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20.04.2023 Session Brief

Towards a green industrial transition: strategic opportunities for the EU



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The Think2030 Dialogue Sweden, held on 20 April 2023, gathered decision-makers and analysts from policy, business and research communities across Europe to debate the key sustainability issues at stake for EU policy. The Think2030 Dialogue Sweden is one of several activities within the Think2030 platform, created by the Institute for European Environmental Policy in 2018 to provide science-policy solutions for a more sustainable Europe.

As part of the Think2030 dialogue, Formas and the Stockholm Environment Institute (SEI) organized a session titled “Innovation and industry transition: towards a green industrial strategy” and this session brief summarizes the key take-aways from this session.

Co-leads: Formas & Stockholm Environment Institute

Moderator: John Tumpane, Head of Department for Environment, Formas

Rapporteur: Felipe Sanchez, Research Associate, SEI

Keynote speaker:

- Janez Potočnik, co-chair for UN International Resource Panel and former EU commissioner for Environment

Policy Panel:

- Elina Kamenitzer, Department Director, Operations Support & Climate, European Investment Bank, EIB
- Doris Schröcker, Head of Unit, Industrial Research, Innovation and Investment Agendas, European Commission, DG Research & Innovation
- Ola Hansén, Director Public Affairs, H2 Green Steel
- Nina Ekelund, Executive Director, Haga Initiative

Key messages

- Ensure that respect for biophysical boundaries and the value of social and natural capital is reflected in markets and policy. That fundamental transformation will help to achieve the European Green Deal goal of decoupling growth from resource use.
- Incentives are needed for new business models that send the right market signals for finance to flow to sustainable investments, contrary to existing models that predominately favour established conventional production.
- Targeted interventions are needed that can support implementation, such as pushing for demonstration projects and aligning government support both within EU member states and at the EU level.

The Think2030 science and policy session on innovation and industry transition focused on EU policy and enterprises across the heavy industry value chain. The session posed questions such as: can the European Green Deal remain relevant beyond the current political cycle – and achieve necessary change? Is the EU doing enough to reach the Green Deal goal on decoupling economic growth from resources use? The session participants also discussed how to meet human needs in the most resource-efficient way, the need for innovation at the system level, strengthening incentives for new business models to thrive, mobilizing finance, and increasing the efforts of implementing the goals of the EU green deal through targeted interventions.

A radical reduction of industry emissions is needed to meet the EU's goal of climate neutrality by 2050. The industrial sector accounted for more than a fifth of all greenhouse gas emissions in the EU in 2021¹. The sector comprises energy-intensive industries such as steel and cement, which generally use fossil fuels in their production. Unlike electricity production in the EU, which has increasingly made use of renewable forms of energy and reduced its emissions by 37% between 1990 and 2021, emissions from the industry sector have grown by 20% over the same period (European Environment Agency, 2023). The industry sector is an important part of the EU economy, contributing about a quarter of its GDP in 2021². For these reasons, actions taken for a green industrial transition require innovation, effort and investment from the private and public sector alike. The European Green Deal has included policy initiatives aiming to decarbonize industry while also maintaining its competitiveness, including through reform of the Emissions Trading System, the Carbon Border Adjustment Mechanism and most recently the European Green Deal Industrial Plan.

¹ European Environment Agency, "EEA Greenhouse Gases — Data Viewer — European Environment Agency," Dashboard (Tableau), April 18, 2023, <https://www.eea.europa.eu/data-and-maps/data/data-viewers/greenhouse-gases-viewer>.

² World Bank, "World Bank Open Data," World Bank Open Data, 2023, <https://data.worldbank.org>.

Innovation and the industry transition in the EU

The level of ambition and pace for the European Commission to deliver the Green Deal and Fit for 55 package is impressive. But how is the European Green Deal progressing on the realization of a green industrial transition and decoupling economic growth from resource use?

As raised during the Think2030 session, the prospects for delivering the Green Deal and ensuring its future survival will depend on its ability to also address the pressing cross-cutting issues of the day. As the Green Deal evolves, it must be able to address environment and climate challenges in the context of broader issues such as security, resilience, human well-being and prosperity.

The European Green Deal is meant to transform the EU into a modern, resource-efficient and competitive economy, ensuring that economic growth is decoupled from resource use³. But the Think2030 session highlighted a mismatch between immediate needs to reduce industry impact on the environment and changes at a systemic level that would be needed to recognize natural capital as a finite resource. The biophysical realities are stark: global material use has more than tripled since 1970⁴, and we are overshooting planetary boundaries for a safe space for humans to live⁵. Although there are small signs of decoupling economic growth from resource use, natural capital continues to decrease while GDP and production increase.

