

Dutch seek to harness energy from salt water mix (Update)

November 26 2014, by Toby Sterling

Dutch researchers are seeking to add a new, largely untapped renewable energy source to the world's energy mix with the opening of a "Blue Energy" test facility on Wednesday.

Blue energy takes advantage of the difference in salt concentration between sea water and fresh water to produce electricity.

Rik Siebers of REDstack BV, the company overseeing the project, said the goal is to improve the technology to the point where it will be profitable to build blue energy plants commercially in the 2020s.

Siebers said blue energy will one day have its own niche.

"For wind turbines you need wind, and solar panels work in the day, but water is always flowing," he said in a telephone interview Wednesday.

The Dutch plant has a theoretical maximum capacity of 50 megawatts, about enough to power 100 Dutch homes. A more limited trial of similar technology began in Norway in 2009.

The technique uses two specialized filters with salt and fresh water on each side. One filter lets positively charged sodium ions seep through, while the other admits negatively charged chlorine ions, creating a natural battery.

Each square meter of the filter panel can generate roughly one watt, and

the filters are then arranged in stacks of hundreds to multiply the effect.

It's no coincidence the technique is being pioneered in the Netherlands, which has a wealth of river-coast interchanges including the Rhine and Meuse river deltas.

The test plant is strategically located on the Afsluitdijk, the long dike built off the Dutch coast in the 1930s that turned part of the North Sea into an enormous freshwater lake.

The project is being funded by a mix of government and private sponsors, with participation by the University of Twente.

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