

Annex IV Meeting Country Analysts

January 12, 2017

1500 GMT meeting Attendees:	0000 GMT meeting Attendees:
Juan Bald (Spain)*	Daisuke Kitazawa (Japan)*
Anne Marie O'Hagan (Ireland)*	Craig Stevens (New Zealand)*
Anna Redden (Canada)*	Ou Ling (China) *
Teresa Simas (Portugal)*	Andrea Copping (US – PNNL)*
Jason Fairhurst (South Africa)	Jonathan Whiting (US – PNNL)
Jan Sundberg (Sweden)*	Mikaela Freeman (US – PNNL)
Raeanne Miller (UK – SAMS)*	
Andrea Copping (US – PNNL)*	
Jennifer Fox (UK – Aquatera)	
Paul Morgan (UK – Aquatera)	
Samantha Eaves (US DOE)	
Amy Woodbury (US – PNNL)	
Mikaela Freeman (US – PNNL)	

* Country analysts

The primary purpose of this meeting was to catch up on Phase 3, Annex IV plans and activities. The first meeting was held to engage the European, Canadian, and African representatives, while the second meeting engaged the Asian and Oceania representatives. The US representative was on both calls.

Andrea presented slides (attached) on the following topics:

- Phase 3 Annex IV work plan, including schedule
- Management Measures Workshop
- Conferences in 2017
- Webinars
- *Tethys* Stories
- Peer review of *Tethys*
- Future Annex IV analysts' meetings

Discussion of Annex IV Phase 3 Themes:

Overall the consensus was that the three themes made sense and that, collectively, addressed aspects of environmental effects of MRE that are useful for all the countries. Several Annex IV analysts said that the themes would play well into their specific national processes for MRE, particularly liked the idea of

retiring risk, and saw direct lines from these themes to working with regulators. Specific additions, clarifications, and suggestions that were added include:

- The specificity of the three themes seems to differ considerably: collision risk being primarily associated only with tidal energy; reducing risk and uncertainty being much broader; and social and economic issues being broad but having less background work done, at least through Annex IV to date.
- Several country analysts felt that collision risk was too narrow a focus, and expressed the desire to include aspects of wave development that fit here, such as entrapment and entanglement in mooring lines, as important and associated issues.
- There was broad interest in the social and economic theme, and several analysts expressed interest in being directly involved in this topic (Ireland) and/or felt they had colleagues who could contribute to the theme (Canada, New Zealand, China, Japan, Spain). The most important aspects of the social and economic theme most felt was to determine where there are deficits in research understanding, and conveying the information to regulators and stakeholders. Interest was expressed by New Zealand and seconded by the US that addressing issues related to First Nations, both in terms of protecting treaty rights and recognizing potential economic benefit to them. At the least, First Nations' issues pertain to NZ, US, and Canada.
- Discussion included the need to determine how to examine and communicate potential benefits of MRE development, beyond low carbon energy development. In particular we are all in need of proof as to whether claims for improvements in habitats, etc. have merit.
- Several nations expressed strong interest in developing an outreach program aimed at formal education, with targets ranging from elementary (primary) school children, through secondary education, university undergraduates, and graduate students. Canada, New Zealand, and Japan are already moving in this direction, with the plan to prepare the next generation for understanding, accepting, and working with MRE.

Management Measures Workshop:

Based on material sent ahead, and discussion during the meeting:

A workshop is planned for May 9th in Glasgow Scotland, before the All Energy Conference. It will be sponsored by ORJIP and likely Marine Scotland. Marine Scotland has specifically asked to have ORJIP and Aquatera look at management measures to support continued MRE development. Other organizers, included UHI, and possibly other UK-based organizations, will be involved. While the focus is largely Scottish, ORJIP includes many developers and companies that are based in other countries (including the US), and who work (or want to work) in markets in Europe and North America. The desired outcome of the process that includes the workshop will be the development of a toolbox of management measures that could be used before deployment, during construction/installation, during operation, and finally for catastrophic outcomes that might require shutdown or removal. Andrea asked the country analysts three questions:

- Is this concept useful?

- Would it benefit developers, regulators, and/or researchers, in your country?
- Will you attend and/or encourage developers, researchers, maybe regulators, from your country to attend?

Discussion focused around the usefulness of the workshop determined that it is a very good idea and very timely. All analysts who spoke up during both calls felt the workshop outcome (and the toolbox) would be useful for their countries, even though many are still struggling to get the first deployments of pre-commercial devices in the water, and may not be able to apply the results just yet. Several analysts committed to making a strong effort to attend the workshop and/or strongly encourage their colleagues to do so, including: Canada, Spain, Ireland, China, Japan, and New Zealand. Andrea will reach out to some of the other countries to get additional clarity on the question of attendance. Reasons given for the interest in the workshop topic included: the need to prepare as devices move towards larger and longer deployments; the need to have vetted measures in hand so that regulatory processes cannot levy unnecessary or ineffective measures precipitously; the need to understand potential costs of management measures and mitigation for financial planning for MRE development; the need to ensure that the result reflects the regulatory outlook and research outcomes of multiple nations; and the ability for nations with less developed MRE industries to learn from those that are further along in the process.

During the European call, there was concern expressed by a number of analysts that so many of the events and interactions in this field are centered around Scotland. Further discussion led to the awareness that the greatest concentration of activities are going on in Scotland, and that centering more activities in other countries, while very desirable, is likely to occur only as the industry (particularly wave) develops further.

Conferences

Discussion of upcoming conferences included the importance of EWTEC for the Europeans and others, as well as a call for additional conferences that might be of interest to the Annex IV team, and where at least one analyst will be present:

- Teresa Simas mentioned the potential to add a MRE session to CWW (Conference on Wind and Wildlife) in Lisbon in September 2017. Andrea will work with Teresa to explore this.
- Juan Bald mentioned Bilbao Marine Energy Week March 27-31st in Spain; he will check to see if they are still accepting abstracts.
- Craig Stevens mentioned that the EGU (European Geophysical Union) conference in Vienna in April has a session on environmental effects of marine energy and he will be there.

Analysts were asked to provide any additional conference ideas to Andrea.

Webinars

Andrea asked the analysts to provide topics and speakers for Annex IV webinars as we move forward.

***Tethys* Stories**

Andrea explained the use of *Tethys* Stories and asked each country analyst to be responsible for preparing (and/or to ask colleagues to prepare) at least one *Tethys* Story over the next two years.

Peer review of *Tethys*

Andrea reminded the analysts of the importance of the *Tethys* peer review and asked them to take the survey themselves, and to spread the survey broadly in their countries. The survey can be found at:

<https://tethys.pnnl.gov/tethys-peer-review-survey-2017>

Future Meetings

Andrea proposed that we have a standing meeting approximately every two months, on the same day each time. In lieu of a doodle poll, Andrea suggests: the second Thursday, every other month at 1600 GMT for Europe, Canada and Africa, and 0000 GMT for Asia and Oceania. Andrea suggests we start in March: March 9th, May 11th, July 13th, September 14th, November 9th. These dates are subject to change, in case of more urgent need to meet, or other scheduling.

Please let Andrea know if the day chosen (second Thursday, every other month) does not work.

Attachments:

Slides from Annex IV meeting January 12th 2017

Draft Phase 3 work plan