



Shell Lubricants

POWER

Dan Chang Bio-Energy saves a reported US\$54,800 with Shell Turbo T oil's extended drain interval

Total reported annual customer saving

US\$54,800



Dan Chang Bio-Energy Co. Ltd generates power from bagasse, a by-product of sugarcane crushing.

The company practices preventive maintenance, and, to avoid unplanned downtime was replacing the lubricant in its steam turbine every two years. However, each time the company performed an oil change, it had to plan a three-day plant shutdown.

Shell recommended changing the lubricant to Shell Turbo T and using Shell Lube**Analyst**, a predictive maintenance service. With this solution, Dan Chang Bio-Energy has doubled the oil-drain interval to four years and now enjoys a trouble-free maintenance period. The company's predictive maintenance service and the application of a superior lubricant have resulted in less lost production and reduced maintenance costs, which amount to a reported annual saving of US\$54,800.

Company: Dan Chang Bio-Energy Co. Ltd

Country: Thailand

Application: Steam turbine

Saving: US\$54,800 total reported annual customer saving

Key edges: Shell Turbo T 46, Shell Lube**Analyst**

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DESIGNED TO MEET CHALLENGES



1 Challenge

Each time Dan Chang Bio-Energy performed an oil change on its steam turbine, it had to plan a three-day plant shutdown. The company wanted to extend the oil-drain interval and reduce production downtime and maintenance costs.

2 Solution

Dan Chang Bio-Energy decided to use Shell Turbo T high-quality industrial steam and gas turbine oil alongside the Shell LubeAnalyst oil condition monitoring service.

3 Outcome

By using Shell Turbo T oil and the Shell LubeAnalyst service, Dan Chang Bio-Energy has doubled the steam-turbine's oil-drain interval, which is reducing maintenance costs and increasing production.

4 Value

Over Shell Turbo T oil's four-year oil-drain interval, Dan Chang Bio-Energy is saving a reported US\$54,800 by reducing maintenance costs and avoiding a three-day plant shutdown.

Shell Turbo T

High-quality industrial steam and gas turbine oils

Shell Turbo T oils are designed to meet the demands of the most modern non-geared steam and light-duty gas turbines. The oils are formulated from high-quality, hydrotreated base oils and a combination of zinc-free additives, which provide excellent oxidative stability, corrosion protection, low foaming and excellent demulsibility.



Applications

Shell Turbo T oils are available in ISO grades 32, 46, 68 and 100, and are designed for:

- non-geared, industrial, steam turbines;
- non-geared, light-duty, gas turbines;
- water turbines;
- compressor applications; and
- applications requiring strong control over corrosion and oxidation.

Performance features and benefits

- Strong oxidation control for extended oil life; reduced formation of acids, deposits and sludge; and lower operating costs
- High foaming resistance and rapid air release reduce pump cavitation problems, excessive wear and premature oil oxidation.
- Water-shedding properties to minimise corrosion and premature wear, and lessen the risk of unplanned maintenance
- Excellent corrosion protection for reduced maintenance
- Resistance to ammonia reactions, which helps to prevent the ammonia compounds from forming that can reduce the reliable operation of bearings and seals

Exceeds original equipment manufacturers' specifications

- General Electric GEK 28143b, Type I (ISO 32); GEK 28143b, Type II (ISO 46); and 46506E
- Siemens Westinghouse 21T0591 and PD-55125Z3
- DIN 51515 Parts 1 and 2
- ISO 8068
- Solar ES 9-224W Class II
- GEC Alstom NBA P50001
- JIS K2213 Type 2
- BS 489-1999
- ASTM D4304, Type I
- Siemens-Mannesmann Demag 800037 98

Approvals

- Siemens Power Generation TLV 9013 04
- Alstom Power Turbo-Systems HTGD 90-117
- Man Turbo SP 079984 D0000 E99
- Cincinnati approval P-38 for Turbo T 32, P-55 for Turbo T 46 and P-54 for Turbo T 68

Applications	
Equipment	Lubricants
Combined cycle turbine systems	Shell Turbo CC
Gas turbines	Shell Turbo GT
Transformers	Shell Diala
Heavy-fuel-powered engines	Shell Argina
Natural-gas-powered engines	Shell Mysella



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