

Resen Waves

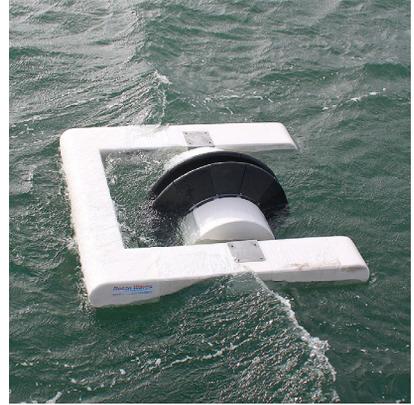
Founder: Per Resen Steenstrup

Place of implementation: In Denmark, Helligsø.

Partners involved: Resen Waves, as a private company, has been the driving force in developing this new technology based on many years of practical experience in wave energy.

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Find out more at: www.ResenWaves.com



Solution

Resen Waves is the first company in the world to provide continuous power and real-time data connectivity to autonomous instruments and machinery in the oceans and replace diesel generation in coastal areas and on islands by means of a plug-and-play buoy solution.

It is now possible to use smart phones or a web application to access instruments that monitor global warming and the health of the oceans in real time, no matter where the instruments are located in the big oceans. Power is no longer a limitation. In addition, the buoys have a great future potential to replace diesel generation, which is very costly to island populations due to the high transportation costs of diesel fuel.

Until now, instruments and machinery in the oceans have been powered by batteries or photo-voltaic (PV) or diesel generators, which require regular ship operation to replace batteries or diesel fuel and to maintain diesel generators. This is costly and sometimes not even possible due to difficult weather conditions. The buoys are like small modules that are low weight and can be installed from small local vessels, which is essential in the oceans and remote areas.

Next steps

We will follow the same path in wave energy as that for small wind turbines, by starting with small commercial wave energy buoys and over time advance to bigger buoys and eventually megawatt systems.

The impact is small in the early years, but it is necessary to go through this period in order to reach a greater impact in the future. The evolution cannot be rushed. This applies to all new production of renewable energy.

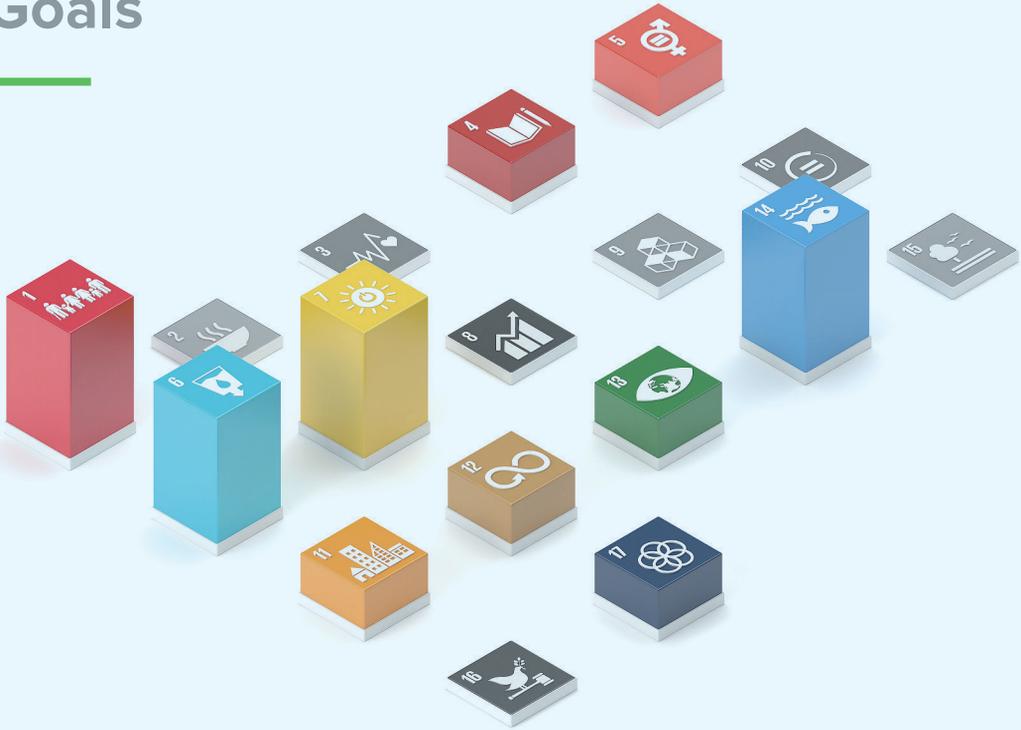
There are no quick fixes or fast tracks to success, but only hard work in small incremental steps.

Planned development phases:

1. Small-scale systems in the 100W–100kW range
2. Medium-scale systems in the 100kW–1MW range
3. Large-scale systems in the 1MW–20MW range

Over the next 10 years, Resen Waves will only deal with the small- and medium-size systems with the main aim being to replace diesel generated power in coastal areas and on islands worldwide.

Goals



Positive impact on:
 Goal 1: No Poverty
 Goal 4: Quality Education
 Goal 5: Gender Equality
 Goal 6: Clean Water and Sanitation
 Goal 7: Affordable and Clean Energy
 Goal 11: Sustainable Cities and Communities
 Goal 12: Responsible Consumption and Production
 Goal 13: Climate Action
 Goal 14: Life Below Water
 Goal 17: Partnerships for the Goals

The reduced expenditures on diesel oil will pay for the buoys and reduce emissions of greenhouse gases accordingly.

The small-scale systems represent a market of €50–100 million/year and will save 100,000–200,000 tons of diesel fuel annually. The relatively high figures include the fuel required for ship operation to replace batteries and fuel.

Sustainable Development Goals

According to the World Bank, some households on islands spend up to 30% of their income on importing diesel oil for generators, which keeps them in poverty. If a similar figure applied to the wealthy part of the world, it would throw the world economy into a deep recession. Resen Waves will hence contribute to SDG 1: *No Poverty*.

Low-cost electricity is essential for desalination in remote coastal areas. We will reduce the cost of desalination in these areas to roughly €.70/m³. This will contribute to SDG 6: *Clean Water and Sanitation*.

Clean affordable energy is essential for all societies, including in remote areas. This is why we will have a positive impact in relation to SDG 7: *Affordable and Clean Energy*. The price of electricity, at this early stage, will be roughly €.35/kWh.

Resen Waves also works with real time monitoring of the oceans, which is essential to support natural life in the oceans, and will therefore contribute to SDG 14: *Life Below Water*. The buoys also provide the power needed for real-time transmission.