WREN Meeting Minutes
May 23 - 25, 2018

Overview
The WREN (IEA Wind Task 34) meeting was held May 23rd and 24th in The Hague, Netherlands. The purpose of the meeting was to review and update WREN workplan activities, to spend focused time on writing the white papers, and to do the initial planning for next in-person meeting. The meeting included representatives from nine of the eleven WREN member countries. Canada and France were not able to send representatives to this meeting. A participant list can be found in Table 1. The meeting agenda is found in Attachment 1.

Table 1. Meeting attendees

<table>
<thead>
<tr>
<th>Country</th>
<th>Representative(s)</th>
<th>Affiliation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ireland</td>
<td>Oonagh Duggan</td>
<td>BirdWatch Ireland</td>
</tr>
<tr>
<td>Netherlands</td>
<td>Marijke Warnas</td>
<td>Rijkswaterstaat – Branch Water, Traffic and Environment (WVL), Department of Water Quality and Nature Management (VWKN)</td>
</tr>
<tr>
<td>Norway</td>
<td>Roel May</td>
<td>Norwegian Institute for Nature Research</td>
</tr>
<tr>
<td>Portugal</td>
<td>Miguel Repas Goncalves</td>
<td>STRIX</td>
</tr>
<tr>
<td>Spain</td>
<td>Manuela de Lucas</td>
<td>Spanish Council for Scientific Research</td>
</tr>
<tr>
<td>Sweden</td>
<td>Åsa Elmqvist</td>
<td>Vindval</td>
</tr>
<tr>
<td>Switzerland</td>
<td>Muriel Perron</td>
<td>nateco AG</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>Finlay Bennet</td>
<td>Marine Scotland Science</td>
</tr>
<tr>
<td>United States</td>
<td>Andrea Copping</td>
<td>Pacific Northwest National Laboratory</td>
</tr>
<tr>
<td></td>
<td>Jocelyn Brown-Saracino</td>
<td>U.S. Department of Energy (by phone)</td>
</tr>
</tbody>
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May 23rd 2018
9:00-12:30

Working Sessions on White Papers:
Cumulative Effects Assessment, Green v Green, Risk Based Management, Individuals to Populations.

Because several WREN members were not able to join the meeting until mid or late morning, the discussion of the white papers was carried out by the whole group. The direction and purpose of each paper was revisited, and the inter-relationships among the papers explored. The group revisited the purposes of the white papers, and reread notes from the original WREN meeting (Trondheim, December 2013) when the white papers were determined. From that discussion,
greater clarity on each paper was gleaned, and the work that has been done to date on each was clarified.

**Green versus Green:** The scoping on GvG was redirected to a somewhat higher level, with the overall concept that what is really needed is to provide guidance to decision-makers about what the issues are and how they ought to be approached. There are many different implications for what GvG means in different countries. From there, the paper will develop the ways in which GvG is being measured with a brief look at the tools available and they likely effectiveness. It was agreed that communicating the ideas of GvG is important, including to the IEA Wind committee. They plan to narrow the expectations and simplify the paper, basing it (perhaps) around the themes of ethical, spatial/temporal. And theoretical discussion of GvG issues. They will include a brief perspective of how wind fits into this discussion, in relation to other energy sources. They will include the statutory dimension which, from the European directives, provides conflicting goals. They will continue to wrestle with the title of the paper

According to the workplan, the GvG paper is due to be delivered in draft in September 2018, with the final in March 2020. Åsa believes these deadlines are reachable.

**Cumulative Effects Analysis:** This paper will look at CEA for both LBW and OSW together. There is a European group working on something very similar through an assessment CEA in SEAs; their document will be ready in 2019, with a draft soon with a European case study. This will likely help inform the WREN white paper. Because all of the North Sea will see substantial OSW, this is the likely case study. Questions were explored including; how do we define cumulative effects (just wind or all anthropogenic activities)? Over what spatial and temporal scale should CEA be done? What methods should be used to address CEA? Is there legislation to guide methods? What parts of CEA are particularly troublesome, and how should they be dealt with? What about taking transboundary effects into account?

In the North Sea regulators are doing their own CEA rather than have the wind developers do them. This ought to be part of SEAs for countries to look at higher level. Even if CEAs are largely qualitative, they need to include certain elements – could the paper help delineate these? USGS recently wrote a report on cumulative impacts of wind – was it published?

