

June 2019 OES-Environmental Analyst Meeting

1500 GMT Meeting Attendees:	0000 GMT Meeting Attendees:
Andrea Copping (US - PNNL)*	Andrea Copping (US - PNNL)*
Candance Nachman (US-NOAA)	Mark Hemer (Australia)*
Samantha Eaves (US-DOE)	Lenaig Hemery (US-PNNL)
Erin Trager (US-BOEM)	Alicia Gorton (US-PNNL)
Hans Chr Soerensen (Denmark)*	
Jan Sundberg (Sweden)*	
Juan Bald (Spain)*	
Nolwenn Quillien (France)*	
Teresa Simas (Portugal)*	
Hayley Farr (US-PNNL)	
Lenaig Hemery (US-PNNL)	
Dori Overhus (US-PNNL)	
Amy Woodbury (US-PNNL)	

*Country analysts

Andrea presented slides (attached):

- Country updates from Denmark (presented by Hans Chr Soerenson) and Spain (presented by Juan Bald)
- State of the Science 2020 Update
 - MSP Survey
- Retiring Risk Update
- OES-Environmental Phase 4
- OES-Environmental Activities
- Roundtable

Update from Denmark (Presented by Hans Soerensen of Wave Dragon)

Erin – Will we have access to the slides after the meeting?

Andrea – Absolutely! We post all the slides and meeting notes on *Tethys*, on the Annex IV Members Page (<https://tethys.pnnl.gov/annex-iv-members-page>), which is only available to the Analysts. Hans, that was great and informative. It sounds like there is great hope in Denmark, even if it is largely offshore wind. It is getting us out on the offshore which is a great start.

Hans – What I am most afraid of is that all the money is allocated to offshore wind because it is such a big business but on the other hand, they are focusing on floating wind just now in order to be able to compete in other waters. Danish waters because we have shallow water, we don't need floating wind, but in the UK, Japan, US coast and Spanish coast you have deep water and there is a lot of activities trying to get to the same place did with the floating wind in Portugal and Spain. So that is going to happen in the future.

Andrea – Well it is a good start. Looking at small uses of wave the idea of aquaculture farms is interesting. The US is starting to look a lot at what are some of the smaller markets, the non-grid

electric markets for which the wave and tidal devices would be real well suited. Certainly, more suited than offshore wind.

Update from Spain (Presented by Juan Bald of AZTI-Tecnalia)

Andrea – Please get in touch with Juan or Teresa if you are interested in the WESE project. This project becomes extremely important to us in OES-Envr because of the work we are trying to do around EMF and acoustics.

Juan – There is another project of WESE that is quite similar to this which is the SEA Wave project that is led by EMEC which could be of interest to OES-Envr.

Andrea – I have been in touch with Caitlin Long about that project. We might see if we can get Caitlin to present about SEA Wave on one of these calls. These are very pertinent projects for what we all are trying to do internationally. It is great to see the EU has funded those.

State of the Science 2020 Update and MSP Survey

Please complete the Marine Spatial Planning Survey that you received via email from Anne Marie O’Hagan (Irish Analyst).

Mark – MSP survey questions are clear. The challenge with the survey is getting a response from regulators.

Andrea – We have the same problem.

Retiring Risk

Mark – Noise in Australia is well below the threshold, but concern is around the longevity. Is there any consideration of that?

Andrea – That’s right. Thresholds set up for pile driving, but they seem low. Problem is it is difficult to find an analog, maybe shipping, but this is problem we have to keep working on. We have a dataset for fish where we played a sound of a turbine for fish and can look at brain waves, hearing capabilities, and look at threshold shifts and physical damage. No permanent damage seen from this.

Mark – Analog could be a port entrance or something like that. I’m sure there are good measurements for that continuous noise. For EMF – is the main concern the draping component? How much engagement have you had?

Andrea – A lot. No one has been asked to monitor or measure that. Draped cables have been postulated, but there have been some models. Tribes were concerned with draped cables and salmon. I like the idea of a port entrance.

OES-Environmental Phase 4

Mark – There is a real opportunity in Australia with the cumulative component as folks here are interested.

Andrea – We have written some white papers on the wind side on cumulative effects. Let’s add that to the list.

Teresa – I agree with all of the ideas that you have proposed on this list. I am especially interested in developing the one related to regulators and involve them in all the work we are developing because I feel there is not much knowledge among the people that are making the decisions regarding the projects. I really support that idea. I am more than happy to help trying to see how we can work with them. It is very difficult and time consuming to work with regulators. We also need some budget for that because we need to schedule meetings, etc. It is not easy but there are some funding schemes we may possibly use, and it is a matter of starting to work in that direction.

Andrea – That is very insightful. We will take note of that and I like the idea. I know out of Europe we are starting to see more of these calls for proposals that are looking to put these kinds of things together – I am seeing it on the data side anyways – so I think there is a realization that this just doesn't happen. You actually have to make it happen.

