

Japan to replace nuclear plant with world's largest wind farm

January 18 2013, by Bob Yirka



Nysted wind farm in the Baltic Sea off Denmark. Photo by Jeremy Firestone, University of Delaware

(Phys.org)—Officials in Japan have announced plans for building the largest wind farm in the world, ten miles off the coast of Fukushima – site of the nuclear disaster that followed the earthquake and tsunami that struck the island nation in 2011. Projections call for developing a wind farm capable of producing 1 gigawatt of power.

In the aftermath of the March 2011 earthquake and tsunami, the

Japanese government has turned away from nuclear power and the dangers it possesses and towards other [renewable energy resources](#). The country plans to eventually shut down all of its [nuclear plants](#) and replace them with wind and [solar plants](#). To that end, plans for wind farm construction have taken center stage, with this newest the most ambitious yet.

Currently, the largest wind farm in the world is off the coast of Suffolk in the U.K. Called the Greater Gabbard farm, it produces 504 megawatts of power using 140 turbines. The new farm planned for Japan is expected to produce 1 [gigawatt](#) using just 143 turbines.

Instead of anchoring each turbine directly to the ocean floor, the plan is to mount them on floating steel frames that will be anchored to the continental shelf below. To keep them upright, ballast will be used underneath. The plans also call for using 2 megawatt turbines, each standing 200 meters high. The site was chosen due to the existing infrastructure that had been used to transport power from the Daiichi plant before its destruction.

Fukushima prefecture has stated its goal of becoming 100 percent energy self-sufficient by the year 2040. In addition to the wind farm, plans are also being drawn up for the biggest solar farm in the country.

The wind farm will be paid for using money currently being collected via a feed-in tariff scheme for [wind projects](#) set up by the government – it became effective July 1, 2012. Thus far, its inception has boosted energy produced by such plants, the Japan Wind Power Association says, by 8.2 percent already.

Construction of the huge wind farm is expected to be complete by 2020. Project managers say that sufficient testing has been done with the design to ensure the new farm will not be harmed by earthquakes,

tsunamis or typhoons.

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