WREN – Working Together to Resolve Environmental Effects of Wind Energy
Minutes from June 4, 2015 Conference Call

Call Attendees:

<table>
<thead>
<tr>
<th>Name</th>
<th>Country</th>
<th>Organization</th>
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<tbody>
<tr>
<td>Lea Bulling</td>
<td>Germany</td>
<td>TU-Berlin</td>
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<tr>
<td>Roel May</td>
<td>Norway</td>
<td>Norwegian Institute for Nature Research (NINA)</td>
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<td>Hans Buser</td>
<td>Switzerland</td>
<td>Nateco</td>
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<td>Jocelyn Brown-Saracino</td>
<td>United States</td>
<td>US Department of Energy (DOE)</td>
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<td>Luke Feinberg</td>
<td>United States</td>
<td>National Renewable Energy Laboratory (NREL)</td>
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<td>Karin Sinclair</td>
<td>United States</td>
<td>Pacific Northwest National Laboratory (PNNL)</td>
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Agenda:
1. Update on country membership
2. Review of outstanding action items/items left over from Berlin meeting
3. Update on key activities
   a. WREN Hub (see section 2 for details)
   b. White paper - adaptive management (see section 2 for details)
   c. White paper – individual impacts to population effects
   d. Webinar series
4. Feedback from IEA Wind Executive Committee Meeting
   a. In-kind contributions, by country
   b. ExCo role in peer reviewing white paper(s) (see section 2 for details)
5. Planning October meeting in Switzerland (see section 2 for details)
6. Standing meeting schedule; back up representatives for each country

In the context of reviewing the outstanding action items (below) many of the current agenda items were covered. These new discussions are noted, where appropriate, under section 2.

1. Country membership
Official commitment letters have been received from Spain and the Netherlands. Sweden has expressed intent to officially join. France submitted a letter to the ExCo expressing interest in joining several Tasks, including Task 34. Portugal has been contributing to several WREN activities but has not officially joined. During the recent Executive Committee meeting, Karin had conversations with several other country representatives who expressed interest in WREN. Ireland’s representative has left BirdWatch Ireland. The ExCo representative is seeking a replacement.

2. Review of action items from March 13, 2015 meeting in Berlin
WREN Hub actions:
1. WREN members are asked to review all organizations for their nations on the “Organizations” page under the Tethys “Connections” tab, for accuracy and completeness. STATUS: Not all countries have provided feedback to Andrea. ACTION: Andrea will send country-specific lists
to those who have not responded yet. **Update:** This has been completed and some countries have responded.

2. Andrea will review and make recommendations for what WREN material should be password protected and which should be openly available, and to ensure that the collaboration preparation of the white papers is secure. **STATUS:** Andrea proposed calendar and contact information be made publicly available. Development of white papers, notes/minutes will be password protected. However, we will indicate the dates that meetings have occurred. Notes will be available upon request. The goal will be to minimize materials on the members-only page. The majority of materials will be posted to the publicly accessible part of WREN Hub.

3. Andrea will develop a draft metadata forms for wind farms (land-based and offshore) to collect information on environmental effects monitoring and research that is underway and not yet published. The form will be circulated for WREN members’ comment. **ACTION:** A draft form will be distributed within the next few weeks. **Update:** Completed and a couple of countries have commented.

4. Andrea will draft information for a press release on WREN Hub for circulation. **STATUS:** We are waiting to be clear on what will be included before completing this task. **ACTION:** A draft document describing the Hub will be developed and distributed to countries within the month. **Update:** Completed.

5. It was clarified that we are most interested in English documents or at a minimum documents with the abstract in English. **ACTION:** All should submit documents to PNNL for inclusion in WREN Hub.

**White paper actions:**

1. WREN members committed to providing the writing team with information regarding adaptive management policy in their countries and examples of adaptive management of wind farms from their countries, where applicable. The group committed to filling out a modified version of the law/regulatory table revised to specifically apply to adaptive management. Jocelyn will send out an example of the form used to collect information from US respondents. **STATUS:** The modified table was sent to WREN members April 1. Information has been received from all but 3 countries. **ACTION:** Luke will follow up with these countries.

2. Review integration paper and send comments to Joop by April 30. **ACTION:** Karin to check with Joop to see if he received comments as requested.

3. Jocelyn will develop revised timeline for AM paper. **STATUS:** Complete; effort will take a little more time to include legal framework, regulatory structure, case studies, challenges to applying AM, and lessons learned however final publication date is still expected to be March 2016. **ACTION:** Karin to resend revised timeline for AM paper. **ACTION:** Jocelyn will distribute the draft on June 23 to Johann, Roel, PNNL, DOE, and NREL for review. **ACTION:** Reviewers will provide comments back to Jocelyn by July 23.

