

## Impact of Great East Japan Earthquake on Coal Thermal Power Generation and Coal Demand

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The Great East Japan Earthquake seriously damaged five coal thermal power stations. Some two months after the disaster, the No. 1 unit of Tokyo Electric Power Co.'s Hitachinaka thermal power station resumed operation on May 15. Toward the summer peak electricity demand season, the No. 5 unit of TEPCO's Hirono thermal power station and the No. 8 and 9 units of Joban Joint Power Co.'s Nakoso thermal power station are planned to resume operation.

As coal thermal power stations were shut down in the service areas of Tohoku Electric Power Co. and TEPCO, Japan's demand for coal for power generation in FY2011 will decline from the previous year.

Coal thermal power stations' capacity totals 10.15 GW (covering general power utilities and electricity wholesalers) in the service areas of Tohoku Electric Power Co. and Tokyo Electric Power Co. Of the coal thermal power stations in the relevant areas, those on the Pacific side were damaged by the Great East Japan Earthquake. Particularly, the catastrophic tsunami following the earthquake seriously devastated their coal terminals. Becoming inoperable on the disaster were five coal thermal power stations (Hitachinaka and Hirono of TEPCO, Haramachi of Tohoku Electric, Soma Kyodo Power Co. and Joban Joint Power Co., with a total capacity at 7.05 GW). The No.1 unit of the TEPCO Hitachinaka power station resumed operation on May 15. At present, nearly three months after the disaster, coal power generation capacity in service in the areas stands at 4.1 GW with 6.05 GW left out of service.

Efforts are ongoing to restore the operation of other coal power stations. The No. 5 unit of the TEPCO Hirono power station and the No. 8 and 9 units of Joban Joint Power's Nakoso thermal power station are scheduled to resume operation within July. If they resume operation, coal thermal power generation capacity totaling 5.9 GW will be in service in the summer peak electricity demand season. But no schedule is given for the No. 1 and 2 units (with capacity at 1 GW each) of Tohoku Electric's Haramachi power station and the No. 1 and 2 units (with capacity at 1 GW each) of Soma Kyodo Power's Shinchi power plant. Their restoration is expected to take more than one year. Conditions of the No. 7 unit (with capacity at 0.25 GW) of Joban Joint Power's Nakoso power plant are unknown.

Japan's demand for coal for power generation (from general power utilities and electricity wholesalers) in FY2011 is estimated to decline by 6.3 million from the previous year to 7.5 million tons. In the service areas of Tohoku Electric and TEPCO, utilization rates may be raised from the previous year at coal thermal power stations in service. Given that some coal thermal power stations are left out of service due to the disaster as noted above, however, coal demand for power generation in the areas in FY2011 is expected to fall by 7.9 million to 9.1 million tons from the previous year. In the other areas of Japan, coal demand for power generation in FY2011 is expected to increase by 1.6 million tons from the previous year, as operators of coal thermal plants raise utilization rates in response to prolonged checkups on suspended nuclear power plants, including the Hamaoka power station that has been put out of service as a measure against earthquakes and tsunamis. The increase in coal demand in the other areas will be limited because coal thermal power plants have been used as a basic power source with surplus capacity being left scarce. For example, Chubu Electric Power Co.'s coal consumption at 1.12 million tons in FY2010 indicates that its utilization rate exceeded 90%. Such rate is interpreted as signaling full operation.

#### Post-Disaster Conditions of Coal Thermal Power Stations in Tohoku Electric and TEPCO Service Areas

Power station	Capacity	Operation	Schedule for resuming operations	In and after July		
				In service	Out of service	
Tohoku Electric Power Co.	3.20 GW			1.20 GW	2.00 GW	
Noshiro power station	No. 1 unit	0.60 GW	In service	0.60 GW	—	
	No. 2 unit	0.60 GW	In service	0.60 GW	—	
Haramachi power station	No. 1 unit	1.00 GW	Out of service	—	1.00 GW	
	No. 2 unit	1.00 GW	Out of service	—	1.00 GW	
Undecided						
Tokyo Electric Power Co.	1.00 GW			1.60 GW	0.00 GW	
Hitachinaka power station	No. 1 unit	1.00 GW	In service	Operation resumed May 15	1.00 GW	—
Hirono power station	No. 5 unit	0.60 GW	Out of service	Operation to resume in July	0.60 GW	—
Sakata Kyodo Power Co.	0.70 GW			0.70 GW	0.00 GW	
Sakata Kyodo power station	No. 1 unit	0.35 GW	In service	0.35 GW	—	
	No. 2 unit	0.35 GW	In service	0.35 GW	—	
Soma Kyodo Power Co.	2.00 GW			0.00 GW	2.00 GW	
Shinchi power station	No. 1 unit	1.00 GW	Out of service	—	1.00 GW	
	No. 2 unit	1.00 GW	Out of service	—	1.00 GW	
Undecided						
Joban Joint Power Co.	1.45 GW			1.20 GW	0.25 GW	
Nakoso power station	No. 7 unit	0.25 GW	Out of service	—	0.25 GW	
	No. 8 unit	0.60 GW	Out of service	Operation to resume by July 15	0.60 GW	—
	No. 9 unit	0.60 GW	Out of service	Operation to resume by July 15	0.60 GW	—
Electric Power Development Co.	1.20 GW			1.20 GW	0.0 GW	
Isogo power station	New No. 1	0.60 GW	In service	0.60 GW	—	
	New No. 2	0.60 GW	In service	0.60 GW	—	
Total	10.15 GW			5.90 GW	4.25 GW	

Sources: Company websites, newspapers, industry journals, etc.

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