

The energy transition: a global project for society

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opulation growth, human development, geopolitical tensions, social acceptability and climate change: this is the entire equation that lies in the energy transition. Driven by a population that will reach 9.7 billion and by improving living standards in emerging countries, global demand for primary energy will increase by 30% by 2050. At the same time, the urgency of climate change requires decarbonising the energy systems.

Faced with these multiple challenges, three major players stand out.

In the span of a decade, the United States has become the world's leading producer of oil and liquefied natural gas, giving it a competitive advantage. The Inflation Reduction Act has amplified this dynamic by stimulating innovation in decarbonisation. Thanks to existing ecosystems, such as the CO₂ transportation network for oil production (EOR¹), North American oil companies are accelerating this transformation with CO₂ storage and blue hydrogen projects. The political change at the head of the United States is driving a desire for Energy Dominance, which will in fact support the development of all energies, including decarbonised ones.

China now controls the strategic value chains of the transition. It accounts for more than 95% of the world's production of photovoltaic cells, 75% of lithiumion batteries and 85% of rare metal refining. This dominance in low-carbon technologies supports its

The European Union, a pioneer in its Net Zero 2050 ambition, is confronted with the limits of its technological determinism and economic constraints industrial competitiveness and is coupled with a pragmatic approach to the use of fossil fuels – including coal, whose consumption is still not declining – in order to preserve its energy security.

Between these two giants, the European Union, a pioneer in its Net Zero 2050 ambition, is confronted with the limits of its technological determinism and economic constraints. Energy costs, which are two to five times higher than in the United States, are weighing on the competitiveness of the European industry, which is struggling to keep pace with the transition, while consumers are finding it hard to bear the associated costs. In addition, regulatory complexity and the territories' high density hinder the development of renewable energies.

The energy transition requires a pragmatic review of priorities: technological neutrality, priority to transition solutions according to their cost for the consumer. To that end, the EU must prioritise solutions that are already available to decarbonise electricity generation (renewables, gas and batteries, nuclear, hydropower), road transport as well as residential and industrial heat, without seeking to prioritise ideal solutions to achieve Net Zero. We must accept the transition phase of the energy transition. The efforts of public decision-makers, companies and consumers must be directed towards these objectives, while providing targeted support for the technologies of tomorrow (hydrogen, fourth-generation nuclear, CO, capture, utilisation and storage, etc.). Europe can rely on many assets to aim pragmatically for Near Zero Emissions by 2050. It will be able to deliver on this goal if it harnesses the efforts of all.

1. EOR: Enhanced Oil Recovery

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