

# Scotland Approves Europe's Largest Tidal Energy Project

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Each of MeyGen's AR1000 turbines stands 22.5m (73ft) tall and weighs 1,500 tonnes

**Work is to begin on the largest tidal turbine energy project in Europe after the Scottish government approved it.**

The government of [Scotland](#) just gave the green light to develop Europe's largest [tidal energy](#) project and the first commercial tidal turbine array in Scottish waters. [MayGen Ltd.](#) was awarded the 86 megawatt (MW) wave power project located in the Inner Sound of the Pentland Firth, between Orkney and the Scottish Mainland. When the first phase of the project is completed in 2020, the array is expected to generate enough electricity to power 42,000 homes — around 40 percent of residences in the Highlands area of Scotland.

MeyGen is to install the tidal array in stages in the Pentland Firth, between Orkney and the Scottish mainland.

It will begin with a 9MW demonstration project of up to six turbines, with construction expected to take place on a phased basis until 2020.

When fully operational, the 86MW array could generate enough electricity to power the equivalent of 42,000 homes.

That is the equivalent of 40% of homes in the Highlands, the Scottish government said.

MeyGen hopes a second phase would eventually see up to 400 submerged turbines at the site, generating some 398MW.

It will be the first commercial deployment of tidal turbines in Scottish waters.

Scottish-registered company MeyGen is a joint venture between investment bank Morgan Stanley, independent power generator International Power and tidal technology provider Atlantis Resources Corporation.

Its tidal energy project is located in the Inner Sound of the Pentland Firth off the north coast of Caithness.

The firm has agreed a 25-year lease with the Crown Estate for an area encompassing about 1.4 square miles (3.5 square kilometres) of fast flowing water between the island of Stroma and the north easterly tip of the Scottish mainland.

Its AR1000 turbine is claimed to be the world's most powerful single-rotor tidal device.

Each of the devices, which stand 22.5m (73ft) tall, weigh 1,500 tonnes and have a rotor diameter of 18m (59ft), could generate up to 1MW of power.

### **‘Climate change’**

Scottish Energy Minister Fergus Ewing said: "Today we have granted consent to MeyGen Limited to develop the largest tidal turbine array in Europe and the first commercial project off these shores.

"This is a major step forward for Scotland's marine renewable energy industry.

"This exciting development in the waters around Orkney is just the first phase for a site that could eventually yield up to 398MW."

Speaking before the Scottish Renewables Marine Conference got under way in Inverness, Mr Ewing also announced that developers Aquamarine Power Limited and Pelamis Wave Power are to share a slice of a £13m wave "first array" support programme.

The award is part of the Scottish government's Marine Renewables Commercialisation Fund.

Mr Ewing said the tide was turning for the wave sector.

He added: "We must tackle climate change. We need to reduce our reliance on fossil fuels through better and more efficient uses of energy.

"Marine energy - a home-grown technology with huge potential - is part of the solution."

Michael Rieley, policy manager for industry body Scottish Renewables, said: "Scotland has just been given another reason to be proud of its burgeoning marine energy industry now that Europe's largest tidal energy project will be calling Scotland home.

"This is by far one of the most important milestones for the tidal energy sector to meet.

"This latest announcement to come from the marine industry is further proof that all the hard work to win the global energy race is paying off. Not only will new projects like this mean a step further towards meeting our renewable energy targets, but it will also lead to further jobs being created, increased investment, and a significant contribution towards tackling climate change."

The announcement was also welcomed by environmental group WWF Scotland.

### **'Fraught with difficulty'**

Director Lang Banks said: "This is a significant announcement and a major boost for the marine renewable industry in Scotland.

"However, as there is little point in generating huge amounts of marine renewable energy on Scotland's islands if it cannot also be got to the mainland, we now need UK and Scottish ministers to find a way forward that enables us to harness the full potential of this clean energy source.

"Alongside energy saving measures, marine renewables will have a critical role to play in helping Scotland reduce climate emissions as we phase out polluting fossil fuels and nuclear power.

"With careful planning we can harness Scotland's huge wave and tidal energy to help cut our climate emissions, while safeguarding the nation's tremendous marine environment."

The Carbon Trust has estimated that wave and tidal resources could provide 20% of the UK's electricity if fully developed.

And the Scottish government believes the country's technological expertise in marine energy makes it extremely well placed to capitalise on domestic and overseas markets.

Scotland has been described as a Saudi Arabia of renewable energy potential, but developing power from offshore tidal streams is fraught with difficulty.

The harsh environment and extreme weather conditions make building, deploying and managing a fleet of tidal machines a treacherous challenge, as the BBC discovered when [reporting on the](#)

[emerging industry last year.](#)

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