



Kick-off event – Minutes

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Disclaimer

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1. WELCOME AND INTRODUCTION

Adrian Timbus (*ETIPWind Chair*) first welcomed the participants and thanked them for their engagement in ETIPWind activities. He reminded the objectives of ETIPWind and stressed its role in developing the technologies needed to meet the EU climate and energy targets. He also presented to the audience the upcoming activities included in the ETIPWind work programme 2022-2025.

Rosalinde van der Vlies (*Director Clean Planet - DG RTD, European Commission*) then delivered a keynote speech providing an overview of the EU political context but she also gave insights on the Horizon Europe's next Work Programme and some key priorities for the wind energy sector.

She first highlighted the importance of the European Green Deal and its 2030 and 2050 targets as a long-term political strategy which now becomes a necessity in the context of the energy crisis. She then reminded that Horizon Europe was the biggest publicly funded framework programme for Research and Innovation in the world. The Horizon Europe Mission "Cities" was quoted as an example of a successful co-creation process with the local communities to answer to technology and non-technology issues. She also highlighted the importance of combining the R&D phase with the scaling-up and commercialisation of technologies so they can be deployed faster than before. She finally listed 4 priorities for wind energy that will be addressed in the next Horizon Europe Work Programme 2023-2024:

1. To improve the efficiency and bringing down the costs, both at the turbine and at the system level;
2. To make a better use of the resources geographically (e.g. floating wind);
3. To focus on circularity and recyclability to answer concerns on raw materials and supply-chain;
4. To address societal engagement and the skills issue.

Before inviting the first panel to come on stage, Adrian Timbus and Rosalinde van der Vlies had a "fire-side chat". Key points of their discussion are summarised below:

- The role of ETIPWind within the SET-Plan should be to co-design the common strategic priorities for wind energy R&I but also to enhance synergies and collaborations with other ETIPs and IWGs (Implementation Working Groups) and to give a more active role to the Member States so the R&I agenda is also endorsed at the national level.
- It is crucial for the wind industry to get support from the European Commission to ensure innovative concepts or ideas are transformed into industrialised solutions that can be deployed on the market. EU Funding programmes were key to develop a lot of solutions for the wind industry. The right policies and the right investments will be required to ensure Europe remains the champion in wind energy.
- On Research & Innovation especially, the European Commission will do everything they can to support the industry including defining a common R&I agenda, accelerating the deployment of innovative solutions thanks to regulatory sandboxes, or addressing the skills issue.
- On the industry side, ETIPWind will continue providing technical expertise and supporting the development of innovative solutions including on societal engagement. But enhancing collaboration with Member States will also be a top-priority in the new ETIP's work programme.

2. PANEL 1: MADE IN EUROPE – WHAT POLICIES ARE NEEDED TODAY TO KEEP EUROPE'S WIND SUPPLY CHAIN COMPETITIVENESS

Key points discussed during the first panel are summarised below:

