

October 2019 OES-Environmental Meeting of Country Analysts

Online Meeting Notes

Meeting Attendees

| October 1, 2019 (8:00-9:00am PDT) | October 8, 2019 (5:00-6:00pm PDT) |
|---|---|
| <ul style="list-style-type: none">• Andrea Copping (US, PNNL)• Jan Sundberg (Sweden)*• Nolwenn Quillien (France)*• Teresa Simas (Portugal)*• Hans Christian Sørensen (Denmark)*• Erin Trager (US, BOEM)• Mikaela Freeman (US, PNNL)• Lysel Garavelli (US, PNNL)• Amy Woodbury (US, PNNL)• Hayley Farr (US, PNNL)• Dorian Overhus (US, PNNL)• Deborah Rose (US, PNNL) | <ul style="list-style-type: none">• Andrea Copping (US, PNNL)• Mark Hemer (Australia)*• Daisuke Kitazawa (Japan)*• Takero Yoshida (Japan)• Lars Golmen (Norway)*• Mikaela Freeman (US, PNNL)• Alicia Gorton (US, PNNL)• Lysel Garavelli (US, PNNL)• Lenaig Hemery (US, PNNL)• Hayley Farr (US, PNNL) |

*Country Analysts

Agenda

- Japan Update
- State of the Science 2020 Updates
- Risk Retirement Updates
- OES-Environmental Phase 4 Updates
- OES-Environmental Activities
- Roundtable

Japan Update

Update presented by Daisuke Kitazawa and Takero Yoshida (Institute of Industrial Science, University of Tokyo)

- Marine energy is not currently included in the renewable energy mix for 2030
- There is a greater potential for offshore wind energy deployments than ocean energy, though wave energy and ocean thermal energy conversion have high potentials for near future
- Ongoing Projects:
 - The University of Tokyo's pendulum type wave energy converter will be deployed off of Hiratsuka, Kanagawa in March 2020
 - The IHI Corporation operated two ocean current turbines (100kW) for one year in 2019 and used video cameras to monitor fish around turbines
 - NaMICPA and Kyuden Mirari Energy started a tidal energy project in 2019
- The main issue in Japan is social acceptance/coordination with stakeholders. Act passed that gives permission for promoting the utilization of sea areas for marine renewable energy development.

- An environmental impact assessment is always required (based on the scale of the project), but marine energy is not currently included in the Environmental Impact Assessment Law.

State of the Science 2020 Updates

- All chapters drafted. Internal and external reviews underway.
- Review Effects of Underwater Noise, Habitat Changes, and Effects of Mooring Lines chapters by October 18.
- Additional chapters for review will be sent soon.
- Complete draft going to OES Executive Committee (ExCo) and additional reviewers in January. Release of final draft at ICOE 2020.
- Andrea: Is getting a few chapters at a time better than getting the full draft at once?
 - Jan: Good idea since you can take it piece by piece.
 - Erin: It is manageable this way since different subject matter experts can review different chapters.

Risk Retirement

- Andrea presented the revised risk retirement figure.
- Presented at EWTEC and OREC and received positive feedback from diverse group.
 - Jan: I am not quite that what you state about Sweden is correct. There hasn't been a new device out for quite some years. But I can check that out a little bit.
 - Andrea: That would be great Jan, if you could check that out. That is something when you review the Underwater Noise chapter - it was written in the US by US experts so it would be really helpful to get any input from other countries.
 - Teresa: Let me clarify the statement for Portugal regarding the need to do a new environment impact assessment. This is only true when there is the understanding from the authorities that the project is different from the previous one. But this doesn't mean that data that was collected previously cannot be used. So, there is a bit of transferability, if you want to call it, but this doesn't mean that you don't need to carry out a new environment impact assessment if the project is completely different.
 - Andrea: That is great clarification Theresa. Thank you. We will make sure we get those nuances into the SoS.
 - Nolwenn: You can add France to the Portugal line because it is the same in our country. Environmental impact assessment is required when the development project changes significantly and it is the same, as Teresa said, that the transferability can be done if we are working at the same site.
 - Andrea: Thank you Nolwenn. You make me think that we need to send out to all the countries and say, "Can you make a statement along these lines?" That would be really helpful.
- Workshop Feedback on Electromagnetic Fields (EMF)
 - Mark: Why are offshore wind regulations not appropriate for marine renewable energy EMF studies?
 - Andrea: The amount of power being carried is in the MW, and generally MRE devices are more on the kW range. If MRE ends up having to do the same assessments and mitigation as OSW, MRE sector really doesn't have the funds. It's a matter of scale.
 - Daisuke: Do we need an inventory of all the marine species present?

- Andrea: Countries should have a good sense of their own resources (but detailed inventory is very expensive). In US, project developers are asked to do the inventory. We should start with species at risk, endangered species.
- Nolwenn: characterization of background noise would be interesting to consider and address in State of the Science

OES-Environmental Phase 4

- Full proposal for Phase 4 submitted to OES ExCo and presented October 1. Executive Committee will take action on the proposal at next meeting in Spring 2020.
- Mark: Two comments from the OES ExCo presentation around working with regulators and the retiring risk workshop.
- Andrea: We already work with regulators. OES ExCo will be providing funding.
- Mark: The lead of the Blue Economy CRC's environmental program (Beth Fulton?) is very interested in looking at cumulative effects. I'd like to chat about this and maybe have you, Andrea, meet with her about this in December.
- Andrea: We are doing a workshop down there. Let's reach out to those groups. A cumulative effects expert would be wonderful.

