CASE STUDY

A world designed to last

QatarEnergy North Field East (NFE)



TECHNIP ENERGIES



Overview

In February 2021, Technip Energies, in a joint venture with the Japanese company Chiyoda, won the contract for the EPCC (Engineering, Procurement, Construction and Commissioning) of the onshore facilities of the North Field East Project (“NFE”), in Qatar.

This contract covers the delivery of 4 mega trains, each with a capacity of 8 million tons per annum (“MTPA”) of Liquefied Natural Gas, and associated utility and offsite facilities. NFE QatarEnergy is the world’s largest Liquefied Natural Gas (LNG) project to date.

The new LNG plant will receive approximately 6 billion standard cubic feet per day of feed gas from Qatar’s North Field, which is the largest non-associated gas field in the world. NFE project will produce approximately 33 MTPA of additional LNG, increasing Qatar’s total export capacity from 77 to 110 MTPA.

Contract:
EPCC

Award:
February 2021

Completion:
2025-2027

Delivery:
2021

Client:
QatarEnergy

Location:
Ras Laffan, Qatar

4 LNG TRAINS

+45,000 WORKERS ON SITE DURING CONSTRUCTION PEAK

OPERATING CENTERS IN 6 COUNTRIES

600,000 M³ CONCRETE: 6 X GRANDE ARCHE IN PARIS

100,000 TONS OF STEEL STRUCTURE: 15 X EIFFEL TOWER IN PARIS

Challenge

Following the trend of all recent LNG developments, North Field East is applying several solutions to reduce GHG emissions.

One of the priorities was to capture the large volumes of CO_2 contained in the natural gas feeding the LNG plant, compress and sequestrate it in a saline aquifer.



Technologies

North Field East project will emit approximately 25% less CO_2-eq than a similar LNG plant through:

A CO_2 capture and sequestration (CCS) system, compressing the CO_2 extracted from the feed gas for injection into disposal wells.

A better energy efficiency thanks to waste heat recovery facilities.

Electrical power imported from the national grid, which will include renewable power coming from Qatar's future solar projects.





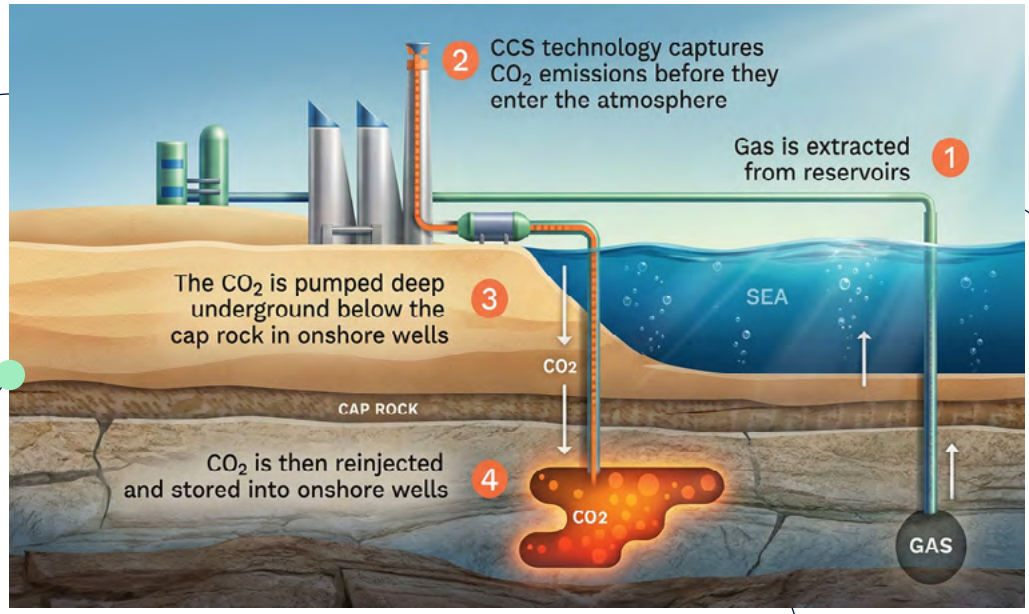
Solutions



The NFE CCS unit will be the largest of its kind in terms of capacity in the LNG industry and will be one of the largest ever developed anywhere in the world.

Gas Turbine NOx emissions will be reduced by 60% through the application of Ultra Low NOx DLN1+ technology.

Besides CCS, the NFE project has a strong focus on environment, and includes several features to maximize water recovery & re-use as well as a major tree irrigation network.



Results

The North Field East project will cover the delivery of 4 mega trains, each with a capacity of 8 Mtpa of LNG, and associated utility facilities. It will include a large CO_2 Carbon Capture and Sequestration facility, leading to more than 25% reduction of Green House Gas emissions when compared to similar LNG facilities. This award reflects Technip Energies' ability to integrate technologies towards low carbon LNG and supports the company's vision to accelerate the energy transition journey.

"Offering low-carbon LNG is essential to support the energy transition. The NFE project is implementing additional environment value with specific features to reduce emissions, including one of the largest CCS project ever developed."

Paul Appia
Project Director

