



## Products and Pricing

### Natural Gas



CPC promotes natural gas as the fuel of the future, in keeping with Taiwan's policy aim of energy diversification. It is based on its inherent advantages in terms of high thermal efficiency, low pollution profile, and convenience that allows for safe handling. A new era of clean energy for Taiwan was ushered in with the completion of the country's first LNG receiving terminal in Kaohsiung's Yongan District in 1990, and a second-phase expansion project was completed in December 1996, boosting the capacity to 4.5 million tons annually; A third-phase expansion project to satisfy demand

from independent power producers (IPP) as well as consumer and industrial end-users in northern Taiwan commenced in July 1996. In addition to terminal-area expansion, this involved laying a 36-inch diameter, 238 km long undersea pipeline from the Yongan plant to Tongxiao. Its completion in December 2002 expanded CPC's annual LNG handling capacity to 7.44 million tons.

### **Increasing handling capacity to meet requirements**

With the primary purpose of supplying natural gas to the Taiwan Power Company (Taipower), industrial firms and household users in central and northern Taiwan, CPC built a LNG receiving terminal sited close to Taichung's Port West Pier 13 and the hinterland, with capacity of three million tons; three LNG storage tanks each of 160,000 kiloliter capacity; gasification and gas supply facilities; and a 135-kilometer, 36-inch sea long-distance gas transportation pipeline from Taichung Harbor through the Tongxiao distribution center to the Datan metering plant. This plan was launched on July 13, 2009. The recently-completed Taichung LNG Terminal Phase II Investment Project calls for the construction of three additional 160,000 kiloliter above-ground storage tanks, plus another gasification facility at the terminal itself; a 26-inch, 21.8 km terrestrial gas pipeline between the terminal and the Wuxi Separation Station; and a further switching station linked to the existing 26-inch pipeline at the Wuxi site. The project will boost the annual LNG handling capacity of the Taichung terminal to over six million tons and ensure a stable, dependable supply of natural gas during the winter's often inclement monsoon period, as well as—and partly because of—greater storage capacity in terms of the number of days' supply of LNG on hand.

Currently, Taiwan government policies to phase out nuclear power plants and to reduce greenhouse gas emissions mandate 50% of Taiwan's total electricity to come from natural gas by 2025. To help reach this target, CPC will lease Wharves 11 and 12 and their associated facilities from the Port of Taichung to create the Taichung LNG Terminal's second dedicated LNG-unloading wharf. Execution of its Phase III expansion module will add two 180,000 kiloliter above-ground storage tanks and their associated gasification plant. These projects are expected to improve the unloading energy and gas supply stability upon completion.

In order to comply with the “Capacity of Self-provided Storage Tanks for Natural Gas Production or Import Enterprises” revised on August 27, 2019, and the requirements to increase the number of storage tank capacity days and business inventory days year-on-year, CPC will continue with the Taichung Receiving Terminal New Pier & Terminal Expansion exterior Taichung Harbor Investment Project (which will add four above-ground full-capacity 180,000 kiloter LNG storage tanks, gasification facilities, and two LNG-unloading wharves and other related facilities). After completion of the land reclamation of the North Reclamation Area (III) and the South Reclamation Area (IV)-2, the Nanti Rd.-crossing pipelines will connect to the existing plant area to support each other. It is expected that after the completion at the end of 2028, the overall equipment utilization rate can be reduced and the gas supply stability and safety can be improved.

CPC has constructed an extensive natural gas transmission and distribution system on Taiwan’s western side. It comprises approximately 2,221 kilometers of terrestrial trunk pipeline, extending from Pingtung in the south to Keelung in the north; and which includes eight supply centers, one transfer center and 50 distribution stations along its length. Current plans are centered on the goal of constructing interlocking ring-shaped networks to produce a figure-of-eight configuration. This will involve laying down a 238-kilometer undersea pipeline from the Yongan LNG Terminal to Tongxiao and a 500-kilometer terrestrial pipeline onwards from Yongan to Taoyuan. In addition, after the 36-inch undersea gas pipeline from the Taichung LNG plant to Datan power station has come on stream, it will be linked with terrestrial pipelines in central and northern Taiwan to form another circular formation, thus completing the planned island-wide, integrated figure-of-eight natural gas transmission network.

### **Gas supply by area increases system security**

In compliance with government policies to phase out nuclear power plants and to create an environmentally-friendly, low-carbon environment, CPC plans to set up three gas-fired generating units at Datan Power Station. To generate abundant energy for Datan Power Station, the commodity sectors in the north and other customers of the power station, CPC plans to set up a third LNG terminal in Kuantang Industrial Centre, comprising reception facilities which can hold up to three million metric tons of import

quantum, two LNG storage tanks each of 160,000 kiloliter capacity; gasification and gas supply facilities to connect with the existing gas supply system.

CPC's Third LNG Receiving Terminal project got under way in 2016 and is currently scheduled to come on stream in June 2025. In the future, with the three terminals—one each in northern, central and southern Taiwan—supplying natural gas to users in their respective areas, there should be some reduction in the cost and risk of transmitting gas over long distances. The figure-of-eight combined undersea and terrestrial gas pipeline network will enhance both the safety and stability of gas supply through its transfer and backup functions. The completion of this third LNG receiving terminal project will enable CPC to construct and operate a national level natural gas supply system that is fully functional, stable and safe.

### **Towards net zero, introducing carbon neutral LNG**

As a first step toward energy transition and net zero, CPC received its first carbon neutral LNG cargo in 2020. To ensure the credibility of the net zero products, high quality nature-based carbon credits have been used to offset the overall greenhouse gas (GHG) emissions of the relevant LNG cargo, including exploration, transmission, liquefaction, shipping, regasification, distribution and end-use. In 2021, CPC received the PAS 2060 third-party validation report, a globally recognized carbon neutrality standard. In the future, CPC will keep endeavoring in importing carbon neutral LNG, not only to reduce our carbon intensity, but also to provide a net-zero solution for our customers in Taiwan.

### **Global strategy for a stable gas supply**

CPC has devoted considerable efforts diversifying its sources of LNG imports to ensure a stable supply of natural gas for Taiwan. The source of LNG imports is all over the world, including the Middle East, the Asia-Pacific region, Russia, Australia, North America, Central and South America, Africa and Europe.

In addition to mid to long-term LNG procurement contracts, CPC acquires additional supplies through short-term/spot transactions to achieve the security and

diversification of gas supply in Taiwan. In 2021, CPC imported most of its LNG from Qatar, Papua New Guinea, Australia, the United States and Russia.

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PostDate : 2023-01-19

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