PRESS RELEASE

France: Start-up of the "3D" Carbon Capture Pilot in Dunkirk

Dunkirk, March 22, 2022 – The "3D" industrial pilot to demonstrate an innovative process for capturing CO_2 from industrial activities is now running at ArcelorMittal's Dunkirk site. With support from the European Union's Horizon 2020 Research and Innovation program, the project aims to validate replicable technical solutions for carbon capture. The "3D" project, driven by a consortium including TotalEnergies, ArcelorMittal, Axens and IFP Energies Nouvelles (IFPEN), is a major step towards decarbonizing industries that are highly emissive of CO_2, such as steelmaking.

Final stage before full-scale deployment

The challenge for carbon capture researchers is making the processes more competitive and less energy intensive. This industrial pilot should allow the performance of the DMX™ carbon capture process developed in IFPEN's labs over the last ten years to be verified.

The project was launched in May 2019, and the building of the demonstrator began in 2020 under Axens' supervision. Last December, the pilot's main modules, including a 22 meter tower, were delivered and assembled at ArcelorMittal's site in Dunkirk. The phases of building the pilot and connecting it to the plant have now been completed, and the unit is ready for start-up.

This demonstration, which is scheduled to last for 12 to 18 months, is the final stage before the technology's full-scale deployment.

Demonstrating performance on smokestack emissions

The carbon capture facility will process steelmaking gases: it will demonstrate the effectiveness of the carbon capture process by separating the CO_2 from other gases. During the demonstration stage, it will capture 0.5 tons of CO_2 an hour, i.e. more than 4,000 tons a year.

"This carbon capture pilot is a big step towards decarbonizing the industry: it is being tested in steelmaking, but can also be applied to refining processes, contributing to TotalEnergies' net zero ambition for 2050, together with society. We need to capture and store residual emissions: that's why our R&D teams are working alongside our partners to develop expertise throughout the CO_2 capture, storage and use process. So we are using existing technologies at our Zeeland refinery in the Netherlands, we are using pilots to validate the performance of technologies that are already advanced, as is the case here in Dunkirk, and we are looking further ahead, in our research centers, to those that will deliver tomorrow's breakthroughs," said **Marie-Noëlle Semeria, Chief Technology Officer at TotalEnergies.**

Twelve partners committed to the energy transition

The project is a vital driver for reaching the targets of the Paris Agreement on Climate Change. It includes twelve partners from research and industry in six European countries: ArcelorMittal, IFPEN, Axens, TotalEnergies and its affiliate GreenFlex, ETH, DTU, AirProducts, John

Cockerill, Gassco, Brevik Engineering and Seqens. The project also has two sponsors: Suez and Lhoist.

Key figures :

- Project launch: May 2019
- Duration: 48 months
- Estimated eligible costs: €19.2m
- EU funding: €14.7m

***

About TotalEnergies and CCUS (Carbon Capture Utilisation Storage)
In line with its climate ambition to get to net zero by 2050, TotalEnergies' priority focus is to first avoid and then reduce its own emissions to a minimum. CCS technologies complement this approach by capturing and storing the company's residual emissions and those of its customers. For this reason, TotalEnergies is fully engaged in developing the CCUS value chain with 10% of its annual global R&D budget devoted to this field. TotalEnergies ambition is to store at least 5 million tons of CO2 per year by 2030, notably thanks to industrial CCS projects such as Northern Lights in Norway

About TotalEnergies Research and Innovation
TotalEnergies deploys its Research and Innovation in the fields of solar and wind energy, storage solutions and hybrid energy systems, distributed energy networks, biofuels, biogas, hydrogen, low-carbon products for alternative mobility, and carbon capture, storage and utilization technologies. TotalEnergies Research and Innovation's 4,300 employees based in 18 research centers around the world work hand in hand with researchers, students and entrepreneurs who are committed to supporting the energy transition.

About TotalEnergies
TotalEnergies is a global multi-energy company that produces and markets energies: oil and biofuels, natural gas and green gases, renewables and electricity. Our 105,000 employees are committed to energy that is ever more affordable, cleaner, more reliable and accessible to as many people as possible. Active in more than 130 countries, TotalEnergies puts sustainable development in all its dimensions at the heart of its projects and operations to contribute to the well-being of people.

@TotalEnergies TotalEnergies TotalEnergies TotalEnergies

TotalEnergies Contacts
Media Relations: +33 (0)1 47 44 46 99 I presse@totalenergies.com I @TotalEnergiesPR
Investor Relations: +33 (0)1 47 44 46 46 I ir@totalenergies.com

Cautionary Note
The terms "TotalEnergies", "TotalEnergies company" or "Company" in this document are used to designate TotalEnergies SE and the consolidated entities that are directly or indirectly controlled by TotalEnergies SE. Likewise, the words "we", "us" and "our" may also be used to refer to these entities or to their employees. The entities in which TotalEnergies SE directly or indirectly owns a shareholding are separate legal entities. This document may contain forward-looking information and statements that are based on a number of economic data and assumptions made in a given economic, competitive and regulatory environment. They may prove to be inaccurate in the future and are subject to a number of risk factors. Neither TotalEnergies SE nor any of its subsidiaries assumes any obligation to update publicly any forward-looking information or statement, objectives or trends contained in this document whether as a result of new information, future events or otherwise. Information concerning risk factors, that may affect TotalEnergies' financial results or activities is provided in the most recent Registration Document, the French-language version of which is filed by TotalEnergies SE with the French securities regulator Autorité des Marchés Financiers (AMF), and in the Form 20-F filed with the United States Securities and Exchange Commission (SEC).