

Press release

Renewable energy market set for major boost as SKF announces tidal stream breakthrough

Gothenburg, 3 July: SKF has joined forces with Proteus Marine Renewables to deliver cutting-edge technology for MeyGen. Operated by SAE Renewables, the world's largest tidal stream array is located in Scotland's Pentland Firth.

Today, SKF announced a major breakthrough by setting a new world record for tidal turbine performance and reliability. Its systems have operated continuously for over 6 years at 1.5MW without the need for unplanned or disruptive maintenance, marking a new era for the technology being tested by governments around the world. Helping to redefine the capability of renewable ocean energy systems, SKF will help provide a further minimum 59MW addition to the current 6MW pilot array at MeyGen, with ambitions to scale significantly in line with further investment and innovation through 2025 and beyond.

"Tidal stream power offers a significant opportunity for the world to diversify its energy mix whilst reducing its carbon footprint, a key target for governments around the world. Abundant resources coupled with the predictability of tidal flows make it a viable and trusted technology which we are proud to be supporting at such a critical time for the world's future energy strategy" says, Thomas Fröst, President, Independent and Emerging Business at SKF.

Predictability, Economic Impact, and Global Support

Tidal energy is one of the most predictable renewable resources on the planet, complementing solar and wind power. Given the challenges of maintaining reliability and performance in a harsh ocean environment, SKF has demonstrated a new standard for long-term, dependable energy in a market expected to contribute up to **£17 billion and 15,000 jobs to the UK economy alone by 2050** ([Offshore Renewable Energy & Imperial College London](#), Jan 2024 & [envirotecmagazine.com](#), February 2025).

The announcement coincides with the global support and continued investment in tidal stream technologies, currently aimed at deploying **1 GW of tidal Stream Energy by 2035 in the UK alone - enough power to operate approximately 829,000 homes***.

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With the cost of tidal stream declining, it's expected to become cost-competitive with nuclear energy by 2035. Overall, the global Tidal Energy Market, valued at \$1.3 billion in 2023, is poised to grow to approximately \$8.1 billion over the next 7 years (*Introspective Market Research*).

Challenges, Solutions, and Future Plans

A key challenge for the tidal stream energy sector is designing turbines that can operate reliably underwater for extended periods. A successful tidal energy provider would adopt a condition-based maintenance strategy, ideally running equipment for over six years between overhauls. Proteus and SKF believe this approach have been validated by the MeyGen pathfinder array, commissioned in 2017 as a blueprint for utility-scale tidal stream projects. In continuous operation since 2018, the array has now proven the long-term reliability needed to turn this vision into reality.

For over a decade, SKF has been supporting the specification, development and the supply of the bearings and seals for all the major mechanisms in the turbines. That includes the main rotor bearings, the yaw mechanism that rotates the entire turbine to face the tidal stream and the pitch system that adjusts the angles of the blades.

"We need suppliers that understand the demands of the subsea environment, where the consequences of key component failure are impactful. SKF has played a significant role in Proteus' ongoing refinement and risk reduction efforts, and the input goes well beyond the supply of individual components," says Drew Blaxland, CEO of Proteus Marine Renewables.

Going forward, the intention is that SKF will supply the fully integrated 3MW power trains to Proteus, providing a holistic, plug-and-play solution, simplifying their supply chain efforts.

"For over a decade, MeyGen has been at the forefront of the tidal energy sector, pioneering the blueprint for utility-scale tidal stream arrays. The successful operation and performance of our existing turbines have proven the reliability of this technology and its potential as a predictable source of renewable energy. We are excited to collaborate with Proteus Marine Renewables with the support of SKF as we progress from a pilot project to full commercial deployment", says Fraser Johnson, O&M Manager for the MeyGen tidal array.

Notes to editor

* Calculation for UK homes

- Average UK home consumption: Around 3,800 kWh per year.
- $(1\text{GW}) - 1000 \text{ MW} \cdot 8760\text{hrs/y} \cdot 0,40 \text{ (load factor)} \cdot 0,9 \text{ (availability factor)} = 3.153.600 \text{ MWh/y}$ divided by $3.8\text{GWh/y} = 829, 895 \text{ Households}$

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Since 1907, SKF has been making some of the world's most innovative bearings, seals, lubrication systems, condition monitoring solutions, and services to reduce friction. Less friction means more energy saved and by reducing it, we make industry smarter, more competitive, and more energy efficient, building a more sustainable future where we can all do more with less. SKF is represented in approximately 130 countries and has around 17,000 distributor locations worldwide. Annual sales in 2024 were SEK 98,722 million and the number of employees was 38,743. www.skf.com

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