

Prof. Vicente J. Cortés - Abstract

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“Energy challenges in Europe. The role of Engineering in securing supplies and technologies”

Session 3: "The role of Engineering in the transformation of the oil and gas sectors"

“Carbon Capture and Use”. Prof. Vicente J. Cortés

Carbon capture, utilisation and storage technologies (CCUS) have traditionally been less attractive than other decarbonisation technologies, especially in southern Europe. However, the recent Net Zero Industry Act (NZIA, in the pipeline) establishes a level playing field with other technologies such as renewables, electricity and heat storage, electrolyzers and renewable fuels of non-biological origin (RFNBOs). Reasons for this are:

1. Emission neutrality in 2050 implies that part of the emissions needs to be captured and stored geologically.
2. CCUS is essential to avoid so-called process emissions from industry.
3. Capture is absolutely necessary to ensure the availability of CO₂, feedstock for certain RFNBOs and a new methanol-based carbochemistry. By 2030 20% of EU chemicals and plastics must come from recycled carbon from non-fossil sources.

The contribution will detail the importance of the three previous roles and will outline the current state of the European legislative train affecting the CCUS.