

VEJRØ SHOWS THE WAY TO NEW, GREEN ENERGY SOLUTIONS



On a small island north of Lolland the market-based green energy solutions of the future are being developed. The transition is ambitious but necessary, both when it comes to the overall sustainability of the island as well as for the future success of a green Denmark.

One of the most ambitious privately initiated energy transitions in Denmark is happening right now on the small island of Vejrø. Small wind turbines and photovoltaics and large batteries are being installed to support the small island in its big ambition to become energy self-sustaining with renewable energy already this year.

The energy transition is not a small, random project, but part of a larger vision for Vejrø - a vision about building a coherent, sustainable local community that is fully self-sufficient, when it comes to food, energy, water and waste management. It is a vision about becoming a state-of-the-art lab for holistic, sustainable solutions.

Vejrø, situated in the archipelago a little North of Lolland was, until recently, perceived as a derelict garbage lot. Today the island has proven wrong conceptions usually associated with the outskirts of Denmark and is already well on its way to become a beacon for the green local community of the future.

The starting signal for that quest began when Vejrø was acquired in 2005 by Kim Fournais, who is better known as one of the founders of Saxo Bank. Since then, the island has seen great progress. Besides the energy project, a resort has been erected complete with a hotel, conference rooms, large and elegant greenhouses and an orangery to produce their own organic foods. 16-20 people are employed full-time to take care of the island's guests which include event guests, sailors and pilots arriving in on their small private planes as well as meeting- and conference participants.

The transition and development of the island is taking place without any help from public funding. Instead, the transition is financed through the offers and activities that are now underway on the island, as well as investments made by the owner, Vejrø Gruppen ApS. The goal is for the island to become entirely economically self-sufficient.

"It is of course a very ambitious project to create new life on a previously derelict island, but Vejrø ApS has invested more than 200 million Danish kroner in the project, and we are well on our way to create a success," says Lea Lohse, the CEO of the Vejrø project.

The isolation became the opportunity

The clear-cut target of 100% self-sustaining renewable energy on Vejrø is brought about as much from necessity as it is from curiosity. As of today, the island is not connected to the mainland, neither with cables nor regular transportation. The former diesel-based energy supply required thousands of litres of diesel to be transported to Vejrø to power the diesel generators. This was an impractical and expensive way of supplying energy for the island. The annual energy bill was totalled more than 1 million Danish kroner, and for that reason there was a strong incentive to make the island self-sustaining with sustainable energy and heat.



The energy project of Vejrø is more than “just” about saving money. The project is, to a large extent, also driven by the desire to explore, test and learn how an island in the best and most economical way can become self-sustaining with green energy. And that is a lesson that the rest of Denmark - and even the world - can benefit from.

Great potential for scale

Both in Denmark and also many other places around the globe, there is a need for solutions for “outskirts areas” that are often lagging behind on the green transition and are, at the same time, challenged by depopulation, thereby creating economic losses and general decline in quality of life. Thus, the development of Vejrø is also conceived as a way of creating best practices that can be imported and scaled to many other places.

The goal is to make Vejrø a positive example on how a sustainable transformation can become not only a lever for new development but also create new green jobs and make underserved areas attractive to both companies and citizens.

For those reasons, Vejrø will work with problems related to environmental and social sustainability on a small scale, which all of Denmark and the outskirts of Denmark are facing already now, and to a large extent will face in the years to come. This is about green energy supply, but also areas such as protection against the imminent and expected severe floods, droughts, or lack of labour and economically sustainable solutions.

Partnerships are crucial

The island’s energy project and the achievement of the island’s complete vision is brought about through strong partnerships and collaboration between various actors. Vejrø is, for that reason, offering itself to be a lab for potential partners and partnerships. And already today, the island is working closely with companies and knowledge institutions, especially with regards to testing and developing concrete sustainable solutions.

As Lea Lohse explains: “For us, partnerships are the key to development. Thus, we are very open to testing new technologies or technological solutions in systemic interplay and in concrete development- and demonstration projects together with companies, engineers, researchers and students from the technical universities.”

There is not only focus on collaboration with companies and knowledge institutions. The municipality of Lolland is also continuously invited and included as an important co- player and facilitator in the development of the island and corresponding projects.

Ready for the next phases

The road ahead to 100% renewable energy is already sketched out. Vejrø’s green energy will come from an off-grid-system fed by two windmills and solar panels that have a total capacity of 90 kW, as well as a large battery for storage with a total capacity of 207 kWh. The goal is here to be able to provide energy completely without the diesel generators.

The first wind turbine was installed 15 November 2018 the second one was installed 28 May 2019.



Besides this, Vejrø has had its total energy demand assessed through a comprehensive and focused data harvesting and has installed a range of smart grid solutions. One of the challenges for the island is to find the right solutions that can help balance the energy grid due to the big fluctuations in its use of energy throughout the year.

“There is a lot to be gained from the smart grid control, which our energy system is prepared for,” says Lea Lohse.

Heat supply on Vejrø is well under transition as well. Some of the heat is already today produced through solar collectors and geothermal heating, but the plan is that heating of the island’s water supply could happen when there is a lot of sun and wind.

Another example of pending projects is to optimize the use of water resources, so that, for instance, good drinking water is not just flushed out in the toilets.

“We are already well on our way and have done a lot. And we are looking forward to the work ahead and to collaborate on developing, testing and demonstrate the green solutions of the future,” Lea Lohse concludes.

Fact box:

Vejrø is an island situated in the archipelago north of Lolland, spanning 150 hectares. Behind the transformation is Vejrø Gruppen ApS which is owned by Kim Fournais, with Lea Lohse as CEO.

The energy transition is planned to make the island 100% energy self-sufficient with renewable energy and at the same time function as a role model for collaboration between municipality, companies, suppliers and researchers.

The collective costs for the investments in the energy transition is around 6 million kroner with a repayment period on below 10 years.