According to the WREN workplan, the CEA paper is due in draft in October 2018, and the final in July 2019. Marijke thinks these dates are reachable.

**Risk-Based Management:** This paper has elements that underpin all the other papers: there is a need to assess risk in order to determine cumulative impacts; it is tied up with adaptive management; and sets the stage for the GvG argument. This paper is looking at decision-making under uncertainty. The direction of the paper could be modified to also focus on the sources of risk that define the challenges of managing based on risk, with emphasis on what the largest source of risk is for evaluating and managing effects of wind farms. It was agreed that the quality of the data collected to assess risk in itself constitutes the greatest source of potential error, and therefore risk for management. It was further agreed that what we really mean is information (versus data) and that the data needed to create the information is held by many different sources (another source of risk), and used to make different types of decisions (for example the funders, banks, and lending institutions are highly driven by ecological risk in their decision making. Once, the availability of land
drove wind development; now (especially in developing countries) it is concern over ecological risk that drives reputational for the institutions providing funding.

The tools available to assess and reduce risk for management purposes include: procedural approaches (SEAs, EIAs, EISs, etc.); good baseline/pre-operational data; sensitivity mapping for species at risk (more LBW than OSW); expert panels; etc., all leading to informed decision-making that will help identify and mitigate ecological risk, that will help reduce other risks (financial, reputational).

According to the WREN workplan, the RBM paper is due in draft in December 2018 and in final in August 2019. Andrea believes that, due to internal DOE deadlines, the paper will be finished well before those dates.

Individuals to Populations: The paper has been reviewed and the authors have addressed comments. It is expected the paper will be accepted to Environmental Management.

1:30 – 5:30

(special thanks to Oonagh for taking detailed and accurate notes in this session!)

**Review of Action items:**

Andrea reviewed agenda items and the people responsible for tasks assigned to them. All actions identified at the September meeting in Portugal have been accomplished actions, with the exception of some associated with SSSs; discussion of these actions was deferred to the later discussion on SSSs.

**WREN Hub update on progress**

Andrea presentation updates on WREN hub. Discussion arose around the need to comply with the European General Data Protection Regulation (GDPR).

**ACTION 1:** Andrea will seek advice on the GDPR regulations and see if there are compliance issues for Tethys blasts following on from OD mention of these new European data protection rules which apply to the maintenance of email contact lists.

Andrea gave a presentation on the Tethys peer review, as it pertains to the wind side of Tethys, and presented metrics representing the use of Tethys.

Andrea proposed to the group, based on the recommendation of the US, to drop the terminology “WREN Hub” and in favour of just referring to Tethys.

**ACTION 2:** Following discussion, the decision was made to drop the name WREN Hub and to use the name Tethys from now on.

**Outreach and Engagement: Webinars**

Andrea presented a synopsis of past WREN webinars, prepared by Elise DeGeorge, and opened discussion on new webinar titles. There was a suggestion that WREN webinars could focus on quite
specific topics or notable programs. Suggestions were made for possible future webinars, to be followed up by specific WREN members:

**ACTION 3**: Marijke will research the BEAGINs project for potential as webinar topic.

**ACTION 4**: Roel will present a webinar on INTACT mitigation project.

**ACTION 5**: Jocelyn will explore the potential to partner with American Wind (AWWI) and new reports due out on DT Bird and Identiflight technologies for a webinar, and explore whether they can speak to the same experiments on other countries. Roel suggested perhaps that this could include material from Switzerland and Norway projects using similar technologies.

**ACTION 6**: Miquel will do a webinar on wind energy in developing countries.

**ACTION 7**: Manuela will explore the potential for a webinar on Griffon Vulture in Southern Spain (which could possibly be paired with one on Condor in California).

**ACTION 8**: Roel will explore a possibility to find colleagues interested in presenting a webinar on impacts of wind energy on semi-domesticated reindeer. (possibly paired with one on wolves)

**ACTION 9**: Miquel will check with the wolf SSS authors on possibility of a webinar on wind energy impacts and wolves.

Muriel suggested that there could be webinars on each of the Short Science Summaries.

**ACTION 10**: Oonagh will explore doing a webinar on SEA process in EU but this will depend on her time and funding.

**ACTION 11**: Finlay will explore with experts the possibility of a webinar on the ORJIP project measuring spatial response of birds to an offshore wind farm (avoidance behaviour at different spatial scales, collision risk).