OES-Environmental Activities

- Teresa: how many sessions will be environmental-related at ICOE
- Andrea: we would like to have as many as possible, but it will depend on the number of abstracts submitted

Roundtable

Portugal

- Teresa: We are finishing the reports, actually it doesn't have much to do with ocean energy, but we are now waiting for a floating off-shore wind platform in the north of the country. WavEc is involved with the environmental monitoring of water quality before and after the installation so we are now analyzing the data we have collected during cable installation. The report will be due at the end of next month. We are also finishing off marine mammal baseline observations before the platforms are in place. There is also some monitoring studies to prepare for the WaveRoller technology. They are now finishing the arrangements for the installation of the device which means that next Spring we will be very active with the project to carry out all of the monitoring we are now planning.

Denmark

- Hans: I really don't have a lot to say except our new government has just declared a week ago that they are cancelling half the support for onshore wind and PV and they will use that amount of money, which is an enormous amount of money, for new technologies coming after wind and solar PV. So, we hope there may be something for wave.
- Andrea: That is really good news Hans, except if you are onshore wind or PV. Do you expect that a lot of the will go towards offshore wind or do you think it will be more open?
- Hans: It will not go to wind. It is the support used when ordinary people are starting up wind and solar PV and simply because the last auction we have in November last year was giving so low prices the government decided we didn't need incentives for onshore wind and PV solar any longer or at least that much we had anticipated back in time.

France

- Nolwenn: We have received important news from the Prime Minister of France that we are officially the Institute for Energy Transition Dedicated to Marine Renewable Energy in France. Otherwise we have been quite busy with installation of panels at several sites for a project dedicated to surveying the bio-colonization of sites along the Atlantic coast and also the Mediterranean coast. On Thursday I will participate in the launching of a project we are involved in on the development of an automatic survey of marine environments for answering questions related to the interactions between floating offshore wind turbines and marine coastal systems - I can tell you more at the next Analyst meeting. On Friday there will be an announcement for the SPECIES project that Morgane has been involved in and which is dedicated to the study and interaction of marine electrical cables with benthic ecosystems. There will be some measurements of EMF around cables between France and English islands, which will be presented on Friday.

Sweden

- Jan: I think I informed you of this year that we are not facing as good times as some others, unfortunately. At the University we have far less money for students and research now than we had only four or five years ago. I still have one student on the environmental side, but she will be finished, hopefully next year, and it looks pretty tough to get someone else on board. Not the least because the test site we have on the west coast, the Lysekil project, is also lacking money and funding for the technical research going on there has been going down quite considerably. SEABASED's subsidiary company, SEABASED Industries, which had the factory in Lysekil went bankrupt in the spring, so the factory has been left. The new leadership is trying to get a factory started in Norway. Waves4Power has been testing on the west the coast of Norway and they will relaunch a unit next year. Work with Minesto and the kite will continue although I also hear rumors that they are facing problems. I was also involved in the Finnish project, the CEFOW which was quite heavily funded by the EU with a Penguin concept they were testing at EMEC in Orkney. But the EU removed the funding earlier this year, so I have no idea what is going to happen with that project.
- Andrea: When SEABASED went bankrupt did that kill of the project in Ghana?
- Jan: Not necessarily. It was the production factory company that was bankrupt. The main company is still intact. But there is only a handful of people employed these days and I know they are still looking for projects in several parts of the world including the West Indies and also Ghana is still going on, but Ghana has been a real sad story because the partner company has been really interested but they never got funded.

US – BOEM Representative

- Erin: I don't have any updates to share. You may be aware that we had an Oregon taskforce meeting a few days ago but I don't have any concrete updates to share from the meeting yet. Perhaps the next time we speak.

Australia

- Mark: My priorities are on the Blue Economy side, but it is changing quite rapidly. Scoping projects are going to be carried out and then larger projects is July 2020. It will be nice to link up environmental program in CIC with OES-Environmental. Converter on the way to be deployed off King Islands next year. The Mako tidal device tested in Tasmania died in the water, not much progress since. Wave Co. – did some baseline studies, but not sure of others. Ocean energy

summit in concert with OES-E workshop in Australia. Stephanie has been working closely with Aquatera. Will be in touch with Andrea.

Norway

- Lars: Got license to redeploy two wave energy devices, which should happen this month. Some funding granted for ocean space lab. Lot of talking about and planning for wind energy (especially floating) in Norway.

US - PNNL

- Andrea: In the US, we don't have too much going on with deployments. The ocean energy oscillating water column company built a full-size prototype and will get towed out to the test site in Hawaii. There will be a few more tests at WETS in the coming months. ORPC had a tidal device in Maine and had a river device in Alaska and they are just deploying a second one. The verdant turbines in the East River are going back in the river next year. Andrea is going to the Bay of Fundy. There were some regulatory decisions that make deployments difficult. Andrea will talk with some regulators, specifically risk retirement.

Items for your input:

1. Please review the State of the Science chapters (Effects of Underwater Noise, Habitat Changes, and Effects of Mooring Lines) by October 18.
2. If you have not already presented during an Analyst meeting, please sign up to present at one of our future meetings.
3. Please email us with any metadata updates, ideas for webinars or *Tethys* Stories or social media, and continue to fill out the Google Drive [Analyst Activities spread sheet](#).

The next Analyst meeting is tentatively scheduled for Thursday, December 12, 2019 – please let us know ASAP if this date does not work for you.