

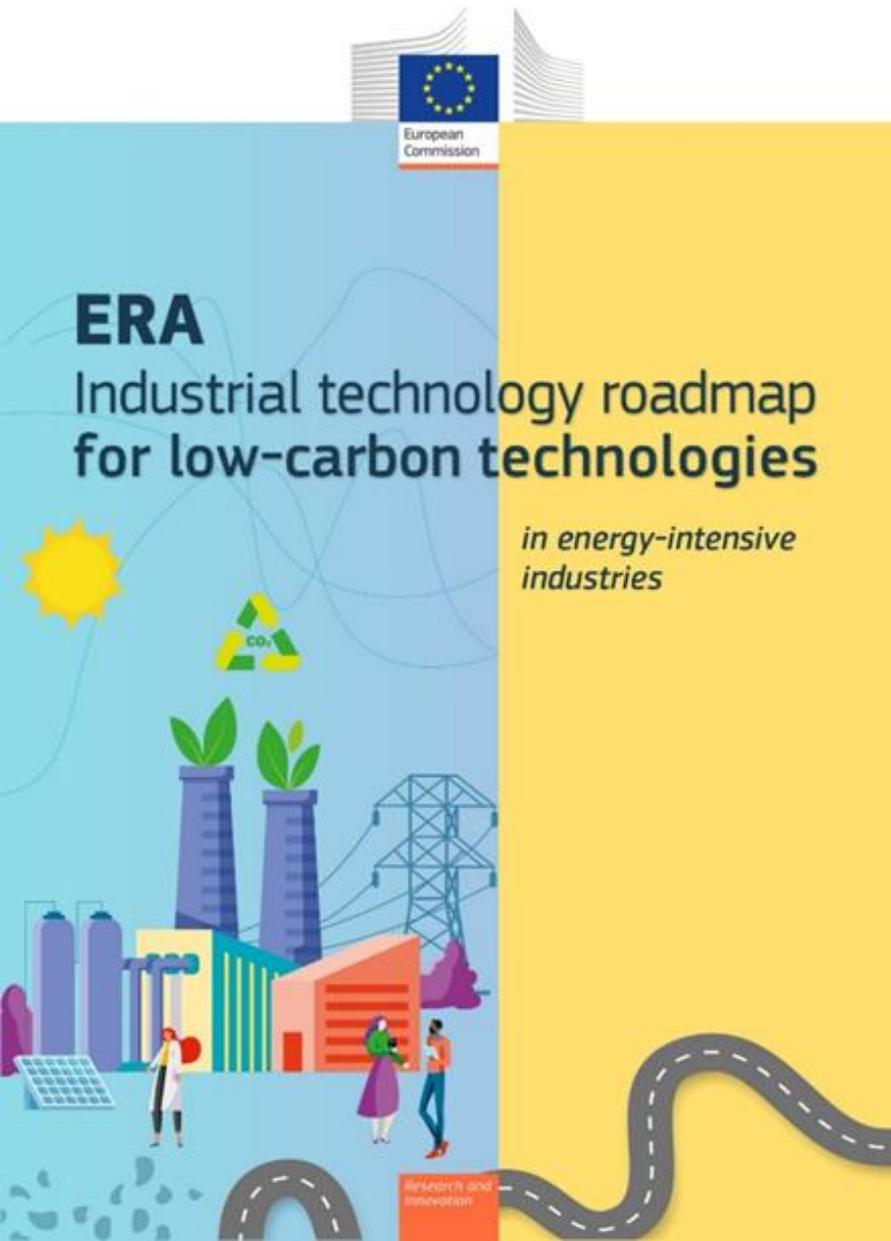


Energy

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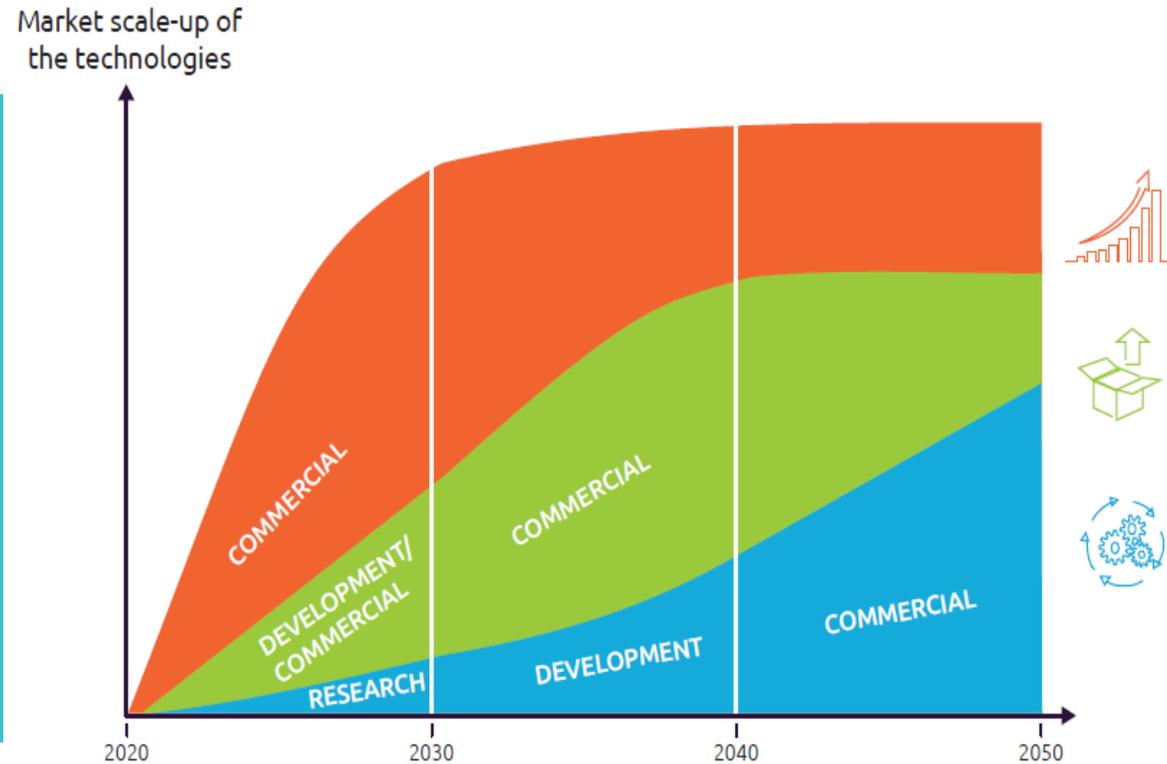
ERA industrial technology roadmap



- The ERA roadmap for low-carbon technologies, developed together with Member States, industry and other stakeholders, provides a list of key emerging low-carbon technologies for energy-intensive industries.
- It outlines scenarios for the transition of energy-intensive industries to climate neutrality and tools for leveraging R&I investments to accelerate development and uptake of low-carbon technologies.
- It elaborates on R&I needs, including public and private R&I investments, green patenting activity and enabling conditions, including regulatory framework, valorisation and standardisation aspects.
- The roadmap was published on 8 April 2022.

R&I investment needs

The roadmap points to a gap between the current overall R&I investments across energy-intensive sectors and the amount needed to reach EU Green Deal emission targets for 2030 and 2050.



DRIVE TO MARKET SCALE

Massive deployment starting in 2020



ACCELERATION & SCALE UP

Market scale can start during the decade 2020-2030



INNOVATION BETS

Market scale expected after 2030

Source: Capgemini 2020.

Key findings and related actions

Key findings

Gap between current R&I investments and levels needed to reach the Green Deal objectives

A key barrier to rollout are the uncertainties around authorisations of first-of-a-kind installations