**ACTION 12**: Miquel will also see if there is the potential to include a speaker on a land-based project from Portugal.

**Outreach and Engagement: Short Science Summaries (SSSs).**

Andrea presented the already agreed upon list of SSSs and the group discussed each topic. The status, progress, and responsibilities are summarized in Table 2.

Table 2. Status and Responsibilities for Short Science Summaries

<table>
<thead>
<tr>
<th>SSS Topic</th>
<th>Responsible WREN Member</th>
<th>Planned Date for Draft</th>
<th>Planned Publication Date</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Individuals to populations</td>
<td>Roel</td>
<td>Once paper is published.</td>
<td></td>
<td>Paper close to publication. SSS could be moved forward soon.</td>
</tr>
<tr>
<td>Eagles</td>
<td>Roel</td>
<td></td>
<td></td>
<td>Roel will check with author on schedule. No progress to date.</td>
</tr>
<tr>
<td>European grouse</td>
<td>Muriel</td>
<td>End of 2017</td>
<td>February 2018</td>
<td>Muriel has not been able to get the researcher going on this; suggest an SSS on Capercaillie instead.</td>
</tr>
<tr>
<td>Seabirds</td>
<td>Roel’s colleague</td>
<td>End of 2017</td>
<td>January 2018</td>
<td>Non starter for Roel. Need new lead. Could try Liz Masden...??? Ireland might be able to do with SEAI funding...UK is possibility too. (Finlay)</td>
</tr>
<tr>
<td>Barotrauma in bats</td>
<td>Karin</td>
<td>Once paper is published.</td>
<td></td>
<td>Likely second half of 2018.</td>
</tr>
<tr>
<td>Topic</td>
<td>Contact</td>
<td>Start Date</td>
<td>End Date</td>
<td>Status</td>
</tr>
<tr>
<td>--------------------------------------------</td>
<td>---------------------</td>
<td>------------</td>
<td>----------</td>
<td>-------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Wolves</td>
<td>Miguel Repas</td>
<td>Nov 2017</td>
<td>Jan 2018</td>
<td>Peer reviewed draft submitted May 22nd</td>
</tr>
<tr>
<td>Migratory soaring birds</td>
<td>Miguel Repas</td>
<td>Nov 2017</td>
<td>Jan 2018</td>
<td>Peer reviewed draft submitted May 22nd</td>
</tr>
<tr>
<td>Compensation</td>
<td></td>
<td></td>
<td></td>
<td>Need a lead.</td>
</tr>
<tr>
<td>Bats – European and American</td>
<td>Miguel (Cris Hein et al.)</td>
<td></td>
<td></td>
<td>Peer reviewed draft submitted May 22nd</td>
</tr>
<tr>
<td>Wild reindeer</td>
<td>WEST, Roel</td>
<td></td>
<td></td>
<td>Roel – no progress on reindeer.</td>
</tr>
<tr>
<td>BACI</td>
<td>Andrea, Finlay, Roel</td>
<td></td>
<td></td>
<td>Discussed, and felt that the topic is not focused enough or ready for an SSS. Suggest revisiting in a year.</td>
</tr>
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**ACTION 13**: Muriel will do an SSS on Capercaillie by September/October. Manuela and Åsa will provide input, based on recent research in Spain and Sweden.

**ACTION 14**: Oonagh will look into the Seabird SSS as a potential topic, if she can get potential funding. She will also check CWW presentations on Kittiwake and Black Guillemot impacts from offshore wind.

**ACTION 15**: Finlay will also look into progressing on a seabird SSS.

**ACTION 16**: BACI SSS will be revisited in the future.

There was discussion of the potential for more systematic process-level SSS’s in the future. We are not constrained to species-focused SSS’s. Also discussion around searching past webinars to be able to develop SSS topics. An example could be Collision Risk Modelling, with Manuela or Aonghais Cook as speakers), Sensitivity Mapping (possibly Ireland).

**Outreach and Engagement: Fact Sheets and Tethys Stories**

Andrea gave an overview of the fact sheets and Tethys Stories. We have had three wind Tethys Stories in a row. More are always welcome but there is not great pressure at the moment.

