



## Project profile: Gotsu, Japan

Project name:	Gotsu
Owner:	Prefecture of Shimane
Contractors:	Tohko · Daia · IPC Joint Venture Company
Power utility:	The Chugoku Electric Power Co., Inc.
Installed capacity:	20.7 MW
Wind turbine type:	N90/2500 kW (High-Speed), output reduced to 2300 kW due to limited grid access
Tower height and type:	80 m, steel tube tower
Number of wind turbines:	9
Wind speeds:	6.1 m/s
Site:	The wind farm is located in the prefecture of Shimane on the island of Honshū, around one and a half kilometres to the South of the city of Gotsu.
Site description:	The nine turbines stand in a hilly wooded area with elevations of between 180 and 260 metres.
Building period:	April to June 2008
Grid connection:	August 2008
Extent of delivery:	Nordex supplied the turbines, rotor blades and a SCADA system.
Calculated annual power output:	38,000 MWh
Maintenance:	Ishikawajima Plant Construction (IPC)
Warranty period:	2 years

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A premiere for Nordex and a premiere for Japan: in June 2008 the first wind power systems from the Nordex N90/2500 high-speed series went on grid in the Japanese prefecture of Shimane.

Nine turbines of this type are now rotating in the "Gotsu" wind farm on the island of Honshū – in a reduced-output version: Nordex supplied the high-speed machines with 2300 kW as only a limited amount of electricity can be fed into the grid.



"Gotsu" was installed in a wooded area. The machines are lined up on four kilometres of hilltops with elevations of between 180 and 260 metres.

"The park was very lovingly and professionally designed", says Nordex project manager Karsten Brüggemann. Among other features, the access roads to the machines are carefully asphalted and have kerbs. The areas cut into open terrain have been grassed over. According to Karsten Brüggemann, this almost gives "Gotsu" a golf course atmosphere.

This is the result of the planning and work done by Ishikawajima Plant Construction (IPC). IPC is a subsidiary of Ishikawajima Heavy Industry (IHI), the trading partner of Nordex in Japan. Nordex and IHI signed a Distributor Agreement in 2000.

The exclusive agreement gives IHI the right to act as Nordex's trading partner in Japan.

The high-speed version of the N90 is ideally suited to the Japanese market. The typhoons that occur here mean that an extremely robust machine is called for. And the N90 high-speed is



very robust: its towers are IEC-1-certified and therefore suitable for locations with extreme wind conditions. For "Gotsu" the turbine was also equipped with a system that ensures a high level of protection against lightning.

Overall, the wind energy market in Japan is still relatively small. However, Nordex has a substantial share of this market with 55 turbines and a total capacity of 86.7 MW (as at summer 2008).