



May 30, 2003  
J-POWER

## **Thermal Power Plant Fueled with Rice Chaff in Roi-Et, Thailand, Put into Commercial Operation**

The Electric Power Development Company (J-POWER) had been engaged in a joint construction project with EGCO, a private electric power utility company in Thailand to build a rice chaff fueled (approximately 10,000kW output) thermal power plant in the Thai province of Roi-Et since October, 2001. The plant went into commercial operation on May 29, 2003.

Under Thailand's Purchase Assurance System for Small Power Producers, this power plant wholesales electricity to the Electricity Generating Authority of Thailand (EGAT).

This is Thailand's largest power facility utilizing rice chaff on a commercial basis as the fuel for power generation. The Roi-Et plant marks the first biomass power generation project ever undertaken by J-POWER at home and overseas worldwide.

With the commissioning of the Roi-Et Power Plant, the total number of power projects in which J-POWER has been involved overseas has reached 11 (with 9 already in service, 1 under construction and 1 being planned.)

\* SPP Program: Purchase Assurance System for Small Power Producers

The Small Power Producers' (SPP) Program was established as a legally backed system in 1992 in accordance with Thailand's energy policies. Its objective is to foster the use of renewable energies and the residual energy content of wastes. Under the scheme small power producers with a plant capacity of 90,000kW or less are entitled to sell their electricity to EGAT.

The salable power may be generated by any one of the following systems: 1. Hydroelectric, wind power and mini-hydroelectric; 2. Biomass; and 3. Thermal and co-generation (power coupled with heat supply). A total of 55 power plants (amounting to an output of 2.048MW) have supplied their electricity to EGAT as of March 2003.

### 1. Project Overview

Location:	Near the city of Roi-Et in Roi-Et Province, Thailand (Approx. 510km northeast of Bangkok)
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Type:	Rice chaff fired thermal power plant
Output capacity:	9,950kW
Fuel:	Chaff supplied by the Roi-Et Province's largest rice polishing company. Consumption:Max. 270 tons/day approx. Approx. 73,000 tons/year (Anticipated utilization rate: Approx. 75%)
Scheme:	BOO (Build, Own and Operate)
Power Buyer:	EGAT (Electricity Generating Authority of Thailand) 8,800KW
Company name:	Roi-Et Green Company Limited (established July 2000)
Operation & Maintenance:	ESCO (Subsidiary of EGCO)
Total Project Costs:	Approx. 600 million baht (roughly 1.8 billion yen, based on a parity of 1 baht = 3.0 yen) (Own capital/borrowed capital ratio: 3:7)
Borrowing:	Funds procured under the project finance scheme from the Thai Industry Finance Credit Trust (IFCT)
EPC Contractor:	Sumitomo Corporation - Meidensha Thailand
Project Schedule:	June 2001: Signing of finance agreement October 2001: Start of construction work May 2003: Start of operation

## 2. Overview of Thai Joint-Venture Company

Name:	Roi-Et Green Company Limited
Location:	Bangkok, Thailand
Paid-in Capital:	Approx. 180 million baht (Approx. 540 million yen. Baht/yen parity: 1 baht = 3.0 yen)
Division of equity:	Thai holding company (EGCO Green Energy Company Limited): 95% (equivalent to approx. 500 million yen) Thai rice polishing company (Sommai Roi-Et Rice Mill Limited Partnership: 5% (equivalent to approx. 40 million yen) * The Thai holding company (EGCO Green Energy Company Limited) was founded in April 2000 as a joint venture between Electric Power Development Co., Ltd. (EPDC) and the Thai Electric Generating Public Company (EGPC), with EPDC having a 26% (approx. 130 million yen) and EGCO a 74% (approx. 370 million yen) share in the JV's equity.
Project description:	Construction and operation of power plant and sale of power.

Reference Data 1:

Current Status of J-POWER's Involvement in Overseas IPP Projects (as of May, 2003)

[Project in Commercial Operation]

1. Leyte Geothermal Generation Project , Philippines (49,000kW)

-J-POWER's share in investment equity: 10%

-Plant put into commercial operation in January 1998 (J-POWER's capital participation goes back to May 1997)

2. Thai Oil Power Gas Combined-Cycle Plant, Thailand (Electric power: 114,000kW and steam: 141.5 tons/hour)

-J-POWER's share in investment equity: 19%

-Plant put into commercial operation in April 1998 (J-POWER's capital participation goes back to April 2001)

3. Independent Power Gas-Fired Thermal Power Plant (700,000kW)

-J-POWER's share in investment equity: 110%

-Plant put into commercial operation in August 2000 (J-POWER's capital participation goes back to April 2001)

4. Tianshi Debris-Fired Power Plant, China (50,000kW)

-J-POWER's share in investment equity: 24%

-Plant put into commercial operation in May 2001 (J-POWER's capital participation goes back to December 2000)

5. Gulf Gas Cogeneration Plant, Thailand (Electric power: 107,000kW. Steam: 32 tons/hour)

-J-POWER's share in investment equity: 49% (Indirect investment through Gulf Electric Company)

-Plant put into commercial operation in September 1998 (J-POWER's capital participation goes back to November 2001)

6. Nong Khae Gas Cogeneration Plant, Thailand (Electric power 127,000kW. Steam 26 tons/hour)

-J-POWER's share in investment equity: 49% (Indirect investment through Gulf Electric Company)

-Plant put into commercial operation in December 2000 (J-POWER's capital participation goes back to November 2002)

7. Samutprakran Gas Cogeneration Plant, Thailand (Electric power 127,000kW. Steam 26 tons/hour)

-J-POWER's share in investment equity: 49% (Indirect investment through Gulf Electric Company)

-Plant put into commercial operation in August 1999 (J-POWER's capital participation goes back to November 2002)

8. Rayong Gas Cogeneration Plant, Thailand (Electric power 105,000kW. Steam 30 tons/hour)

-J-POWER's share in investment equity: 20%

-Plant put into commercial operation in January 28 2003.

9. Roi Et Rice Chaff Fired Thermal Power Plant, Thailand (9,995kW)

-J-POWER's share in investment equity: 26%

-Plant put into commercial operation in May 29 2003.

#### Projects Under Construction

10. Chia-Hui Gas Combined-Cycle Thermal Power Plant, Taiwan (670,000kW)

-J-POWER's share in investment equity: 40% (Indirect investment through J-Power Investment)

-Plant under construction and scheduled to be put into commercial operation in March 2004, as of now.

#### Projects Being Planned

11. Ramagundam Coal-Fired Thermal Power Plant, India (520,000kW)

-J-POWER's share in investment equity: 11%

-The schedule is to execute the work by establishing a separate local subsidiary for supervising the installation work during the construction period and for plant operation and maintenance after completion.

-At present, the final adjustments are being made to the financing loan agreements of the Indian banking consortium and the construction work is to be commenced as soon as these adjustments have been finalized.

-The plant is scheduled to be put into commercial operation in 2005.