Patenting filings in green inventions by major EU companies continue to increase, but the role of SMEs in them remains unclear

EU green standards for low-carbon technologies appear to be underdeveloped in some areas

Key actions

- 1 Establish an industrial alliance or similar initiative for cross-sectoral low-carbon technologies in energy-intensive industries
- 2 Facilitate specific national sectoral and cross-sectoral strategies or programmes with key stakeholders as part of ERA policy agenda
- 3 Establish a community of practice to facilitate authorisation for FOAK installation for low-carbon industrial technologies
- 4 Improve the knowledge on patenting for green technologies and for energy-intensive industries
- 5 Facilitate further valorisation by exploring with industry the opportunity to open up IP on central (cross-sectoral) green inventions, widening the access to IP for licensing (e.g. patent pool) and knowledge transfer
- 6 Cooperate with European standardisation organisations (e.g. CEN, CENELEC) and industrial partnerships to identify and fill main standardisation gaps for innovative LC industrial technologies

EC initiatives for clean energy and low-carbon industries

Clean energy

- **RePower EU** is the EC's plan to end the dependency on Russian fossil fuel imports
- **Fit for 55** package
- **Hydrogen alliance**
- **EU solar energy strategy**

Low-carbon industries

- **Horizon Europe**
 - incl. **Clean steel** and **Processes4planet** partnerships
- **Emission trading system**
 - funding the **Innovation Fund**