**ACTION 17**: Åsa has a Tethys Story on large scale planning to send Andrea.

**Outreach and Engagement: Ambassador Activities**

Andrea requested that all members review the information on this spreadsheet and update where appropriate.

**ACTION 18**: Each member should update Ambassador Activities on a regular (quarterly) basis, and familiarise her/his self with materials that are available for ambassador activities, that can be downloaded from the Google Drive.

**ACTION 19**: Andrea will add a section to the Ambassador Activities on the Google Drive to list conferences that WREN members anticipate they will attend over the next year.

**ACTION 20**: Members will submit details of conferences that they anticipate they will attend over the next year to maximise the WREN outreach capacity (e.g. American Conference in St. Paul’s, MN, CoP of the Convention of Biological Diversity in Egypt-MR is attending), as part of the WREN Ambassador Activities updates.
Action 21: Andrea will explore with IEA Wind if any opportunities are available whereby they could include on their website info or links to our material such as SSS’s or other interesting bits of news.

Outreach and Engagement: Expert Forums

Andrea gave an overview of Expert Forums from the marine side.

Action 22: The US will organize the first Expert Forum, on some aspect of bats and wind energy.

Action 23: All WREN members should consider and suggest topics for Expert Forums.
May 24th 2018
9:00 – 12:00

Country Contacts
The group examined the list of country contacts, making suggested additions and changes.

**ACTION 24:** Andrea will update contact list.

Next WREN Meeting
Manuela described the plans for the next WREN meeting in Spain October 17th and 18th with an option of a meeting on the 19th as well. The plan is for everyone to fly in to either Malaga or Seville and the group will arrange transportation to the institute in Tarifa. October 17th will be an excursion to a wind farm, then meet at the institute on the 18th. The group discussed the likelihood that we will need at least a half day WREN meeting also on the 19th.

**ACTION 25:** Manuela will send out information on travel and other arrangements, and will check to see if the institute’s staff will do presentations as part of the meeting.

Other future meetings:
There was discussion of whether to combine the meeting in Scotland; more discussion will be needed at the next meeting.

Offshore Wind Farm Excursions
Marijke briefed the WREN members on the offshore wind farm visit for the next day. The excursion will leave from the harbour (tram 16 from the center of the city) at 10 am, to return at 3 or 4. Information was needed from everyone participating.

Roundtable
All WREN members shared advances in wind energy development and research on wildlife interactions in their respective countries.

**Switzerland** – Muriel: Slow progress in wind energy, with 3 new turbines this year, for a total of 37 in the country. The political mood is better for wind than it has been with a new energy strategy, but it will take a bit of time to get projects into construction. The hurdles for consenting are high. Many wind projects in the Jura Mountains are tied up in legal proceedings, really based on NIMBY issues, but articulated as wildlife issues.

**Spain** – Manuela: The wind development situation in Spain is not very good, with renewable energy not gaining much support from the current government. There is interest in working through some of the environmental issues, but the wind companies are quiet right now.
Ireland – Oonagh: While wind energy deployment is growing in Ireland, Ireland will miss its European Union 2020 renewable energy targets. The government’s renewable energy plans are moving very slowly but the environmental NGOs are calling out for the need for more climate change mitigation measures to be put in place and minimising the impact on wildlife. Interest in offshore wind is growing especially in the Irish Sea, with one installation so far and several more permitted but not built; the reduction in costs for OSW is however creating a sense that there will be projects in the ground within a couple of years. The Irish government has put together a Steering Group to progress OSW. BirdWatch Ireland is a representative on the government’s Offshore Marine Renewables External Stakeholder Working Group. Notably compared to LBW, it may be the case that OSW could be consented not at the local council level but at a higher level. The government has prepared an Offshore Renewable Energy Development Plan and has also developed survey and monitoring guidance documents. BirdWatch Ireland is working on trialling offshore wind sensitivity maps for 6 seabird species for the east coast of Ireland, and there was good support from industry for the sharing of bird survey data. They will hold a workshop in June on the marine sensitivity maps with industry, government and NGOs. The Government has also commissioned aerial surveys of the Irish Atlantic margin for marine and avian fauna and this is being undertaken at the moment. BirdWatch Ireland has also been working on trying to have reference to its onshore wind sensitivity mapping tool included in the new wind energy guidance documents in order to help developers and those involved in consenting to decisions to ensure that wind energy is located in the right place and minimising the impacts to wildlife. Additional work is needed nationally on developing adequate survey methodologies for birds in an Irish context and ensuring that appropriately qualified ornithologists are employed for survey work. These basic requirements are still an obstacle to the deployment of wind energy in Ireland.

