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FLASC Offshore Energy Storage



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De Challenge

FLASC is solving one of the biggest renewable energy challenges: the mismatch between intermittent renewable energy production and consumer demand. The company is targeting offshore renewables, developing a novel energy storage solution, that will allow renewable power to be delivered on demand.

This allows, for example, large offshore wind farms to improve the quality of the power that they provide to consumer grids, to supply reliable power in remote locations, and to support decarbonisation of offshore oil & gas. The technology can also improve the performance and lifetime of electrolyzers when producing Green Hydrogen from wind.

De Solution

The solution stores energy by pumping seawater to compress a fixed volume of pre-charged air. This patented technology is also suitable for shallow water applications, since it does not rely on hydrostatic pressure, and can achieve very high efficiencies. It is built on established supply chains and well-proven concepts already used in the offshore oil and gas industry. It has been prototyped and tested, has received a Statement of Feasibility from DNV-GL, and a number of prestigious international awards. This unique solution embodies the core principles of offshore: safe, reliable and cost-effective.



De Businesscase

The FLASC technology is safe by design, with no flammability risks or chemical hazards. It is built on established supply chains with no rare earth bottlenecks and uses a combination of proven reliable components (pumps, turbines, steel vessels). It has no consumable elements to be periodically replaced and produces no hazardous waste.

A long service lifetime and no cycling degradation means that a FLASC system can reduce total cost of ownership by 40-50% when compared to the equivalent lithium-ion battery bank. Finally, a FLASC system can be safely decommissioned and fully-recycled at end-of-life.