

GEOPOLITICAL & INDUSTRIAL DECARBONISATION SCENARIOS TO IDENTIFY R&I OPPORTUNITIES FOR THE EU

SUMMARY OF THE PILOT WORKSHOP (MADRID, 10-11 APRIL 2025)

2023-2026
18 PARTNERS



CONTEXT

EYE OF EUROPE OBJECTIVES

- Strengthen the integration of foresight practices into Research and Innovation (R&I) EU policy-making
- Support the Futures4Europe platform in nurturing an influential R&I foresight community

PILOT WORKSHOPS SERIES

- Address key topics relevant to the European Research Area (ERA)
- Experiment with innovative foresight methodologies and diverse groups of participants

KEY TAKEAWAYS

The workshop explored how Europe can remain competitive, resilient, and climate-neutral in an increasingly uncertain geopolitical landscape. Through collaborative scenario-building exercises, participants examined future scenarios ranging from global co-operation to heightened geopolitical fragmentation and assessed their implications for industrial decarbonisation.

Despite differing future conditions, several priorities consistently emerged: resilient clean-energy systems, secure and circular raw-material supply chains, and the rapid transformation of hard-to-abate industries through electrification, hydrogen, and advanced manufacturing technologies. Participants concluded that Europe's long-term success will depend on its capacity to combine climate ambition with strategic autonomy, agile innovation systems, and stronger integration between industrial, climate, trade, and security policies.

WORKSHOP METHODOLOGY

1. THREE SCENARIOS FOR EUROPE'S INDUSTRIAL DECARBONISATION

The workshop explored how geopolitical tensions could reshape Europe's path to climate neutrality by 2050. Participants examined three contrasting futures to assess how energy systems, trade, supply chains and industrial competitiveness might evolve under different levels of international cooperation.

COLLABORATIVE EUROPE



LIMITED COOPERATION



FORTRESS EUROPE



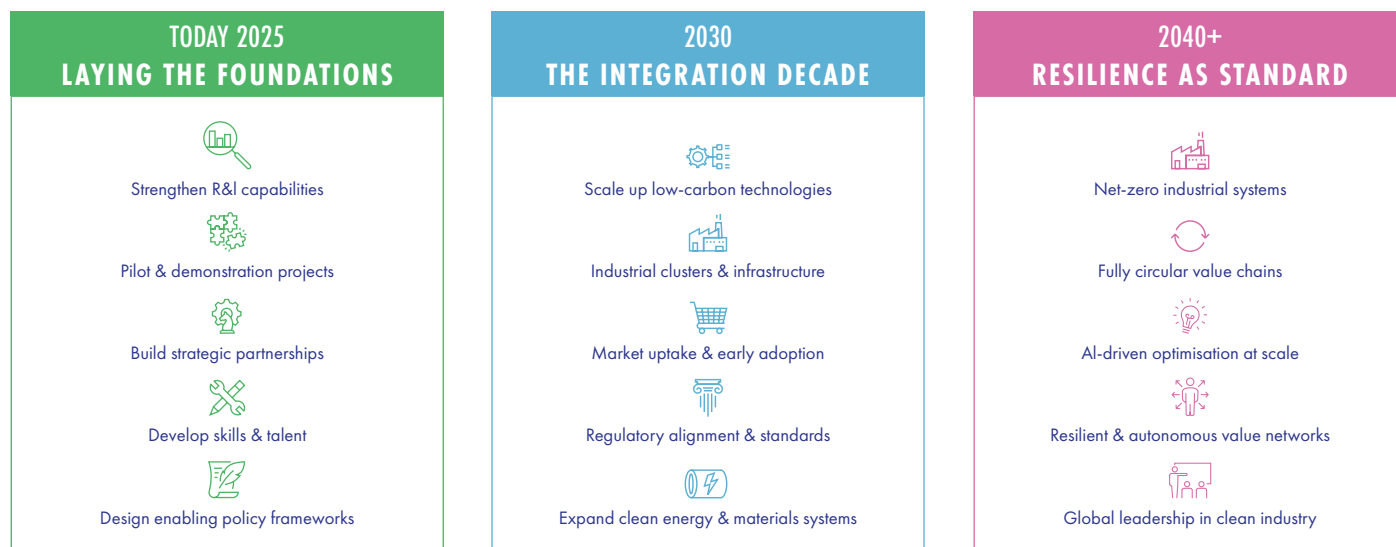
2. EMERGING R&I PRIORITIES FOR A NET-ZERO EUROPE

Across all scenarios, participants identified a common set of strategic research and innovation priorities needed to strengthen Europe's resilience, competitiveness and industrial decarbonisation in the next decades. Key areas include clean hydrogen, circular raw-material systems, electrified manufacturing, carbon removal technologies, AI-enabled optimisation, and flexible industrial infrastructures capable of adapting to geopolitical and supply-chain disruptions.



3. ROADMAPPING: SCALING THE TRANSFORMATION

This layered roadmap visual shows the evolution of Europe's industrial decarbonisation pathway across three time horizons: today, 2030, and 2040+. It highlights how early-stage pilots in hydrogen, electrification, and circularity scale into full deployment through infrastructure development and enabling policy frameworks, ultimately leading to systemic transformation of energy and industrial systems. The structure reflects the workshop roadmap logic, where innovation, regulation, and markets progressively reinforce each other towards a resilient net-zero European industry



READ THE WORKSHOP REPORT

CLICK HERE