ETIP Wind

EUROPEAN TECHNOLOGY & INNOVATION PLATFORM ON **WIND ENERGY**

Executive Committee meeting minutes

WindEurope

21 February 2019

etipwind.eu

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 826042

Table of contents

1 Introduction

ETIPWind chair Aidan Cronin welcomed the group and was glad to see so many of the group members around the table, especially given the relatively short notice.

In his opinion the workshop in Trondheim went very well and the input received there offers a good platform for the development of the technology roadmap. The participation of new experts on offshore and floating wind was particularly enriching for the group discussions.

Mr Cronin has been invited to visit Beijing University during China Wind Power. The invitation is extended to all members of the ETIPWind Executive Committee who will go to China on 22-24 October 2019. More info: https://gwec.net/china-wind-power-2019/.

On 19 February IRENA launched a report on the innovation needs to facilitate the integration of variable renewables in the energy system by 2050. Mr Cronin was one of the panellists giving their view on the innovation needs for integrating large shares of renewables in the system. For more info click here.

2 Secretariat presentation of the Technology roadmap

The secretariat presented a first draft table of content for the technology roadmap, as well as an outreach strategy. On EU level the roadmap will be used to inform the new Members of European Parliament and European Commissioners in the fall of 2019. It will also be used to a) inform the new contacts in at the European Commission DG RTD and b) shape the first steps of the Horizon Europe programme.

However, the roadmap will also need to be presented at national level. Synergies with national technology platforms need to be established in order to send coherent messages to national governments, whilst ensuring ETIPWind does not usurp the role of national platforms.

The priorities of the roadmap will be presented in a synoptic 2 page overview as preliminary indicated in figure 1 (below). In addition, more detailed descriptions of the research topics will be provided in “research ID kits”. See figure 2 for a first template of such a research ID kit. These will form the heart of the roadmap. Among other things the research ID kits will contain a detailed description of the topic’s research needs, the outcomes and milestones as well as some impact criteria.

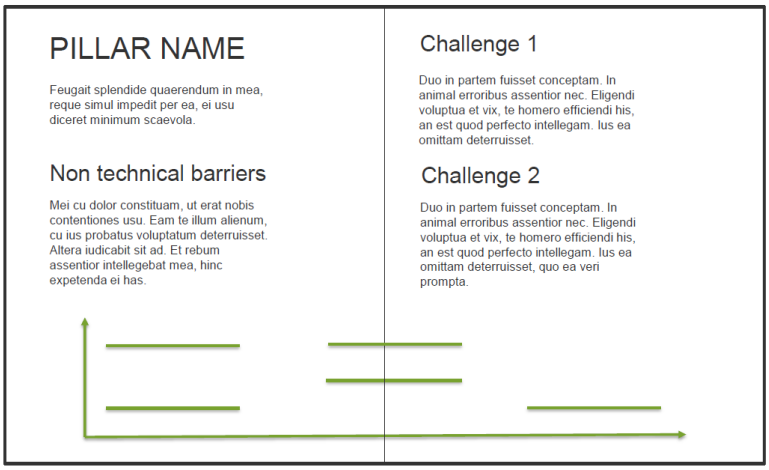

Figure 1 first draft of the synoptic overview of roadmap priorities per pillar

Figure 2 First draft of the research ID kit template

3 Consolidation of the Trondheim workshop

The secretariat stated with a presentation on how it incorporated the comments received after the workshop. The main changes are a) taking regulatory and non-technical issues out of the matrices and b) consolidating overlaps. All findings were presented in slides that each contained a specific challenge and related research topics. The topics were placed in a two-dimensional matrix according to the priority level (high-low) and timeframe (short-long term).

The group decided to reframe the matrix as “criticality” and “urgency of action”. Urgency would stipulate the time by which solutions need to be tested and demonstrated and ready for roll-out.

The “timing” of urgency is linked to ETIPWind’s advocacy timeline, but cannot be simply transposed to match the specific work packages for Horizon Europe for 2 main reasons. Firstly, not all priorities included in the report will be suited to public funding through Horizon Europe. Secondly, there are no guarantees that all the short term priorities that are suited to Horizon Europe will be taken up in the first work package.

The group noted that throughout the roadmap there should be visibility for low TRL research.

3.1 Grid and system integration

3.1.1 Challenge 1: “demonstrate the adaptability of wind”.

The group highlighted that more emphasis should be placed on (direct) electrification. It was agreed NOT to add another priority to the matrix, but rather to incorporate electrification in the description of both the challenge and certain specific priorities (e.g. forecasting of demand).

The group noted that the reliability of power production is not a challenge, but rather the accuracy of short and long term predictions.