Natural resources are indeed finite, yet they remain undervalued in the economy. In order to recognize this reality and our dependency and consumption of natural resources, session discussants cited a need to first look at what is required to meet human needs and then how to make the use of natural resources more efficient. The session's keynote speaker, Janez Potočnik, co-chair for UN International Resource Panel and former EU commissioner for Environment, said: "Market signals and regulation should be better aligned to inform producers and consumers to value nature. We must decouple economic growth and well-being from resource use and environmental impacts."

So, what ideas emerged from the session about which steps need to be taken to change how we value natural resources?

³ European Commission, "Communication from the European Commission: European Green Deal," December 11, 2019, https://ec.europa.eu/info/sites/info/files/european-green-deal-communication_en.pdf.

⁴ UNEP, "Sustainable Trade in Resources: Global Material Flows, Circularity and Trade," UNEP - UN Environment Programme, November 16, 2020, <http://www.unep.org/resources/publication/sustainable-trade-resources-global-material-flows-circularity-and-trade>.

⁵ Linn Persson et al., "Outside the Safe Operating Space of the Planetary Boundary for Novel Entities," *Environmental Science & Technology* 56, no. 3 (February 1, 2022): 1510–21, <https://doi.org/10.1021/acs.est.1c04158>.

Calling for a needs-based rather than production-based model

To reach the goals of the European Green Deal and foster sustainable use of natural resources, it is not sufficient to switch to clean production processes and make industrial and societal practices fossil-free. The session called for a rethink of the production-based model to put greater emphasis on meeting human needs in the most resource efficient way. For example, a truly circular economy must begin with use and reuse well before recycling. This would require a fundamental rethink of societal practices and business models to take into account biophysical realities.

The session discussed examples of existing legislation that may perpetuate a production-based approach that may allow the economy to flourish, but which does not seek to meet needs in the most resource-effective way. One example cited was the proposed Critical Raw Materials Act, which includes targets to increase raw material extraction in the EU without addressing the levels of consumption of those materials, except by increasing recycling rates. In other words, the targets in the Act are designed to ensure a supply of lithium and other metals to produce batteries used in electric vehicles, for example, but this does not consider an effective utilization rate of these materials within biophysical realities.

What is currently missing?

The European Green Deal Industry Plan will play an important part to achieve the European Green Deal goal to reach net-zero emissions by 2050. In order to deliver the outcomes sought by the plan, the session discussed the following approaches that could support reaching the goal of climate neutrality by 2050:

1. Mobilize finance through an enabling policy and regulatory environment.

Finance must be mobilized to support innovative and new business models that can reduce the emissions in the industry sector. To enable this, private capital must be catalysed and the finance sector would need to change its risk appetite, which is currently too risk averse. Risks could be mitigated by policymakers by fostering an enabling policy and regulatory environment that can build the business case for new business models. As stated during the Think2030 session: it is not possible to finance ourselves out of a non-existent business case.

2. Create incentives for new business models to thrive.

The green industrial transition requires new business models to thrive. This can be achieved in part by disincentivizing emission-intensive ways of production to create a level playing field, for instance, by adopting higher carbon prices or establishing commitments to phase out blast furnaces. However, it was noted during the session that disincentives alone are not enough to support new business models. The right market conditions can be created by strengthening the incentives facilitating front-runner customers willing to pay the “green premium” to continue to create demand and bring prices down. Alternatively, supply for green products can be supported by ensuring that innovation funding is directed towards those embracing innovative business models in earnest rather than favouring incumbents.

3. Foster implementation through targeted interventions.

A challenge that must be tackled is the current gap in implementation between established projects and those at an early stage of market penetration. Speakers in this session pointed out a need for targeted interventions to incentivize demonstration projects, which requires cooperation and government coordination. A “whole-of-government” approach would be needed at the national level as well as at the EU level when considering issues of equity and avoiding fragmentation of the EU Single Market.

About Think2030

Launched by IEEP and its partners in 2018, Think2030 is an evidence-based, non-partisan platform of leading policy experts from European think tanks, civil society, the private sector and local authorities.

By focusing on producing relevant, timely and concrete policy recommendations, Think2030's key objective is to identify science-policy solutions for a more sustainable Europe.

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