

Challenge and Ambition

WP10 PETROCHEMICALS CHALLENGE

The petrochemical industry operates through a highly integrated but complex and multi-stage value chain, which transforms hydrocarbon resources into a wide range of chemical products that we use in our everyday life. The European petrochemical industry is currently (2022-2026) facing a severe structural downturn, resulting in significant capacity closures and declining market share. The core challenges center around structural disadvantages, regulatory pressures, and global market shifts:

1) Disadvantaged Energy & Feedstock Costs: Energy accounts for up to 80% of manufacturing costs. Cheap gas is less available and reliance on higher-priced LNG has resulted in structurally higher operating costs compared to competitors in the US and the Middle East.

2) Intense Global Competition & Oversupply: the European petrochemical industry is squeezed between massive, low-cost capacity expansions in China (which increasingly dominates basic chemicals) and cheap feedstock advantages in the US. This has led to an oversupply crisis and the lowest margins in over a decade.

3) Aging Infrastructure: European steam crackers are highly dated—averaging 45 years in operation with no major new crackers built in the last three decades. This makes facilities less efficient and more expensive to run than newer plants in Asia and the Americas.

4) Strict Environmental Regulations: Ambitious EU climate-neutrality and circularity mandates require massive capital outlays to decarbonize the production processes. These strict sustainability standards are not applied equally in other regions, creating an uneven global playing field.

5) Weak Domestic Demand: Prolonged weak demand for end-use products (like plastics and automotive components), combined with global policy uncertainties, has stifled new capital investments into European facilities.

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AMBITION

The European petrochemical industry's core ambition is to undergo a monumental transformation to become fully climate-neutral, circular, and digitally advanced by 2050, aligning with the EU Green Deal while safeguarding its industrial competitiveness and retaining high-quality domestic jobs. Faced with steep energy costs and production capacity closures, 73 industry CEOs outlined this vision in the Antwerp Declaration to urge European policymakers for urgent support. The industry's strategic goals are defined by three major pillars:

Climate Neutrality: Achieving net-zero greenhouse gas emissions by 2050. This requires "defossilizing" production, shifting to alternative feedstocks (like biomass and circular carbon), and scaling up clean hydrogen and Carbon Capture and Storage (CCS) technologies.

Circular Economy: Transitioning from single-use models to robust recycling (such as chemical recycling), waste reduction, and mass-balancing to maximize material efficiency.

Global Competitiveness: To combat high energy costs—historically 4 to 5 times higher than in competing regions—the industry is pushing for a Sectoral Green Deal to streamline administrative burdens, ensure abundant affordable renewable energy, and stimulate market demand for low-carbon products.