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Decarbonisation of the Energy Intensive Industries - through renewable energies

RE4INDUSTRY WEBINAR DURING EU INDUSTRY DAYS FEBRUARY 7, 2022

Decarbonising European economies is now accepted as fundamental to meet the EU's long-term climate and energy obligations, most noted under the 2015 Paris climate agreement. Given the latest data and analysis from the Intergovernmental Panel on Climate Change (IPCC), there is a need to keep the global temperature from going beyond 1.5° C. This necessitates decarbonisation to unprecedented levels at a very fast pace. While all sectors - on a global scale - must decarbonise, this is a particular challenge for the energy-intensive industry, specifically in Europe, given the difference in ambition level and transition trajectory by our trade partners. They operate a multitude of energy and resource consuming systems and technologies set in motion by a wide range of supplies and actors. No two sectors are the same and there are even many sub-sectors within individual sectors.

The EU-funded **RE4Industry** project recently sponsored a 'local event' webinar as part of EU Industry Days 2022 bringing together representatives of several energy-intensive industrial sectors to see what role increased renewable energy can play in helping industries become 'net zero'. The conclusions provide many important insights into supporting energy-intensive industries to become carbon-neutral. The main path is through the deployment of renewable energies.



Mr Tom Berendsen, MEP, Rapporteur for the Updated New Industrial Strategy for Europe in the European Parliament's Industry, Research and Energy Committee opened the meeting by stressing several points on the industrial strategy and the links to the 'Fit for 55' package under negotiation:

- The rapporteur's report will focus on the energy transition but also on resilience, ensuring European manufacturing competitiveness;
- The Covid crisis has shown that Europe needs strategic products and to manage its dependencies on critical raw materials;
- Clear roadmaps are needed by industry to get to net zero to focus on what infrastructure, technologies and skills are needed;
- A level playing field is needed within Europe and globally;
- The European Green Deal needs to transform into a growth strategy;
- Major investments are needed for breakthroughs in technologies and infrastructure;
- There needs to be a spirit of co-operation between government and industry. This also brings shared responsibilities. While the government need to support infrastructure improvements, provide a stable regulatory framework, lower the administrative burden, and provide a mission-oriented innovation agenda. From industry, a long-term commitment to decarbonise and to increase leadership are needed to increase clean production and products;
- Europe has the potential of leadership and expertise to even lower emissions globally. There is a strong external dimension but there is a need for its energy-intensive industries to have protection through such as carbon border tax adjustments;
- There is a need to expand the market for clean products and to ensure Europe's industry increases its competitiveness. The challenge for the 'Fit for 55' package is to achieve its important climate and energy objectives while also maintaining competitiveness.

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Mr Rod Janssen, President of EEIP, provides the following conclusions on the following themes that were discussed during the webinar:

NEED FOR A STABLE LEGISLATIVE FRAMEWORK AND SUPPORT

- Appreciating the need for a strong legal framework to reinforce the policy objectives most recently laid out in the 'Fit for 55' package, stability is key.
- There can be significant problems for all companies addressing the latest Emissions Trading Scheme (EU ETS) obligations, not in the least considering the absence of long-term regulatory stability, whereas the challenges may be insurmountable for energy-intensive SMEs.
- The Carbon Border Adjustment Mechanism (CBAM) needs to be designed in a way that ensures it does not adversely impact Europe's energy-intensive industries.
- A pragmatic approach is needed to help companies on their road to becoming carbon neutral by 2050.

PROACTIVE APPROACH

- Energy-intensive industry associations have worked diligently with their members to develop or revise roadmaps, manifestos, position papers, blueprints, and voluntary actions to reach carbon neutrality.
- Many of the sectors are electricity intensive, and acting pro-actively, there are initiatives such as The Green Pool in Greece to facilitate the cost-effective consumption of RES by EIIs. Electro-intensive consumers participate in the Green Pool by adding new RES capacity to the electricity system. Electricity produced by these RES units is 'pooled' together by an aggregator/supplier ('Green Pool'), selected through a competitive tender and the optimized 'shaping costs' are partly compensated (i.e. costs linked with transforming the intermittent RES production into typically baseload, required by industry). As a result, i) a huge amount of new (merchant, not FiT-based) RES capacity is added to the system, ensuring project bankability by means of long-term PPAs, and ii) electro-intensive industries enjoy access to clean, available, and affordable energy.



• Despite being already considerably 'greener' than the global average, the European industry is stepping up to the decarbonization challenge, assuming a leading role, proving that it is part of the solution, not the problem.

