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SAMSØ

ENERGIKADEMI

100 % renewable energy

When you live on Samsø, your electricity doesn't come from a traditional power station. Samsø has 11 land-based wind turbines that easily meet its entire electricity needs. On a calm day, the island can borrow electricity from the mainland grid, and return it as soon as the wind blows again.

Situated in the middle of Denmark, Samsø was chosen to be Denmark's Renewable Energy Island in 1997. The goal was for the island to be self-sufficient in renewable energy in 10 years.

Today the island's land-based wind turbines produce 100 % of the island's electricity.

Heating from fields

The large towns on Samsø are connected to various community heating systems, that all use renewable energy sources to provide hot water and heating. Between Nordby and Mårup lies an impressive solar heating installation, with 2.500 m² of solar panels. These panels are complemented by a furnace that burns woodchips from Brattingborg Woods.

On the south island three straw-fed community heating plants provide the heating for Tranebjerg, Onsbjerg, Brundby and Ballen.

Outside these community heating networks, many private households on Samsø have chosen to replace or supplement their oil-fired heating with solar panels, geo-thermal heating or wood-pellet furnaces.

Today about 70 % of Samsø's heat production comes from renewable sources.

Wind turbines to cover transport needs

When it comes to transport, Samsø is experimenting with electric and biofuel vehicles, while keeping a watchful eye on hydrogen technology. It should be possible one day to use wind turbine energy to propel electric or hydrogen vehicles. Instead of waiting for the advent of hydrogen technology, 10 huge wind turbines have been built in the sea south of Samsø, to compensate for the island's transport requirements. Each year this wind farm sends more clean electricity to the mainland grid than the island uses on transport – including oil for the 3 ferries. In fact the sea wind farm is so productive, it compensates for the 30 % of the island's heating energy still provided by non-renewable resources, such as oil-fired boilers.

Therefore, Samsø can today proudly claim to be 100 % CO₂ neutral.

The Energy Academy

Last year Samsø Energy Academy opened its doors to the public for the summer season, and functions as a centre and exhibition hall for renewable energy and energy saving schemes. The Energy Academy also houses the Samsø Energy Service, which islanders can use for free advice on subjects like effective insulation, or alternatives to oil-fired heating. The Academy arranges exhibitions, workshops and corporate events, for the 4000 politicians, journalists and schoolchildren from all over the world that visit Samsø each year to see the Renewable Energy Island and learn from our experience.

Did you know?

- Samsø was named Renewable Energy Island in 1997, and within 10 years became self-sufficient in renewable energy
- Today wind turbines provide 100 % of Samsø's electricity, similarly 70 % of heating comes from renewable energy sources
- The island has its own energy office, where companies and householders can receive advice on renewable energy solutions and saving energy
- Currently there are a number of research projects on Samsø, where rapeseed oil is used for transport and elephant grass for heating
- Samsø Energy Academy has solar heating, solar power cells and recycled rainwater systems, that are used as demonstrations for visitors
- All Samsø's community heating systems are based on renewable resources, such as straw, solar panels and woodchips
- A single wind turbine in Samsø's sea wind farm produces enough energy each year to power 2000 households. A land-based turbine can power 600 households
- The 10 wind turbines in the sea south of Samsø send more clean electricity every year to the mainland grid than the island uses on transport, including the three ferries
- A large proportion of private oil-fired boilers have been replaced by wood-pellet boilers, modern solid-fuel systems, solar panels or geo-thermal heating