Sweden – Åsa: There is a call out to study potential effects of wind energy on reindeer. There is a large-scale planning effort for LBW development, which is new. Sweden is planning for 100% renewables by 2040. They will have research project reports out soon on Capercaillie and on bats. There have been concerns raised over long-tail ducks as well. [Roel noted that Norway has done some experiments on eider ducks to see if the disturbance is from boats, not the wind turbines near the coast – Karin Creutzfeldt].

UK – Finlay: For LBW throughout the UK, the scale of development is being driven by subsidies (ROCs, etc.) not consenting barriers, decisions or local councils, or other issues. The subsidies are controlled by the UK government, that has all but stopped all subsidies for LBW, which has reduced the scale of development a lot. In Scotland, there is a positive attitude for LBW, so there is tension. Development is still continuing in Scotland, mostly based on the economic development advantages of LBW. This means most of the wind and wildlife conflicts in the UK are in Scotland, with lots of legal entanglements. There has been a trend lately in Scotland to designate “wildlands”, mostly to steer wind development into other areas. All increases tension over wind. These wildland designations may now be more important in Scotland than EU designations and directives; the projects more likely to proceed are those not in wildland areas. In the UK, most legal actions around LBW are concerned with suing the government for having granted consent.

There is lots of activity in OSW, with very ambitious targets out of Brussels for OSW in the North Sea, although it is not clear that the countries know how to achieve these goals. Hywind is in operation off Aberdeenshire, and more floating wind is expected. There is no bird monitoring going on at Hywind. Several other OSW farms are under construction. An OSW in under construction very near shore in Aberdeen Bay (industrialized area with declining oil and gas industry) with 11 turbines with large turbines (8-9 MW, with gravity-based foundations; these are seen as less damaging to wildlife
(fewer turbines for energy output, no piling) even though there are large marine mammal populations in the area. An extensive monitoring program is planned around the Aberdeen Bay development for anadromous fish, seabird collision risk, helped by funding from EC. Other OSW turbines are being repowered with larger turbines. Also other bottom-based (piled) OSW farms being installed including very large farm in Scotland in Beatrice, Murray Firth with 550 MW. Also lots of bottom-based under development in England.

The Scottish government has been criticized for planning for OSW too close to shore, resulting in a new type mapping exercise that covers a larger area and takes into account more factors, requiring a two-step process to get at appropriate areas for OSW. This is resulting in many more areas suitable for OSW development. The areas are limited by the usual constraints: shipping, fishing, wildlife, and next up will be military actions and radar use. These areas area tending towards further offshore. The cables to shore are largely buried. The Thanet OSW project monitoring program is complete (bird collision and avoidance/barrier effects); there is a need for another such monitoring project in Scotland to understand the effects on coastal bird populations.

The consent documents in Scotland are not specific about the monitoring needed, but there is a process underway to better define these, that seems to be working.

Portugal – Miguel: There is no large-scale planning process for wind in Portugal. While Portugal was an early starter in renewable energy (and periodically runs the whole country on renewables), the development has been project by project. In much the same way as Spain, there is little development going on right now, although some projects are repowering. There are seen to be few environmental impacts and lots of monitoring or existing projects to keep track. Portugal is trying to expand to OSW, with the early pilot Windfloat project, hoping to grow a 60MW project along the coast in the next few years. Otherwise they are not expecting a lot more development.

However, there is a lot of wind development underway in developing countries, raising a lot of new issues that are not necessarily being fully addressed. The environmental requirements a often higher than those for early European projects. Question: should WREN be addressing practices for developing countries, as the lenders (and many of the wind energy companies) are from developed (western) nations?

Also, seeing a trend of stakeholders (especially NGOs) saying that other energy technologies like solar, nuclear, and gas would be better choices for developing countries. Question: should WREN be developing and disseminating information about the advantages of wind? One such important target audience might be the financial sector, also the World Bank. WindEurope could be an important link here.

