

# ETIP Wind workshop

## Exploring the value proposition of wind energy for carbon-intensive industries

### Practical details

21 February, 14.00 – 17.00 at The Office, 80 rue d’Arlon 1000 Brussels (ground floor, right side)

### Scope

On 28 November 2018 the Commission presented its strategic long-term vision for a carbon-neutral economy by 2050. One of the biggest challenge in meeting this objective lies in the major harder-to-abate sectors such as steel, chemicals or cement industries. In 2016 industrial processes<sup>1</sup> accounted for 17.5% of total greenhouse gas emissions in the EU.

The workshop will explore the potential for indirect electrification of non-energy uses (processes and products)<sup>2</sup> in carbon-intensive industries based on wind energy. In particular large industrial sectors such as refineries or fertilisers where hydrogen has been used for decades are expected to be key early markets for power-to-hydrogen applications. The objectives of the discussion will be to compare the technical and economic constraints for the production of renewable hydrogen, ammonia or methanol, and to identify regulatory measures that can unlock their potential.

### Format

3h long workshop structured around presentations per sector followed by Q&A. Open to external stakeholders. The event will be back-to-back with a meeting of WindEurope WG Electrification in the morning (for WindEurope members only). 40-50 participants.

### Target audience

WindEurope members, R&D community, industrial end-users, network operators (gas and electricity), other renewables associations, European Commission

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<sup>1</sup> By-product or fugitive emissions of greenhouse gases from industrial processes. This doesn't include emissions from fuel combustion e.g. for heat provision.

<sup>2</sup> Energy uses are not included e.g. replacing natural gas and other fossil fuels with hydrogen to produce high-grade heat via hydrogen combustion

# Agenda

Time	Item
14.00 – 14.30	<p><b>Introduction</b></p> <ul style="list-style-type: none"><li>• Welcome address, Aidan Cronin (ETIP Wind/SGRE)</li><li>• Setting the scene, Cédric Philibert (IEA)</li></ul> <p><u>Issues:</u> scope and objective of the workshop, introduce current and forthcoming options to decarbonise industrial sectors and the role of wind energy (incl. LCOE developments)</p>
14.30 – 15.15	<p><b>1. State of play and developments of Power-to-Hydrogen technologies</b></p> <ul style="list-style-type: none"><li>• Denis Thomas (Hydrogenics)</li><li>• Nikolaos Lympieropoulos (FCH JU)</li></ul> <p><u>Issues:</u> update on electrolysers technologies and economics (LCOH), specific challenges for large-scale applications such as in heavy industries, discussion on R&amp;D needs</p>
15.15 - 16.00	<p><b>2. Industry needs and demand for green hydrogen</b></p> <ul style="list-style-type: none"><li>• Antoine Hoxha (Fertilisers Europe)</li><li>• <i>Refining sector - tbd</i></li></ul> <p><u>Issues:</u> potential and relevance of green hydrogen vs. other decarbonisation pathways for different sectors, economical and regulatory barriers for fuel switching, technological challenges (e.g. corrosion, dissipation, flammability...), expectations from the wind R&amp;D community</p>
16.00 – 16.55	<p><b>3. Business cases for ‘wind-driven hydrogen’ and regulatory levers</b></p> <ul style="list-style-type: none"><li>• Peter Enevoldsen (Envision)</li><li>• Florian Bergen (Siemens)</li><li>• Zsuzsanna Szeles (DG Energy)</li></ul> <p><u>Issues:</u> assumptions on ‘Wind to H2’ growth and penetration (which regions, hydrogen markets, timeline, best/worst case scenario), return on experience of existing pilots, expectations from regulatory framework to improve business cases (beyond sole industry applications e.g. barriers to injection into gas grid etc.)</p>
16.55 - 17.00	<p><b>Conclusion and next steps</b></p> <ul style="list-style-type: none"><li>• Simone Antonelli (WindEurope/Enel)</li><li>• Aidan Cronin (ETIP Wind/SGRE)</li></ul>