
Modernising heavy industry can drastically cut Europe's fossil import reliance

Press Release

Europe's steel, chemical and cement industries can reverse their current 75 percent import dependence by shifting to domestic resources like renewable electricity and hydrogen, a new analysis by Agora Industry reveals. To facilitate this shift, a complementary paper by Agora Energiewende outlines design options for the EU Emissions Trading System, helping to ensure a strong policy instrument that boosts clean investments.

Berlin | Brussels, 14 July 2026. Ahead of the European Commission's reform proposal for the EU Emissions Trading System (EU ETS), a new Agora Industry study outlines a clear path for modernising Europe's heavy industry. The analysis reveals that the steel, organic chemical and cement sectors – which account for around a quarter of emissions covered by EU ETS – can slash their energy and feedstock import reliance from 75 percent to just 25 percent by 2050 while reaching the EU's climate targets.

Unlocking this potential requires decisive investments in technologies running on domestic renewable electricity, hydrogen and sustainable biomass, complemented by carbon capture and storage (CCS). Such industrial modernisation would cost less than one percent of European industrial gross value added annually compared to a fossil-dominant, high-dependence scenario. Furthermore, in the event of a one-year fossil fuel price shock similar in magnitude to the recent Strait of Hormuz closure, these sectors would avoid over 17 billion euros in extra costs relative to a fossil-dominant pathway.

"Geopolitical crises like the conflict around the Strait of Hormuz expose the high price of fossil fuel dependence," said Dr. Julia Metz, Director of Agora Industry. "By establishing a strong investment framework, the EU can lay the foundation for a more resilient and competitive industrial base. The upcoming EU ETS reform is crucial – it must safeguard a robust carbon price to ensure that investments in clean technologies pay off."

Driving the transformation: a strong ETS and complementary policies

Based on joint modelling conducted with the Wuppertal Institute and University of Kassel, the study outlines an 'Increased Resource Sovereignty' scenario, driven by domestic resource-based production. Carbon pricing is key to this industrial modernisation, delivering resilience and emission cuts. Conversely, weakening the carbon price signal leads to reinvestments into today's fossil-based production. This 'Sustained Fossil Dependence' scenario prolongs EU industrial dependence on volatile international markets.

In this context, a second publication by Agora Energiewende lays out solutions to inform the upcoming EU ETS review. The authors argue that keeping the current emission trajectory until 2035 is essential to provide reliable conditions for companies that have invested in climate-neutral technologies or are planning to do so. This 'linear reduction factor' (LRF), or the pace at which emissions are reduced annually, is currently 4.4 percent. As the emission cap declines, the Market Stability Reserve (MSR) will become increasingly vital to ensure a residual

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supply of allowances while remaining a strictly rule-based system with quantitative parameters. Furthermore, in instances where free allocation continues beyond 2034, strictly linking it to investments in decarbonising European production sites is essential. This way, the ETS can reward companies that modernise their assets, reducing carbon leakage risk and securing local jobs.

The modelling by Agora Industry finds that EU-wide carbon emissions from steel, cement and organic chemicals can be reduced to 68 million tonnes by 2040. This would be compatible with keeping the current ETS emission reduction trajectory until 2035 and then lowering the LRF to 2 percent. This pathway would see the ETS cap at 200 million tonnes in 2040. However, as the Agora Energiewende ETS policy brief explains, the supply of emission certificates also includes disbursements from the MSR, negative emissions and other reserves. These sources need to be managed jointly to ensure the ETS can continue to reduce emissions cost-effectively.

The two papers conclude that both the ETS and the Carbon Border Adjustment Mechanism (CBAM) must be embedded in a comprehensive European industrial policy. This requires accelerating infrastructure expansion, including rapid renewable energy build-out, high-capacity grids and an increased hydrogen supply. Furthermore, the transition must be supported by demand-side instruments, such as lead markets and green public procurement, alongside targeted regulatory backing for breakthrough technologies like direct reduced iron, CCS at cement plants and methanol-based chemicals. ETS revenues will be instrumental in financing this shift, and should support industrial decarbonisation investments via vehicles like the Investment Booster or the proposed Industrial Decarbonisation Bank.

"The technologies for a climate-neutral industry are ready to scale. Strong and reliable industrial policy - with carbon pricing at its core - is key to unlocking investment and equipping European industry to compete in the rapidly expanding global green market," said Frauke Thies, Director Europe, Agora Energiewende.

Main technological levers: electrification, biomass, hydrogen and CCS

Implementing the necessary measures can incentivise and enable critical investment in clean technologies that drive both emission cuts and resilience. In its modelling on resource sovereignty, Agora Industry identifies four key technological levers that heavy industry must pull to get on the 'Increased Resource Sovereignty' pathway.

First, electrification powered by clean domestic energy becomes a cornerstone of sustainable production, for example through the deployment of electric arc furnaces in steelmaking. Industrial electricity demand more than triples to almost 380 terawatt-hours (TWh) per year by 2050. Second, hydrogen made from renewable electricity becomes a key lever for steelmaking and in the chemical sector, with annual demand reaching almost 80 TWh. Third, sustainable biomass emerges as a strategic domestic resource for industrial production, especially in the chemical industry, where it is a renewable carbon source to replace fossil feedstocks. Finally, combining sustainable biomass with CCS creates synergies. It enables industry to remove more carbon dioxide from the atmosphere than it emits, the Agora Industry study shows. With these carbon removals, EU heavy industry can offset unavoidable residual emissions, unlock new revenue streams and help secure the EU's climate targets. By contrast, using CCS primarily for fossil emissions risks locking industry into considerable residual emissions, the authors warn.

"These findings send a clear and optimistic message: by strategically combining renewable electricity, hydrogen and sustainable biomass, Europe has the domestic resources to turn its back on fossil fuel imports for its industrial base. The ability of heavy industry to transform from a major polluter into a carbon sink shows how these sectors can remain a cornerstone of a resilient, competitive and sustainable Europe," Metz concluded.

The analysis "[A strategic path for EU industry](#)" was written by Agora Industry based on joint modelling with Wuppertal Institute and University Kassel. The 40-page slide deck is available at www.agora-industry.org. The policy brief "[How Europe's carbon market can boost clean investment](#)" was written by Agora Energiewende, drawing on input from Climate Desk. The 24-page paper is available at www.agora-energiewende.org.



About Agora Industry and Agora Energiewende

Agora Industry and Agora Energiewende develop scientifically sound and politically feasible strategies for a successful pathway to climate neutrality – in Germany, Europe and internationally. The organisations which are part of the Agora Think Tanks work independently of economic and partisan interests. Their only commitment is to climate action.

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