Norway – Roel: Norway is beginning construction on the largest LBW farm in Europe (1000 MW; 288 turbines). There were not a lot of preconstruction studies, some small observations studies, including for semi-domestic reindeer. In an area NW of Trondheim, there are native communities (Sami) that are receiving compensation (and want more) as they do not want the wind farms, and they have certain traditional rights. The Norwegian government has a plan for LBW consenting that goes through 2020. It is unlikely that any OSW will be examined closely until then. The planning process for LBW is what is driving the timing and development, rather than environmental concerns.

The Netherlands – Marijke: There are lots of complaints about LBW in the Netherlands from nearby residents, such that the development is being forced into the nature reserves. The NGOs were on
board with wind development but now with the move towards the nature areas, they are turning against wind. Consensus is to pursue OSW. The Netherlands has an OSW development target of 4GW by 2023, to meet a 2030 target of 10GW in the North Sea. They are now looking at the cumulative effects of all these wind farms. With the use of the precautionary principle, current estimates suggest that ecological limits will be reached with these developments. More research will be carried out (within the Woze programme) to reduce uncertainties and investigate whether further development is possible without crossing ecological limits. There are currently no subsidies for wind, beyond some help with grid connection. A recent research project is carrying out work similar to what is going at the Thanet OSW farm in Scotland (bird collision, avoidance), using radar and cameras, which are about to be installed. This is the wind farm we will visit this week. There is also a project at this wind farm to tag gulls to understand what colonies the ones found on the wind farm belong to, and to gather more information on flight behaviour within OSW. All OSW is assumed to be bottom-mounted into the future.

US – Andrea: Interest in OSW is moving forward in mid Atlantic and off New York (all bottom-based wind) and off the west coast (mainly floating wind).

**White Papers (cont’d)**

The working session on white papers was spent partly with the whole group together, to summarize where we are, and partly in smaller writing teams. The group discussed the content and direction of the sixth white paper, which is summarized here.

**Green versus Green**

The writing team is Åsa, Manuela, and Roel.

**Cumulative Effects Analysis**

The writing team is Marijke, Finlay, Roel, and Miguel Repas and/or Miguel Mascarenhas.

**Risk-Based Management**

The writing team is Andrea, Elise, Roel, Finlay, Miguel Repas.
The group discussed the final white paper. They felt it ought to be fairly short and very readable as this may be an excellent opportunity for WREN to get their work out broadly. The paper ought to provide a brief summary of each of the previous papers and then discuss the inter-relationships among the concepts. Two different graphical ideas were considered (thanks to Finlay for drafting):

Hierarchical organization, driven from the biggest picture at the top:

- Green vs Green
- Risk-Based Management
- Cumulative Effects
- Individuals to Populations
- Adaptive Management
Or interrelated with Information as the Currency that Unites Them
Expected outcome of meeting:
1. Review and status update of WREN workplan activities
2. Focused work and discussions on completing white papers
3. Initial planning for next in-person meeting

May 23rd 2018

9:00 Working Sessions on White Papers by writing teams
   Cumulative Effects Assessment
   Green v Green
   Risk Based Management
   Lead/Facilitator: Marijke Åsa Andrea

11:15 Break

11:30 White paper working session continued

12:30 Lunch

13:30 Welcome
   Introductions
   Review meeting agenda
   Review action items from April 2018

14:15 WREN Hub
   Overview of progress on WREN Hub (WP2)
   Statistics on use patterns, including by country
   Tethys peer review
   Other information on WREN Hub/Tethys
   Lead/Facilitator: Andrea

15:00 Outreach and Engagement
   Short Science Summaries (WP3) – status update by leads
Webinar Series (WP4) – next topics

15:30  Break

15:45  Outreach and Engagement (continued)  Andrea

  2-pagers (WP4)
  Tethys Stories (WP4) – status update by leads
  Ambassador activities (WP4)
  Expert Forums (WP4) – planning for one or more

16:45  Review Action Items

5:00  Adjourn

6:30  Group Dinner
May 24th 2018

9:00 Country Contacts Updates  Andrea

9:30 Next WREN meeting: September, 2018: Spain  Manuela

10:00 Information about Friday excursion to offshore wind farm  Marijke

10:45 Break

11:00 Roundtable  All

11:30 White papers: Interrelationships  All

12:00 Lunch

Afternoon  Continued work on white papers

May 25th 2018

Excursion to Luchterduinen offshore wind farm.