

Energy from the Sea

Voice-over:

SeaGen turbines work like submerged windmills, but instead of being driven by air, they're driven by water. They can be installed in the sea at places with high tidal current velocities, or in places with fast enough continuous ocean currents.

Angela Robotham:

We sited the turbine here for a number of reasons, erm, one of which is that it's a very aggressive site from a tidal stream velocity point of view; it's one of the most aggressive tidal streams around the coast of the UK.

Voice-over:

When fully operational, SeaGen's twin rotors will operate for up to 20 hours per day, producing electricity both on ebb and flood tides. It will produce four times more electricity than any tidal stream project currently in operation.

Angela Robotham:

This unit has a rated capacity to generate of 1.2 megawatts. So to put that into context, that would feed the...provide the electricity needs of, err, a largish village of, say, 800 homes. If you were to put a number of tidal turbines together in a farm then you've got a technology which is...or the size of...err...a capacity of a farm which is...certainly could compete with off-shore wind farms today.

Voice-over:

But SeaGen is not only required to produce commercial amounts of electricity, it needs to do it without impacting the environment. Strangford Loch is a conservation area, home to many bird and animal species. While SeaGen's footprint above the surface of the loch is minor, environmentalists are concerned that its massive 16 metre rotors operating beneath the surface could represent a hazard to curious species like seals.

Graham Savidge:

The main species or animals that are...interest here are the Common Seal, or the Harbour Seal as it is sometimes called and also the benthos; that is the animals that live on the seabed itself. Those...those two areas, but particularly the Common Seal because we know that the Common Seal population of the whole of western Europe is declining quite significantly and obviously that has to be...that species has to be really at the top of the list of concern.

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