IMPORTANCE OF INNOVATION

- Long-term decarbonisation objectives will not be met without more innovation
- Ells are exploring all options to decarbonise. Much of the decarbonisation will happen through new processes and technologies. RE4Industry is an obvious example of that.
- As a good practice, the aluminium sector, for one, has an innovation hub that coordinates collaborative initiatives and projects along the value chain and facilitates access to EU funded projects to its members. This hub aims to join forces to better address the huge transition challenges and for promoting cross-fertilisation with other sectors.
- Renewable energy has an important role to play in decarbonisation, and there are valued actions underway (many EU funded) to promote biofuels as feedstock and the development of green hydrogen which can be deployed in many ways within energy-intensive industries. At the same time, resource-efficiency, including in energy production, must be prioritised.
- While there is support for the European Commission's Innovation Fund, it is still in its early stages of implementation. Nevertheless, there has been criticism of overly restrictive eligibility criteria, particularly limiting support to "first-of-a-kind" investments, which disregards the broader economic challenge of achieving maturity in new technologies/processes.

ACCESS TO FINANCING

• All aspects of decarbonising EIIs are expensive and the industry needs support. As Mr Berendsen stated, new infrastructure will be key, but the cost will be considerable.

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- Energy-intensive sectors that have high numbers of SMEs (e.g., 80% in the ceramics sector) and those companies have significant problems with ETS and with developing business cases to take for financing.
- It is not certain how initiatives such as EU Taxonomy, Energy Efficiency Financial Institutions Group (EEFIG) and the soon-to-be-implemented Corporate Covenant will help access financing.
- While not discussed at this webinar, the Recovery and Resilience Facility is a vital means of support.

LINKAGES

- The EU Industrial Strategy is currently under review in the European Parliament and • a strategy that integrates decarbonisation with other EU-wide priorities is necessary. Sustainable reindustrialisation, resilience and strategic autonomy must become a top priority in the agenda of policy makers, to contribute to the EU's efforts actively and efficiently against climate change; losing global competitiveness and boosting our import dependence while observing the devastating consequences of investment leakage in the EU (including a net increase in global emissions) is the The Industrial Strategy should include wrong way to go. concrete proposals/measures to help materialize the EU circular economy action plan, the resource efficiency roadmap, energy efficiency, renewable energy sources for industry, and environmental regulations.
- These linkages have been made more complex because of the COVID-19 pandemic that has devastated the EU economy
- There are problems with 'silos' within the European Commission (many Directorates-General involved in the various initiatives related to decarbonisation, leading to problematic inconsistencies between different pieces of legislation).

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EU Industry Days 2022 had a special youth programme. Fabiola Tovar Lasheras, a chemical engineer from the Industry Group within CIRCE, the consortium lead for the RE4Industry project, summed up the webinar as follows:

All the panellists agreed on the same point: the need for a stable legislative framework, the problems of the energy crisis in their sectors and the need to increase funding for innovation.

They highlighted aspects such as the importance of developing their own roadmap, in order to be prepared for decarbonisation, for the transition to become carbon neutral by 2050. Nick Keramidas, from Eurométaux, explained the Green Pool concept, which is aligned with this decarbonisation of industries. Green Pool is about Energy Intensive Industries (EII) stepping up to the challenges for the green transition.

All of them concluded by remarking that, from each of their industries (ceramics, metals, non-ferrous and glass), they are ready for this transition, they are ready to take a step forward as EIIs are a great contribution to decarbonisation through Renewable Energies (RE), but they need support by providing them a stable framework, finance for innovation and a competitive electricity price.

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Panellists during the discussion were:

Magdalena Vallebona, Cerame-Unie (European ceramics industry) Christian Leroy, European Aluminium Nick Keramidas, Eurometaux (the European non-ferrous association) Christiane Nelles, BV Glas (the German glass sector association) Fabiola Tovar, Research Center for Energy Resources and Consumption (CIRCE)

About RE4INDUSTRY

The RE4INDUSTRY project is part of the European Union's Horizon 2020 research and innovation programme and aims to help the energyintensive industry sector (EII) transition to renewable energy (RE) in their processes, either through electricity from RE or by replacing natural gas with other fuels such as biomethane or green hydrogen. The project seeks to identify success stories of RE implementation, work with industries to identify needs and, in general, study which RE could be used to decarbonise industries and reach the target of 50% RE deployment by 2030 and 100% by 2050, meaning a complete decarbonisation of the industry.