- There is a paradox between the fact that it is now obvious that the EU must get out from fossil fuels and the fact that the wind energy supply-chain is struggling today. This issue needs to be solved because we need a Green Deal “made in Europe”.
- The EU industrial policy on clean energy technologies is quickly evolving because of the current situation. Until now, clean energy policies were more consumers-oriented but considering the issues we have today with the supply-chain, this has to be rebalanced.
- The new industrial policy should consider the following elements: acceleration and simplification of permitting, financing scaling-up technologies, procurement system which embeds aspects such as recyclability rather than price only and support for the supply-chain (e.g. the Critical Raw Materials Act which will strengthen the access to critical raw materials including for permanent magnets). The European Commission will work on developing this new industrial policy.
- There are some promising markets such as offshore wind and grid reinforcement. We need a vision at the EU level on how the grid will look like with the integration of renewables according to the 2030 and 2050 targets. Some technologies already exist but we need a clear strategy to build the grid infrastructures in Europe.
- A priority should also be to provide certainty to investors. There will be no investment if there is no certainty on the volumes that will be installed.
- The quality of European technologies, infrastructures, materials especially in terms of reliability, safety, efficiency, and sustainability need to be more recognised.
- Innovation is crucial for the industry but innovation without a proper support to keep the production in Europe is not enough. The supply-chain is now struggling, the price pressure on auction systems did not help. The priorities should be to act on the elements that will ensure the production is kept in Europe. Cost-competitiveness is important but other elements such as sustainability are equally important.
- The fact that wind is a mature technology sometimes leads policymakers to think R&I is not needed anymore in the sector. But on the contrary, R&I investments are needed to stay at the cutting edge of technology.
- We also need to think about R&I in terms of processes. One of the main challenges today is scale. We need to be more efficient in deploying solutions and invest more in mega-factories, industrialised automation, IoT. On this point, there is a need to coordinate with DG COMP to ensure the state aid rules consider the need for R&I in processes.
- A lot of technologies already exist but we still need innovation in some sectors such as floating offshore wind. Floating wind represents today 70% of the offshore wind potential. Another relevant sector is grid reinforcement. Innovation is still needed for power electronics and energy storage technologies but also for digitalisation or life-cycle management tools.
- We also need to electrify a lot of our energy-uses which means that Europe will need to invest twice as much in electricity grids compared to today's situation. The European Commission is

aware of this issue and can help solving it, for example thanks to the Connecting Europe Facility (CEF- funding programme) that provides investments in massive infrastructures.

- Regarding raw materials, DG GROW also works on strengthening the strategic autonomy of Europe especially for permanent magnets. The European Commission will launch a public consultation to gather solutions for critical raw materials.
- The main challenges that ETIPWind needs to solve are: to make the industry a strategic industry for Europe that stays in Europe, to advocate for grid reinforcement and to raise awareness about the benefits that the wind energy can bring to the EU (especially in terms of job creation).

3. PANEL 2: ACCELERATING WIND TURBINE RECYCLING AND IMPROVING CO-EXISTENCE OF WIND WITH NATURE AND SOCIETY

Key points discussed during the second panel are summarised below:

- Social and environmental challenges are one of the biggest challenges for the clean energy transition.
- When it comes to circularity of the wind blades, the key issue is that technologies are not mature yet. We would need a centralised system to recycle blades in Europe but for that we need more policies that incentivise blades recycling. We also need R&I in this field especially on the future designs (zero waste blades).
- Today, 20-25% of the materials that are needed to manufacture a blade are wasted. To tackle this issue, we need to recycle more. Recycled plastics is one of the solutions that exist. R&I is also needed in this field to design wind turbines based on secondary materials (which don't have the same properties than primary materials).
- On end-of-life issues, more and more companies commit to the landfill ban by 2025. However, the EU misses one unique regulation to manage the blades' end-of-life. Today the different regulations are not aligned and there are many waste codes for wind blades. A restricted number of waste codes would allow operators to better manage the blades that reach end-of-life. We also lack big projects on secondary raw materials which promote standardisation.
- Regarding the lifetime of wind blades and turbines, the wind sector must think differently and focus on building structures that will have a longer lifetime and that will be re-used.
- Wind energy is by far the most sustainable solution to decarbonise energy. Not only in terms of CO2 emissions but also in terms of land-use. Wind is the technology that uses the least space to produce electricity. We need to keep these facts in mind but also recognising that this is not enough anymore. The target for the industry should now be the "absolute sustainability" with recycling, re-using, re-purposing as key priorities.
- The industry needs to work on the "acceptability" of the solutions and not "acceptance". It means that the industry must create solutions that are acceptable for citizens. For example, when it comes to wind turbines' noise, we need to understand the citizens' concerns and design solutions that will be more acceptable for them. That is why Social Sciences are important: to help the

industry understanding the citizens' concerns and involving them in the project from the beginning.

- An important aspect is about the land-use. The industry should work in closer collaboration with military, aviation, and the Ministries of Defense to re-define the areas where wind projects can be built.
- The applications like airborne wind are also welcomed if they can help increasing acceptability. In some specific locations, airborne wind can be relevant. To achieve the EU climate and energy targets, all the clean energy technologies will have to be considered.

