

Infrastructure Needs of an EU Industrial Transformation towards deep decarbonisation

Kick-off workshop for the research project

When: 13.06.2019 | from 11 am to 5 pm

Where: EIT House, Rue Guimard 7, Brussels, Belgium¹

Who: energy, industry, infrastructure and policy experts

By whom: EIT Climate-KIC | European Climate Foundation | Wuppertal Institut für Klima, Umwelt Energie

Contacts:

ada.marmion@climate-kic.org | rannveig.vaniterson@europeanclimate.org | frank.merten@wupperinst.org

Context & Motivation

The Paris Agreement objectives claim for a climate neutral socio-technical system until 2050 at latest, requiring efforts from all sectors to speed up decarbonisation. As recent studies have shown, transformation of the energy and carbon intensive industry sector is a huge, but not impossible challenge which will need innovation to stimulate a fundamental transformation of our production systems going beyond incremental changes. It is no longer a question of whether industry transformation is possible, but how it could evolve. The related transformation pathways will lead to considerable, partly new and different demands for renewable based electricity, gases and fuels and/or CCS/CCU, which differ from country to country and must be covered by suited transport & storage infrastructures.

While particular companies and industrial clusters are now developing visions for climate neutral production at their sites, there is no clear indication yet, how these could fit into consistent European scenarios and what kind of infrastructures (incl. considerations on topologies) would be needed for the system.

This is the background for the new EIT Climate-KIC funded research project „Infrastructure Needs of an EU Industrial Transformation towards deep decarbonisation“. The research project is part of the European Climate Foundation’s Industrial Transformation 2050 initiative and builds on the net zero pathways for heavy industry developed as part of this initiative (see below). It will address the following questions:

- 1) Where and under which pathway conditions will demands for climate neutral energy and feedstocks in the EU by climate neutral industry clusters emerge (regional industrial hot spots)?
- 2) Where will (what kind of?) infrastructures be required in order to get the industry pathways realised?
- 3) What are the implications of both findings for today’s decision and policy making?

Goals & What to expect

The workshop seeks to

- provide preliminary results for the different regional developments of three relevant industry branches (plastics, steel, cement) within the EU (hot spots of industrial demand), in order to gain a better understanding of the possible decarbonisation strategies and potentials, their regional distribution and potential impacts, as well as to probably validate and/or enhance the results
- identify potential sweet spots for Renewable Electricity Generation and CCS/CCU
- present first initial hypotheses on infrastructure needs (which and how?) and
- give an overview over the further works, timeline and workshops planned.

¹ Directions to EIT house in Brussels: [google map](#)

The focus of the workshop is on future hot spots of industrial energy demand and CO₂ sources.

Material for preparation

During the Workshop we rely on two prior studies that are attached to this invitation as a background material. There is of course no requirement to read this in detail before the workshop – we will go through the key issues during our joint session:

- Industrial Transformation 2050 – Pathways to Net-Zero Emissions from EU Heavy Industry, by Material Economics and with support of the Wuppertal Institute and the Institute for European ([Download-Link](#))
- Scheider, C.; Lechtenböhmer, S. 2018: Concepts and pathways towards a carbon-neutral heavy industry in the German federal state of North Rhine-Westphalia ([Download-Link](#))

Agenda

Time	TOP	Referent / Moderator
11:00	Welcome and Introduction	Ada Marmion, Programme Manager at EIT Climate-KIC
	Welcoming address from ECF and WI (incl. Organisational issues and schedule)	Philipp Nießen (ECF) Stefan Lechtenböhmer (WI)
11:20-	Goals, Starting points, Hypotheses and first Findings: - Background and motivation for “Infra Needs” - Industry Transformation until 2050 - Identification and typification of heavy industry clusters (industrial hot spots) - Best suited regions (sweet spots) for RES electricity production and CO ₂ storage	Presentations by Stefan Lechtenböhmer, Clemens Schneider, Alexander Scholz, Frank Merten (all WI) Moderation Philipp Nießen (ECF)
About 12:30	Discussion Round	Moderated by Philipp Nießen (ECF)
13:00-14:00	Lunch	
	Industrial Hot spots: Assessing their specific potential to take up different decarbonisation strategies (methodology and first findings)	Presentation plus moderated Discussion by Clemens Schneider, Stefan Lechtenböhmer (WI) and N.N.
	Sweet spots for RES and CCS: Approach and first findings	Presentation plus moderated Discussion by Frank Merten, Alexander Scholz and Christine Krüger (WI)
	Coffee break	
	Infrastructure Needs: Approach	Presentation plus moderated Discussion by Christine Krüger/Frank Merten and Stefan Lechtenböhmer (WI)
About 16:30	Wrap-up of the day and outlook	Ada Marmion (EIT Climate-KIC) Stefan Lechtenböhmer (WI)
17:00	Farewell	