Webinar

Scenarios for deep decarbonisation of the EU industry - highlighting technological innovation, addressing systemic change

November 26th, 2018 – 15:00 to 16:00

Location: Online

Draft AGENDA

15:00	**Welcome and introductions - to the webinar and to the project** • *Yves Marignac, Association négaWatt*
15:05	**Deep Decarbonisation of the EU industry - highlighting technological innovation** • *Tobias Fleiter, Fraunhofer Institute for Systems and Innovation Research* *Moderator: Yves Marignac, Association négaWatt*
15:25	**Deep Decarbonisation of the EU industry - addresssing systemic change** • *Emmanuel Rauzier, Association négaWatt* *Moderator: Yves Marignac, Association négaWatt*
15:45	**Questions from participants and answers from presenters**

Deep Decarbonisation of the EU industry - highlighting technological innovation

Tobias Fleiter (Fraunhofer ISI) presents results of EU-wide scenario analyses aiming at deep decarbonisation of the EU industry sector by 2050. The particular role of new technologies in decarbonising the industrial sub-sectors is highlighted, while a broad view on various mitigation options including energy efficiency, fuel switch, innovative low-carbon process technologies, carbon capture and storage, circular economy and material efficiency is taken. Results show that at least 80% decarbonisation compared to 1990 is possible for the industry sector with and without carbon capture and storage.

Supported by:

European Climate Initiative EUKI

Supported by: Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety

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Climate Recon 2050 project is financed by EUKI, a project financing instrument by the Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMUB). Its implementation is supported by Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ). It is the overarching goal of the EUKI to foster climate cooperation within the European Union in order to mitigate greenhouse gas emissions. It does so through strengthening a cross-border dialogue and cooperation as well as exchange of knowledge and experience.

Scenarios for deep decarbonisation of the EU industry - addressing systemic change

Emmanuel Rauzier's presentation will focus on the approach developed for the industry sector in the scenario published by the négaWatt association in 2017. This work, based on a systemic exploration of potentials for sufficiency, energy efficiency and substitution of non-renewable resources by renewable ones in all sectors, is the first to propose a net-zero trajectory for France by 2050.

For the industry, the same approach is applied: first, a reduction or transformation of energy needs by way of sufficiency, then an improvement of processes through efficiency, and finally the possible substitutions in the energy supply of processes. The scenario uses a flow model of materials processed in the industry, starting with the demand of final goods and backwards up to the demand or raw materials, including intermediate materials such as plastics and of course recycled materials.

The consumption and equipment model covers most sectors including construction, transportation, energy production (with the development of renewable energy projects), packaging, chemical products and common goods. The potential for sufficiency is explored in relation to three developments : (1) the increased sustainability and life time of products; (2) social behaviours changes such as sorting waste or pooling transportation that will optimize consumptions; (3) material substitution (concrete or wood? glass or plastics?…).

The energy efficiency part is more similar to other energy transition scenarios for the industry. The scenario addresses cross energy savings and process energy savings such as hydrogen use for steel and chemistry. The decrease of nergy intensity is linked to energy conversions such as electrolysis, power-to-gas, cogeneration, heat pumps…)

Finally, the whole energy consumption of the French industry is strongly dependant on international trade and on imported and exported amounts, that are difficult to model in an isolated national scenario. Our model is flexible to producing results either in terms of national energy consumption (and GHG emissions) or in terms of energy and carbon footprint. The first approach was used in 2017 for the French scenario, but the latter is planned to be further developed as part of a European scenario project that négaWatt has just started.

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