French Firm Wins $6.2m Funding to Harness Osmotic Energy

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French company Sweetch Energy has secured €5.2 million ($6.2m) funding to progress its nanotechnology and eco-material science to develop a first full-scale prototype that could harness osmotic energy.

Sweetch says osmotic energy “represents a breakthrough in renewable energy as a non-intermittent and abundant source of clean electricity”.

Naturally available from the difference in the salt concentration when river fresh water meets sea water, Sweetch says osmotic power provides a non-intermittent and abundant source of clean energy.

“Unlike wind or solar energies, and similarly to hydropower, it can deliver electricity continuously, and is easily dispatchable to meet the grid baseload power requirements,” it said in a statement.

“With an estimated 27,000 terawatt-hours liberated every year in deltas and estuaries around the world – equivalent to today’s global electricity demand – osmotic energy offers an abundant, but so far untapped, clean energy source.”

Sweetch Energy’s proprietary system combines recent breakthroughs in nanofluidic sciences with low-cost eco-friendly materials to create next-generation membranes, coupled with specifically engineered electrodes and innovative cell designs.

The company says the technology yields “unrivalled” performances in the field and can harness osmotic energy “with a level of cost-efficiency never achieved before, opening the door to large-scale deployment of osmotic energy as a competitive market solution”.

Lyderic Bocquet, director of the Institut Pierre-Gilles de Gennes (PSL University) and one of

world’s foremost authorities on nanofluidics, is the original inventor of nano-osmotic diffusion and one of the company’s co-founders.

He said: “Sweetch Energy’s engineering team has managed to convert in a record-time the results of our fundamental research into a complete system ready to be scaled up. This is a clear demonstration of how the alliance of academic research and private entrepreneurship can lead to new solutions to fight climate change.”

His fellow co-founder of Sweetch, Nicolas Heuzé, added: “After three years of laboratory research successfully validating our technology, this new funding brings Sweetch Energy the resources necessary to initiate our industrialization phase.

Read the original article on Power Engineering International.