



5.7 MWe COMBINED HEAT AND POWER PLANT Coke Oven Gas in Chemical Manufacturing

OWNER

Jinneng Coal Gasification Chemical Co., Ltd.

LOCATION

Shandong Province, Peoples Republic of China

PRODUCT

Taurus 60 Gas Turbine

CUSTOMER VALUE

Sustainable Power for China Coking Industry

Jinneng is an integrated chemical enterprise focusing on the production and sales of coal derivative chemicals and refined chemical products. One of the company's main products is coke, which is primarily used in steel mills. Coke oven gas (COG) is a byproduct of the coking process, in which coal is heated in the absence of air to drive off the volatile compounds. COG is a high hydrogen and medium heating value waste gas containing significant dust and corrosive pollutants. Solar offered a gas turbine combined heat and power (CHP) solution. The waste product is captured, treated and used as fuel for the *Taurus*[™] 60 gas turbine, which produces both electricity and useful thermal energy, while also reducing local air pollution.

Solar[®] Turbines

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5.7 MWe GAS TURBINE COMBINED HEAT AND POWER PLANT



PLANT DATA

One Taurus 60 Gas Turbine (5.7 MWe)

Heat Recovery Steam Generator

Fuel Gas Compressor

Coke Oven Gas Cleaning and Compression

Coke Oven Gas Fuel Polishing System

13 Tons Saturated Steam

Fuel: Coke Oven Gas



OUR PRODUCTS & SERVICES

Design

Gas Turbine Integrated Package (Gearbox, Generator, Control System, Fuel System, Lubrication System, and Start System)

Commissioning and Installation

Site Training

Spare Parts

Field Service

REDUCES GREENHOUSE GAS EMISSIONS

CUTS DOWN TRANSMISSION AND DISTRIBUTION COSTS

IMPROVES ENERGY EFFICIENCY

IMPROVES WORKER SAFETY

For many years it was common practice in China enterprises producing these products to bake the coke oven gas out of the coal, and then emit it into the atmosphere, missing an opportunity to turn waste into energy and at the same time reduce emissions. The Solar gas turbine CHP system operates at approximately 68 percent efficiency and uses 26 percent less fuel than separate heat and power systems, which translates into a high rate of return on the initial investment. Jinneng became the first foreign business to win the U.S. Environmental Protection Agency International CHP Award. The installation not only makes commercial sense but benefits the environment by reducing CO₂ emissions by 40,000 tons per year, the equivalent of removing annual emissions from 6,600 automobiles.

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