

September 11, 2017

J-POWER

**Memorandum of understanding for Joint Research of Clean Coal Technology with
Asian Companies**

**Consideration of the feasibility of overseas development of oxygen-blown integrated coal
gasification combined-cycle (IGCC)**

Electric Power Development Co., Ltd. (headquartered in Chuo-ku, Tokyo; Toshifumi Watanabe, President, hereafter “J-POWER”) concluded a “Memorandum of Understanding for Joint Research of Clean Coal Technology” with one local company in Taiwan last December and one in Thailand this September.

J-POWER aims to utilize clean coal technology (*1) accumulated in Japan to globally reduce CO₂ emissions while exporting high-quality infrastructure. J-POWER is engaged in the consideration of the feasibility of introducing high-efficiency coal-fired thermal power and oxygen-blown integrated coal gasification combined-cycle (IGCC) (*2) power generation in Asian countries with particularly strong electricity demand. As part of this, J-POWER signed the memorandums with the companies in Taiwan and Thailand.

For example, Thailand’s most recent power development plan released in 2015 stated that the country intends to use coal as well as renewable energy and other energy resources, and considers the introduction of clean coal technology. In response to the needs of these Asian countries, J-POWER will be conducting joint research in Asian countries including ultra-supercritical (USC) (*3) generation using practical examples such as the Isogo Thermal Power Station, and also the feasibility of introducing oxygen-blown integrated coal gasification combined-cycle power generation for which a field trial is being conducted with Osaki CoolGen Project (*4).

*1 Clean coal technology:

A general term for technology for environmentally friendly and highly efficient use of coal. Using the latest flue-gas desulfurization system, flue-gas denitrification system and electrostatic precipitator to significantly decrease the emissions of sulfur oxide (SO_x), nitrous oxide (NO_x) and soot and dust compared to conventional technology. Furthermore, high-efficiency power generation enables the reduction of coal consumption, significantly reducing CO₂ emissions compared to conventional technology.

*2 Integrated Coal Gasification Combined Cycle (IGCC):

An integrated power generation system with a twin-turbine configuration. The gas produced from coal is used as fuel to drive a gas turbine, and the exhaust heat is used for a steam turbine.

*3 Ultra – Supercritical (USC):

The current cutting-edge technology for pulverized coal-fired thermal power utilizing steam with pressure of 22.1 MPa or greater and temperature of over 566°C.

*4 Osaki CoolGen Project:

The large scale demonstration project for IGCC and CO₂ Capture and Storage, which has been implemented by J-POWER and Chugoku Electric Power Co., Inc. with the assistance of the Ministry of Economy, Trade and Industry since FY2012 and by New Energy and Industrial Technology Development Organization (NEDO) since FY2016.

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