4. Karin will check on the process for publishing through IEA. **STATUS:** Executive Committee would appreciate the opportunity to review the document in parallel with our peer review schedule. **ACTION:** WREN members to check if their IEA Wind representative is interested in reviewing in a draft document. **ACTION:** Roel will provide draft AM document to David Edward Weir (Norway) who requested a draft version when it is available.

5. Finlay, Liz, Hans and Roel will start working on the Individual & Population Impact white paper. Finlay, Liz and Roel will have a call in May to discuss this further. Liz will visit Norway later this year to work on this paper more intensively. **STATUS:** in progress
6. Determine who the target audience is for each primary WREN activity (white papers, HUB, webinars) – feedback to OA by April 15. **STATUS:** no feedback received. **UPDATE:** During this conference call we discussed developing a table to identify target audience for each activity. **ACTION:** PNNL will develop a draft table of the target audiences for each WREN activity to assist with focusing the activity and potential outreach efforts. WREN members will review and provide feedback on table.

**Webinar actions:**
1. Provide Karin with suggested speakers for each of the upcoming webinars. **STATUS:** no additional suggestions received.

**WREN Meeting, Fall 2015:**
1. WREN members provide Karin with their preferred option by April 30. **STATUS:** several respondents preferred Jura. **UPDATE:** The consensus on the call was to schedule the tour to Jura. Hans will explore the opportunity to also go to the site in the Alps (as an optional second tour).

**Future WREN meetings:**
1. Let Karin know if you are able to host the meeting in 2016. **STATUS:** no feedback received.

**Deferred items:**
Discussion of a proposal extension for IEA Wind Task 34, development of a newsletter, use of Facebook, and development of a press release on WREN HUB was deferred to future WREN conference calls and meetings. **UPDATE:** During our call we deferred discussion of a task extension to the Bern meeting.

3. **Update on key activities**
Individual impacts to population effects white paper is in progress. Roel, Liz, Hans and a trainee are researching the easy to find resources then will focus efforts in the fall. Only a few activities have been completed over the last few years, so information is limited. The focus is on the theoretical background and what is currently known. Hans’ trainee and Liz will travel to Trondheim to work with Roel on this effort. Finlay is also working on this paper. This initial effort will be a good starting point for further discussions during the October meeting in Bern.

Elise is working on the next webinar, however Shane McGuinness has left BirdWatch Ireland and we are not clear whether there will be a replacement available to provide a presentation on the sensitivity mapping tool. Normandeau completed a sensitivity mapping effort for offshore applications and is able to provide a speaker (Julia Willmott) however we will likely need to move the webinar to August due to schedule availability. Roel has also been working on a tool for siting wind power plants, looking at ecological and societal considerations. Other topics include offshore mitigation (such as bubble curtains) in September/October and recognition sensors in December. We understand there are several holidays in early August and will try to avoid those dates for the next webinar.

4. **Feedback from IEA Wind Executive Committee Meeting**
As part of the Operating Agent reporting requirements to the IEA Wind Executive Committee, in-kind contributions, by country, are included in the annual report. Karin circulated that table and described what is being requested, namely an estimate of the labor commitment within the country for the WREN-specific activities, beginning when the country joined the task, as well as labor for related projects. The total should reflect the overall labor contribution for the country. **ACTION:** Each country should complete the table and return it to Karin.
5. Standing meeting schedule; back up representatives for each country
Due to the difficulty in scheduling WREN conference calls, Karin suggested a standing day of the month and time. In addition, Karin suggested that, where possible, a back-up be designated for each country so that we can hold more regular meetings and keep on track with our various activities. Those on the call agreed with this suggestion. ACTION: Each member should send Karin preference for a day of the month/time that works best and provide a back-up name and contact information.

Summary of action items:
1. PNNL will send country-specific lists to those who have not responded yet.
2. PNNL will develop a draft document describing the Hub and distribute to countries within the month.
3. PNNL will develop a draft metadata form to collect information on environmental effects monitoring and research at wind farms (land-based and offshore)
4. All should submit documents (English or English abstract) to PNNL for inclusion in WREN Hub.
5. PNNL will follow up with countries that have not completed the modified version of the law/regulatory table revised to specifically apply to adaptive management.
6. NREL will check with Joop to see if he received comments on integration paper as requested.
7. OA will resend revised timeline for AM paper.
8. DOE will distribute the draft on June 23 to Johann, Roel, PNNL, DOE, and NREL for review.
9. AM paper reviewers will provide comments back to Jocelyn by July 23.
10. WREN members to check if their IEA Wind representative is interested in reviewing in a draft AM document.
11. Roel will provide draft AM document to David Edward Weir (Norway) who requested a draft version when it is available.
12. PNNL will develop a draft table of the target audiences for each WREN activity to assist with focusing the activity and potential outreach efforts. WREN members will review and provide feedback on table.
13. PNNL will develop a draft table of target audiences for WREN activities for members to comment on.
14. Each country should complete the in-kind contribution table and return it to Karin.
15. Each member should send Karin preference for a day of the month/time that works best and provide a back-up name and contact information.