4. PANEL 3: ENERGY SYSTEM INTEGRATION: HOW TO GO FROM 15% TO 50% WIND IN POWER DEMAND BY 2050

Key points discussed during the third panel are summarised below:

- By 2050, a large capacity of wind power, both onshore and offshore, will have to be integrated in the electricity grid. For offshore wind, permitting is an issue for projects but also for networks. To achieve our targets, a clear planning must be developed for system integration.
- The grid architecture is important to integrate such a huge capacity. 3 dimensions have to be considered: 1. Market dimension, 2. Technical dimension (e.g. interoperability challenge), 3. Operational dimension (e.g. High Voltage Direct Current connection, hybrid development, etc).
- The European Commission knows that the EU needs more investments in the grid. Some points could help answering this challenge such as the TEN-E regulation which revamped its approach towards the Projects of Common Interest (PCIs). The TEN-E regulation also has a dedicated approach for offshore in terms of investments needed and required grid connection. Accelerating grid permitting is in the radar of DG ENER. Member States need some support to implement deadlines for grid connection permits.
- There is sometimes a mismatch between power generation and power demand. We need to develop more flexibility solutions to solve this issue. REPowerEU proposes concrete solutions to tackle this point.
- The EU needs more grids, but the current grids also need to be optimised. The curtailment issue already cost a lot of money to some EU Member States. Power electronics, software solutions, storage can help optimise the grids. Europe should have the ambition to become the technology leader in smart grids.
- Open-source data is also a key point. For example, information on congestion costs and best practices to avoid congestion need to be shared with all stakeholders.
- High Voltage Direct Current (HVDC) solutions are developing fast to connect offshore wind farms. Cooperation already started to develop a common EU project on HVDC.
- Regulatory sandboxes can also help solving some issues related to the grid (e.g. testing of storage solutions, demand-side response solutions). A regulatory sandbox allows EU Member States to test solutions where they face regulatory barriers.
- The right policies have to be implemented to ensure system integration. But energy efficiency should also be the first principle. It is urgent to develop a common definition of the system

efficiency but also to implement regulations that will help solving grid congestion. Before trying to expand it, we need to make a better use of the existing grid.

- The Modernisation Fund could be used in certain countries to optimise the grid. Projects like the PCIs or the Ten-Year Network Development Plans (TYNDP) should be developed and implemented.
- The topic of heat pumps is also linked to the energy efficiency challenge. They can play a role on ensuring the system is flexible and secured. The National Energy and Climate Plans (NECPs) should include a clear strategy for the roll-out of clean energy technologies with a system approach.

5. QUESTIONS FROM THE AUDIENCE

Throughout the event the audience could ask questions to the speakers via Slido. In total 35 content-related questions were raised by the audience. 11 during the first session, 13 during the second and 11 during the last one.

Most, but not all, questions were answered during the panel discussions. The speakers did not provide additional written replies to the answers.

The questions are listed below. They are corrected for spelling (e.g. typographic mistakes) and clarity (e.g. spelling out acronyms). They have also been anonymised.

Panel 1:

- We need more Research and Development (R&D) for wind energy to ensure we achieve our mission. Many countries have bigger R&D wind energy programs than the one in the European Commission.
- Supporting deployment is key, but we also need a long-term agenda for wind energy R&D to ensure we stay at the forefront in the next decades. How can the European Commission help?
- Considering direct electrification is the most efficient use of renewables, how can we ensure that grids remain a top priority for policymakers and investments?
- Can governments use financing to give revenue confidence (via Contract for Differences) to developers and reinvest in the supply chain with the returns?
- Has ETIPWind considered how Airborne Wind can reduce 1) societal resistance due to less visual pollution, and 2) supply chain constraints due to less raw material?
- Other technologies are considering and setting up industrial alliances to scale up. Is this not being considered by the wind sector?
- Europe needs more factories so that we can meet the EU's renewable energy goals. That's clear. But where will this investment come from?
- Will the scaling up of offshore wind collide with the UNCLOS (United Nations Convention on the Law of the Sea), regarding long permitting due to environmental concerns and approvals needed (e.g. in the North Sea)?
- What is the role of the EU & national governments to enforce the investment (private, private with government support, ...) to finance the future grid investments?
- What can be done to keep the manufacturing of blades in EU? More & more blades are built outside the EU with local supply (chemicals, resins...) losing business.
- How earlier (years) should the investment decision be done to expand the supply chain (namely manufacturing and installation)?