The group agreed to spread out the “hybrid solutions” across the short and medium term. To incorporate the “sustainability” aspect of hybrid solutions.

3.1.2 Challenge 2: “towards a system fit for renewables”.

System modelling should be added to the priorities.

Regarding the non-technical issues data transparency and access to data on demand forecasting and the planning of new grid infrastructure need to be included, next to PPAs, EU wide strategy and harmonisation of policies and sector coupling.

3.2 Operations & maintenance

~~3.2.1 Challenge 1~~

Challenge 1 is removed and gone to the non-technical barriers

3.2.2 Challenge 2: “optimising operations”

Digitalisation needs to be broken up into “digital tools” and “digital solutions”. Some aspects (e.g. control) need to move to the short term.

Lifetime assessment and condition monitoring for extending asset lifetime should be included in this challenge not challenge 3. It should also be short term and high criticality.

3.2.3 Challenge 3: “increasing energetic availability”

The group decided to remove the word unplanned from limit unplanned human intervention.

Installation priorities also to include floating to fixed, not only floating to floating, or to be phrased in more generic terms.

Regarding the non-technical issues the group discussed the ETIPWind objectives regarding permitting. The group agreed that ETIPWind would focus on informing policymakers on the impact of new technologies that make current permitting rules regarding noise and others out dated. ETIPWind should support the demonstration of new technologies that are able to tackle social and environmental concerns more effectively.

The group agreed on following non-technical barriers:

1) Harmonisation of end of life & health and safety regulation
2) Loosen up and reasonability of rules and adaptation of new research results
3) Transportation rules
4) Education of general public on wind energy
5) Cumulative environmental impact assessment

3.3 Next generation technology

3.3.1 Challenge 1: cost competitiveness

The group discussed standards at length. Some standards have traditionally been extended into areas that go beyond their initial application. They are now outdated by new scientific results, new materials and the large scale of wind turbines and components. It was agreed that:

- the sector needs industry wide standards (improves cost competitiveness, enhances export capabilities and increases safety in O&M)
- certain existing standards need to be revised.
- there is a need for uniform testing facilities to set standards.

On materials the group highlighted the importance of recyclability criteria for new materials. Development of new material should be moved to short term and high criticality.

The secretariat will provide text on sensor technologies, based on the 2018 SRIA and the WWGD brochure.

Regarding disruptive technologies, no list should be included as the research needs to be open-ended. Nevertheless, revisitation of old and disproven concepts such as a large scale VAWT should not be supported.

There should also be a focus on industrialisation, manufacturing techniques and processes, automation and supply chain logistics.

~~3.3.2 Challenge 2~~

Merged with challenges related to grid & system integration.

3.3.3 Challenge 3: towards a 100% sustainable wind energy sector

On materials the group highlighted the importance of recyclability of existing and new materials. In part this is also addressed in challenge 1 (new materials design should ease recycling).

Specific mentioning for blade recycling demonstration in the high criticality and short term.

Non-technical barriers and issues include: standards, aviation lights, radar, industry transparency, recycling and certification.

3.4 Offshore balance of plant

The group agreed in broad terms with the items presented by the secretariat. They will revisit the topics in more details in the dedicated task forces.

The content of challenge 3 and 4 has been merged with other challenges as one focused on offshore electrical infrastructure and another on transportation and logistics of offshore components. These issues are tackled in pillar Grid & system integration, Operations & maintenance and Next generation technologies.

Non-technical issues to be tackled include: standards, aviation lights, radar. The secretariat will liaise with the WindEurope WG offshore wind to provide policy recommendations on this topic.

3.5 Floating wind

The group discussed some of the research topics as indicated below. For more details on the priorities the secretariat will seek the input of the WindEurope Task Force on floating wind.

3.5.1 Challenge 1: serial production

- Regarding design tools the challenges is the validation.
- Scalability is all about concept development and the concept development priority is more about extending the library.
- Probabilistic design is important but not only in floating. The secretariat should relocate the priority to the Next generation technologies section.
- Include integrated design processes

3.5.2 Challenge 2: floating wind farms

Include installation and assembly challenges.

~~3.5.3 Challenge 3:~~

Merged with the two other challenges

3.6 Human resources

Not discussed.

4 Next Steps

The impact criteria for the research ID kits will be defined at a later stage, possible only at or after the validation workshop in Bilbao.

The executive committee will further elaborate on the priorities in dedicated task forces. The secretariat will contact a number of ExCo members to lead on these task forces. Task force leaders are encouraged to seek the advice of their colleagues and contacts in the relevant field.

The next physical meeting will be in Bilbao on 04 April. A telco with the Task Force leaders will be organised on 20, 21 or 22 March 2019.