Spanish energy giant Iberdrola has completed one of the world's biggest wind farms in the US state of Ohio, which will produce more than 300 megawatts of power, it said on Monday.

Iberdrola "has completed construction of the Blue Creek wind farm in the United States, one of the largest such facilities in the world with installed capacity of 304 megawatts", it said in a statement.

The farm has more than 150 huge 100-metre-high wind turbines, manufactured by Spanish firm Gamesa, which can produce enough electricity to power tens of thousands of homes.

"Iberdrola has previously signed a power purchase agreement with the US firm FirstEnergy Solutions Corp for the energy generated by this facility over the next 20 years," it said.

The company said it had also started building a 189-megawatt wind farm near Rosamond, California.