Panel 2:

- With respect to the 2030 target, how will the grid reinforcement timeline match the challenge in terms of permitting and building?
- Are localisation rules investigated? Not only for assembling turbines but also for the sourcing of components and chemicals?
- Airborne wind - is it the solution to enabling renewable generation close to urban locations?
- RES announced that it is partnering with Modvion to promote wooden wind turbine towers. Is this scalable? Could it be a solution to the current steel shortage?
- More than 80% of Germany's current turbines need to be repowered or decommissioned by 2030. We have 7 years to have a full solution. How?
- LM's ZEBRA project has shown that 100% recyclable blades are already possible. When will we see these blades fully rolled out on a massive scale?
- It's clear that a longer lifetime and larger turbines are the main ways to reduce offshore wind LCOE. Is there a point where it wouldn't have this effect?
- A landfill ban on blades is great. But we do not yet have a way of recycling blades at the levels that we need. Who is going to make this happen, and when?
- What are the conditions for making manufacturing in Europe competitive at global level?
- What can the sector do to prove to citizens that wind is the best solution (scale, environmental impacts, etc) as Lena said and reduce NIMBY effect?
- Money talks. Are projects where the local community have a small profit share or free electricity the way forward?
- Is the impact of maintenance activities over the life span of a wind farm included in the LCA?
- It seems needed to have international agreement on how to measure sustainability. Should we use IEA Wind for that?

Panel 3:

- We must ensure the equipment is manufactured in Europe and not China/elsewhere. Otherwise, we risk a Russia crisis 2.0. How do we keep and grow production here?
- Fixing grids or fixing permitting. They're both key to meeting targets. Which is the priority?
- If we don't make progress now during this crisis, then we have no chance. Other than infringement proceedings, what can the European Commission do to push progress?
- Connecting heat pumps - are they a priority or a nice to have?
- How can EC support with the right actions and rights funding to make sure the offshore grids and energy islands happen?
- How will the recent surge of investment in the US with the IRA affect investment and project development in Europe?
- Extending grid to enable broad direct use or investing in hydrogen to buffer volatility. Where is the balance?
- Despite REPowerEU the permitting process is still a significant bottleneck. How to ensure renewables are in fact presumed to be in the overriding public interest?
- Should non price criteria specify the type of solutions expected for storage and flexibility or should it be the developer's choice on how to match the demand?
- Is there any plan to develop a publicly managed and supported platform, where truthful and anonymised data are published for the "greater good"?
- What do you think about fuel cell heating - a hydrogen issue at small scale?

adaptations.

PARTICIPANTS LIST

First name	Last name	Organisation	Participation
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Baris	Adiloglu	CINEA	In-person
Benjamin	Mauries	Saipem	In-person
Berenice	Crabs	Estela	In-person
Bert	Verdyck	ZF Wind Power	In-person
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Carlos	Madina Doñabeitia	Tecnalía	Online
Carolina	Goradesky	WindEurope	In-person
Cesar	Yanes Baonza	Iberdrola	Online
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Dorota	Pawlucka	Covestro	Online
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Ferdinand	Meyer	Aker Offshore Wind	Online

Filipa	Magalhães	INEGI	Online
Garrett	Smith	Wind Fisher	Online
Greg	Arrowsmith	EUREC	In-person
Hanif	Mashal	LM Wind Power	In-person
Helena	Solman	Wageningen University	In-person
Henrik	Dam	European Commission	Online
Iain	Dinwoodie	Natural Power	Online
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Igone	Ugalde Sanchez	Tecnalía	Online
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