



COMBINED HEAT AND POWER PLANT COKE OVEN GAS IN CHEMICAL MANUFACTURING JINNENG COAL GASIFICATION CHEMICAL CO., LTD.

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 sale 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 reducing local air pollution.

Solar® Turbines

A Caterpillar Company

Combined Heat and Power Plant - Coke Oven Gas in Chemical Manufacturing



PLANT DATA

One Taurus 60 (5.7 MWe) Gas Turbine

Heat Recovery Steam Generator

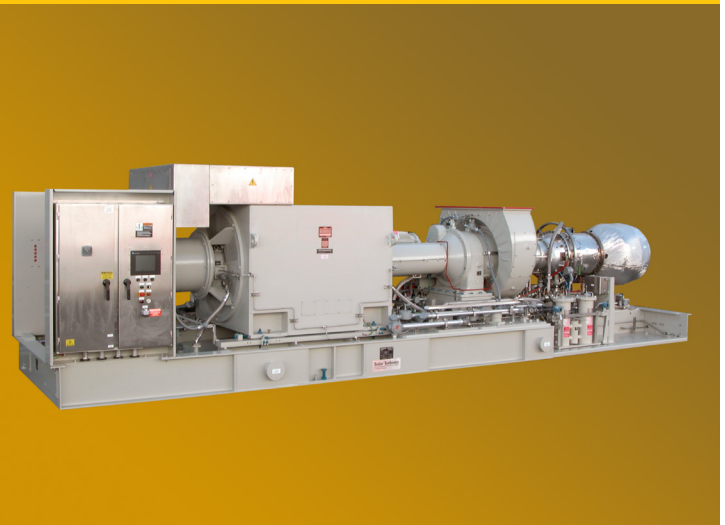
Fuel Gas Compressor

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

REDUCES TRANSMISSION AND DISTRIBUTION COSTS

IMPROVES ENERGY EFFICIENCY

IMPROVES WORKER SAFETY

For many years it was common practice for enterprises in China producing these products to bake the coke oven gas out of the coal and then to 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% efficiency and uses 26% 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.

Solar Turbines Incorporated
Tel: +1 619 544 5352
Email: infocorp@solarturbines.com Web: www.solarturbines.com

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