

than 5000 MW. "This year and next year are going to be big," Skelly says. "Beyond that, I think it's safe to say with confidence that there will be some level of federal support for the industry in the future and it will likely take the form of a tax credit. But maybe the current PTC needs to be killed and buried with something new in its place."

GE's offshore generation

Government funds next big turbine

MARK ANDERSON
Windpower Monthly
United States

A new generation of high-powered offshore wind turbines will be spawned within five years from a \$27 million joint project between GE Energy and the US Department of Energy (DOE). The partnership, announced last month, is expected to result in a turbine with a rated capacity in the range of 5-7 MW. The new machine will be designed specifically for deep water and stand more than 150 metres tall, about 30 metres taller than GE's current 3.6 MW offshore model. A prototype of the new technology will be tested in waters as

deep as 40 metres. Approximately \$8 million of the project will be covered by the DOE.

SETTING NEW STANDARDS

"Our research team is focused on designing a new wind turbine that will not only be one of the most powerful in the world, but sets new standards in efficiency, reliability and cost of energy as well," says GE's Jim Lyons. Research will be conducted over the next three or four years at GE's Global Research Center in Niskayuna, New York.

"Wind energy is a major component of our ecomagination initiative," says Lyons, referring to the GE program to develop environmental technologies. "The design of a next generation offshore wind turbine represents our commitment to introduce new products that help our customers meet their environmental challenges."

Development of a new generation offshore turbine does not necessarily mean that GE's 3.6 MW model, seven of which have been operating in the Arklow Bank wind station off the coast of Ireland since late 2003, is suddenly obsolete, says Lyons. "We're still actively bidding the 3.6 MW version in the US," he says. "It depends on how these planned projects play out with their timelines and permitting and all of those kinds of things. So yes, we could still end up flying some of them." As yet there are no offshore wind farms in US waters and none are expected to come online this year or next.

ECONOMIC SENSE

The main problem, Lyons says, is getting offshore projects to make economic sense. That includes everything from renting ships for installing the machinery to ease of servicing the equipment once the heavy lifting is complete.

"We've taken a fresh look at all of this and the turbine cost is only one-third the cost of the farm," Lyons says. "To get the economics right on an offshore farm you have to do everything right. The economics are getting a lot better than they were, but offshore is still a very challenging environment. There has to be a learning curve and the industry has to mature. What the DOE wants us to do is make it all affordable."

GE's plans for a bigger machine is taken by some to signal yet another caution for the embattled 420 MW Cape Wind development being planned for waters off the Massachusetts coast of northwest America. Opponents may now suggest that Cape Wind should simply wait five years

for a 7 MW turbine and end up virtually invisible in much deeper waters.

Regardless, the fate of a Coast Guard bill before the US Congress last month could have a large say over Cape Wind's future. A last-minute amendment slipped into the bill would ban wind turbines within one-and-a-half miles of shipping lanes, dooming Cape Wind's 130 turbines.

North Sea offshore cables

Green light on one link gives hope

SARA KNIGHT
Windpower Monthly
Germany

The logjam of German offshore wind projects in the North Sea waiting for permission to lay cables to shore may be freeing up. Multikabel has won a permit to install cables through a section of the protected Wattenmeer wetlands to the coast of Schleswig-Holstein. The cable stretch, one of the links needed by the 400 MW Nördlicher Grund project, has been authorised by the Schleswig-Holstein state permitting authority to run to Büsum near the Brunsbüttel nuclear power station.

Multikabel, however, still needs a further permit from the federal shipping office for the stretch of cable lying within the 12 nautical-mile zone—and must then secure permission for the onshore route to the grid connection



Not yet extinct: GE says its 3.6 MW turbine, used only once offshore so far, is still being bid into projects

SECOND PERMIT

A second offshore wind project in the German exclusive economic zone of the Baltic Sea has gained a construction permit from the federal shipping office (BSH), which has also approved a meteorological monitoring platform at the site. But the 80 turbine Arkona Becken Südost project, 35 kilometres north-east of the island of Rügen, has yet to be granted cable permits. The site is within a region identified for development by the BSH late last year. E.ON Energie owns 98% of the development company, Arkona-Windpark-Entwicklung. BSH says a proposed 50 turbine

project ne
2, was tak
making its
tion is tha
also be ap
Becken Sü
ated by a
Consult, C
Handel un
turbine m
and Deut
for it to g
approval
turbine pl
ers Flak w
the Baltic
Flak deve
Wind, is c
veloper an
WPD of B
ing comp