

**Takehara Thermal Power Plant New Unit No.1**  
**Commenced Commercial Operation**

**Reducing CO<sub>2</sub> emission by the world highest level thermal efficiency and biomass fuel mixed combustion, and realizing high operability**

Electric Power Development Co., Ltd. (hereafter “J-POWER”) announces that Takehara Thermal Power Plant New Unit No.1 achieved commercial operation today, June 30, which had been under construction since March 2014.

Under this project, old Units No.1 and No.2, of which total capacity was 600MW, were replaced with New Unit No.1 with the same capacity.

New Unit No.1 has achieved thermal efficiency of approximately 48% (LHV), which stands at the world highest level as a pulverized coal-fired thermal power plant. This is due to hiring ultra-supercritical (USC) for steam condition, in addition to optimizing and improving power plant’s thermal cycle.

New Unit No.1’s high efficiency and the cutting-edge environmental equipment contribute to significantly reducing emissions of sulfur oxides (SO<sub>x</sub>), nitrogen oxides (NO<sub>x</sub>) and soot and dust compared with old Units No.1 and No.2, which lead to less environmental impact on the local community. Furthermore, the new unit not only reduces CO<sub>2</sub> intensity by around 20%, but also aims at 10% of biomass fuel mixed combustion ratio to reduce coal consumption and realize lower carbon emission.

This new unit has also realized high operability, i.e. flexible operation in response to fluctuations in output from expanding renewable energy.

J-POWER continues contributing to ensuring energy security of Japan and solving climate change issues by utilizing high-efficiency coal-fired thermal power and struggling for decarbonization.



Panoramic view of Takehara Thermal Power Plant New Unit No.1 and Unit No.3

## 1. Overview of the plant

		Reference		
Unit	New No.1	Old No.1	Old No.2*	No.3
Location	Takehara city, Hiroshima prefecture			
Capacity	600MW	250MW	350MW	700MW
Start of operation	June 2020	July 1967, abolished in April 2018	June 1974, abolished in June 2019	March 1983
Generation type	Ultra- supercritical	Subcritical	Subcritical	Supercritical
Fuel	Coal			
Gross thermal efficiency (LHV)	Approx. 48%	Approx. 41%	Approx. 38%	Approx. 43%

\*Main fuel for old Unit No.2 was converted from heavy oil to coal in 1995

## 2. History

---

March 2014	Construction works started
March 2020	Generation (comprehensive test run) started
June 2020	Commercial operation started

---