Jan – I think connections with other programs is excellent because many times people from different parts of the world and even in the same country are doing the same thing. A lot can be gained by having some more cooperation. Another thing for Phase 4, by then there will probably be quite a few projects up and running loaded in the UK and also in the US and Canada. It may be appropriate to put up accumulated effects as a topic to start digging into.

Andrea – Thank you for mentioning accumulated effects. We had a call with Asia and Australia yesterday and that was brought up too. The accumulated effects issue is really difficult, as we all know. I think we all write environmental impact assessments and other sorts of things that have sections on it, and nobody has a clue on how to do this.

Jan – The whole wind industry is struggling with this and one thing could be is to look into that and what can we get from that sector.

Andrea – Thank you very much. We will definitely add that. Whenever you have a thought about this, please send me an email. This is where we really want to pull together thoughts and nothing is out of bounds. We will compile those and get them out and see where people's thoughts are because we have to start writing this towards the end of the summer.

Sam – Just one note on the timing. The next executive committee meeting is scheduled for October 2 and 3 in Dublin so you should probably aim to get them a draft of the proposal ideally one month in advance.

Andrea – Thank you Sam that is very helpful. I think the rule for OES is that it must go to the executive committee 2 weeks ahead of time, but you are right, a month is just about right. When we are sending notes out, we will be asking specifically for any thoughts by mid-July and we will turn something around in August so you will have a little bit of time. These proposals are not necessarily long so it shouldn't be too difficult to get through.

OES-Environmental Activities

Mark – We have a large tidal project going on related to understanding fish populations. Another includes putting video on turbines, fish counts.

Andrea – I'll have our metadata person contact you for more info on that.

Mark – The Tasmanian site is more of a testing site, not commercial.

Roundtable

Australia

Mark – AWTEC will be in Tasmania November 8-12, 2020. Regulator survey is still on the agenda here. For a Tethys Story, I've put the OES-Envr team (Dori) in touch with Tom Dennis. Decommissioning project and may have an update after next week. Will update you on that. Australia doesn't have much interest in OTEC; they conducted a survey 10 years ago and found that only about a 50km stretch of the coastline is suitable. The Mako tidal device tested in Tasmania died in the water and there has not been much progress since. Thinking about how late can stay up to catch the future North America, Europe, Africa calls for more interaction.

France

Nolwenn – Not directly linked to marine renewable but more about ocean renewables. I have good news from France. There is an offshore wind park authorized/accepted by the French state 10 days ago. This is the first one that will be built in France, so this is a big step for us. In regard to Annex IV, we have sent out a survey to our regulators in France. We hope to get responses soon. We have set the deadline of mid-July. Also I have a quick question - where can I find the whale entanglement video?

Andrea – It is on *Tethys*: “Humpback Whales and Floating Offshore Wind Farm Animation” (<https://tethys.pnnl.gov/publications/humpback-whales-and-floating-offshore-wind-farm-animation>) . It is downloadable and there is a short report that explains where we got the data. Please feel free to use it. Not to toot our own horn, but I had a very talented Post Doc Research Associate, Molly Gear, that worked with me to create an animated video of a humpback whales traversing an offshore wind farm. It was created for BOEM Pacific because they were having trouble with stakeholders fearing that whales would become entangled in mooring lines and this, of course, has real implications for wave and floating tidal as well. We happened to do it for floating wind, but we have used it and BOEM has used it a fair number of places and it seems fairly effective. People can visualize scale and so on. Please feel free to download and use it wherever you want to.

US – BOEM Representative

Erin – We are having very early conversations with the State of Oregon to look at when we might be able to schedule the next intergovernmental task force meeting. Looking ahead for the next few months we could be arranging a meeting. Oregon, as you may know, has the most interest and potential, at the moment, for marine hydrokinetic energy. Just something to keep an eye on and we will keep you updated.

Andrea – That's great! For those of you in Europe, the central pacific state of Oregon in the US has fantastic wave resources and they were one of the early participants in the US in developing marine renewables. It looked like it was going to go ahead – they did a lot of planning in state waters (within 3 miles and also outside). Things looked really good with a couple of small deployments and then it fizzled. The US Department of Energy and Oregon State University are developing a full-sized open ocean testing site there. We are starting to hear that developers have an interest in going back and looking again. That is good news Erin! BOEM is the federal agency that has jurisdiction from 3 miles out into open water and there are good wind resources and there are really good wave resources.

Items for your input:

1. Please email any ideas, thoughts, etc. you have for another phase of OES-Environmental (Phase 4) by July 19th. We will be submitting our proposal for Phase 4 in the fall.
2. Let us know if you will be attending EWTEC (September 2019; Naples, Italy) and include your travel plans as we would like to put together a face-to-face meeting with as many Analysts as possible. Also please RSVP to the OES-Environmental/ORJIP workshop invite.

The next Analyst meeting is tentatively scheduled for September 24, 2019 – please let us know ASAP if this date does not work for you.