findings:

- Grants for 'early TRLs' must be flexible and cover substantial part of cost of project.
- Support from national and EU institutions is crucial to keep sector develop.
- Forget about commercial finance for 'early TRLs'.



Finance webinars

Market pull - Revenue support for ocean energy

Presentations:

- Niamh Kenny (DP Energy),
- Shelley MacDougall (Acadia University, Nova Scotia)

Webinar findings:

- Pre-commercial and early commercial arrays require revenue certainty.
- Revenue support mechanisms are a tried and tested way to increase deployment of new technologies and drive down price.



Environment & Socio-economic webinars

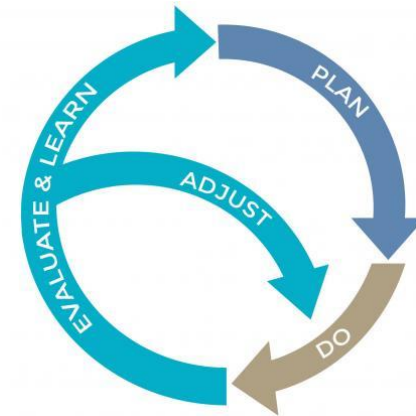
Adaptive Management Systems

Presentations:

- Finlay Bennet (Marine Scotland)
- Frank Fortune (Royal HaskoningDHV)

Webinar findings:

- Adaptive Management system should be used in the consenting processes where there is a big scientific uncertainty.
- Avoid DRIPy (data rich information poor) monitoring.
- We need to have demonstrations (project in the water) that could move forward our understanding about perceived impact.



Environment & Socio-economic webinars

Knowledge sharing and collaboration

Presentations:

- Petter Sund (AW Energy)
- Matthew Finn (EMEC)
- Laurence Crosnier (Mercator Ocean / Copernicus)



Webinar findings:

- 80-90% of challenges in industry are common. IP rights are important, but collaboration and information sharing can help OE sector to develop faster.
- Mercator Ocean is a good tool to get free and open data.

Technology webinars

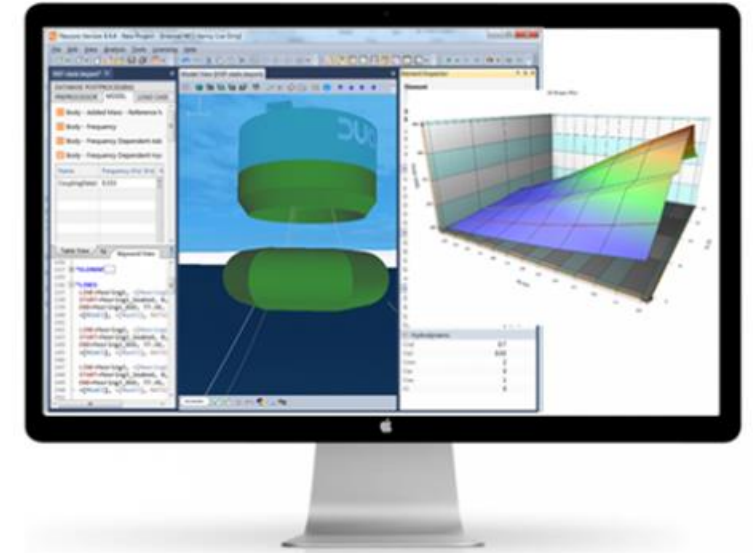
Developing and implementing optimisation tools

Presentations:

- Encarni Medina-Lopez (University of Edinburgh)
- Ray Alcorn (Exceedence)

Webinar findings:

- Optimisation tools can lead to project cost reductions in various ways, providing additional investor confidence
- Reliable and complete database with real resource data can help with optimisation results and validation



Technology webinars

Investigating novel devices before moving towards convergence of design

Presentations:

- Matt Holland (Wave Energy Scotland)
- Marco Fontana (University of Trento)

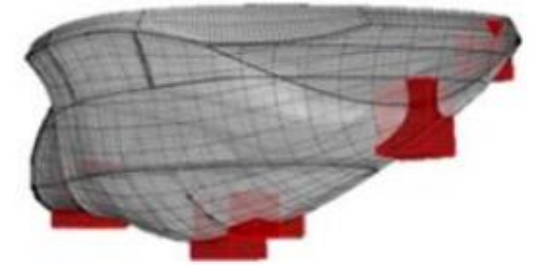
Webinar findings:

- Convergence in the wave energy sector could take several forms
- Research into new novel WEC concepts is still ongoing and very important for the sector



Technology webinars

Alternative materials and manufacturing processes



Presentations:

- Ricardo Neta (Composite Solutions)
- Aneel Gill (Balmoral Offshore Engineering)
- George (ARUP)

Webinar findings:

- Exploring alternative materials and manufacturing process is important from for the wave energy sector
- Knowledge transfer is possible from other sectors which use materials such as composites and concrete in the offshore environment



ETIP Ocean Final Workshop 29th October 2018

Morning Round Tables:

1. Technology – Materials, Novel Devices, Optimisation Tools
2. Finance – Warranties, guarantees and insurance
3. Finance – Maintaining grant funding for early TRL technologies

Afternoon Round Tables:

1. Technology – Materials, Novel Devices, Optimisation Tools
2. Env&Socio – Adaptive management systems, knowledge sharing and collaboration
3. Finance – Funding ocean energy technology development using PCP and stage gate
4. Finance – Market Pull - Revenue support for ocean energy

Question 1

What are the key barriers and challenges related to your topic that currently impede development of the ocean energy sector?

Question 2

What actions should be undertaken in order to tackle the barriers and challenges that you have previously identified?

Examples of actions include R&D projects, new or improved support mechanisms, and stakeholder engagement programmes.

Question 3

For each of the actions that you have already outlined, please identify the most suitable stakeholders to take responsibility.

Examples include European or member state governments, industrial or commercial organisations, research or academic institutions, etc.

Example Answer (from previous workshop)

Barrier to ocean energy deployment	Actions	Responsible stakeholders
Lack of tools and processes to support evaluation of metrics	<ul style="list-style-type: none">• Develop tools and processes to facilitate metric evaluations for sub-system, devices and arrays.	<ul style="list-style-type: none">• International organisations, such as OEE and EERA,• Technology/Project Developers,• Private/Public funders



Rue d'Arlon 63
B-1040 Brussels
Belgium

www.etipocean.eu

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Coordinated by



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