



# COMBINED HEAT AND POWER HIGH HYDROGEN OFF GAS APPLICATION NINGBO HUA TAI

OWNER

**Ningbo Hua Tai**

LOCATION

**Ningbo, China**

PRODUCT

**Three Titan™ 130 Generator Sets**

CUSTOMER VALUE

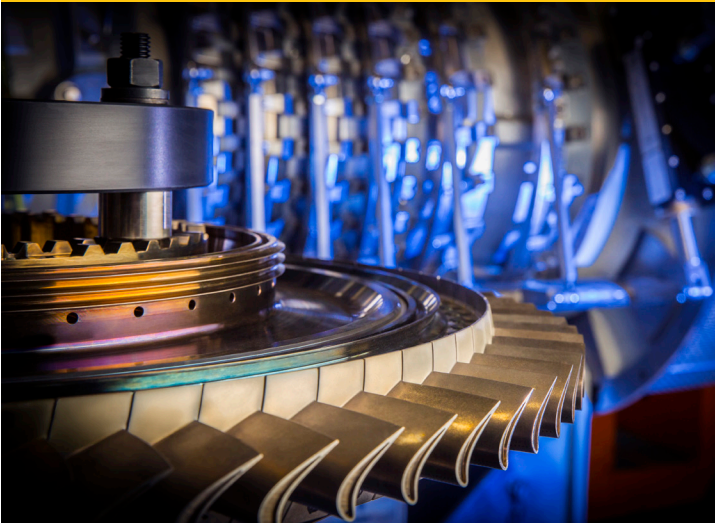
**Energy Savings**

Ningbo Hua Tai operates a chemical plant producing 600,000 tons of polyethylene and styrene per year. Ningbo Hua Tai receives imported ethane/propane by international vessel unloading at Ningbo Beilun port. After mixing CNOOC Ningbo Daxie refinery dry gas as raw material, the company sends the mixed ethane/propane into the chemical cracking process unit (PDH/EDH) to produce ethylene/propylene, then produces polyethylene and styrene as major chemical products for the chemical plastic industry. At the same time, H<sub>2</sub> off gas from the PDH/EDH cracking process is available after plant off gas balance. In order to increase plant fuel efficiency and reduce the cost of energy, Hua Tai chose three Titan™ 130 generator sets in a combined heat and power (CHP) system from Solar Turbines to make full utilization of this process H<sub>2</sub> off gas.

## Solar® Turbines

*A Caterpillar Company*

## Combined Heat and Power – High Hydrogen Off Gas Application



### PLANT DATA

Three Titan 130 Gas Turbine Generator Sets

Post Firing System

Heat Recovery Steam Generator

High Hydrogen Off Gas with SoLoNO<sub>x</sub>™ Combustion Technology



### OUR PRODUCTS AND SERVICES

Gas Turbine Package and Auxiliary Support

Startup and Commissioning

Operation and Maintenance Training

**COMPETITIVE PRODUCT PRICE**

**LOCAL AND RELIABLE SERVICE**

**ENVIRONMENTALLY FRIENDLY**

Ningbo Hua Tai built the new CHP plant to provide steam and power to their chemical facility. The three Titan 130 generator sets provide the Hua Tai chemical facility with 70% of their electrical requirements based on available H<sub>2</sub> off gas amount, steam for chemical process user, and power connect to the grid. Compared with traditional CHP, this plant burns process H<sub>2</sub> off gas to reduce coal/nature gas consumption and reduce CO<sub>2</sub>/NO<sub>x</sub> emission, which aligns with country carbon reduction strategy. Ensuring an environmentally conscious manufacturing process that enables Hingbo Hua Tai to maintain a strong business presence in the markets they serve was a prime motivator for the selection of these gas turbine generator sets from Solar Turbines.

Solar Turbines Incorporated  
Phone: +1 619 544 5352  
Email: [infocorp@solarturbines.com](mailto:infocorp@solarturbines.com) Web: [www.solarturbines.com](http://www.solarturbines.com)

Caterpillar is a registered trademark of Caterpillar Inc. Solar, Titan and SoLoNO<sub>x</sub> are trademarks of Solar Turbines Incorporated.  
© 2023 Solar Turbines Incorporated. Specifications subject to change without notice. All rights reserved.  
CSCHP-NHT/0123/EO

**Solar® Turbines**  
**A Caterpillar Company**