Energy Academy
The Energy Academy opened in 2007 and is built by local craftsmen. The house is a demonstration and meeting place for local citizens, guests and visitors with an interest in sustainable energy, community power and sustainable development. The Academy is also an organization working on many different projects related to the continuous development of Samsoe and on Samsoe becoming a fossil free island by 2030. This work requires focus on 'next practice' as well as 'best practice'. The Academy has an ongoing exhibition and arranges workshops, conferences and courses. Each year 5000 scientists, companies, politicians, journalists, school children and energy tourists from all over the world visit Samsoe to see the sustainable energy island and learn from the local experiences.

Local ownership
Windmills are much prettier when you are a co-owner, making money when the wind is blowing. Ownership, leadership and community power are all essential elements of the green transition of Samsoe. Over the years, the Energy Academy has gathered unique knowledge about what it takes to create sustainable change for the benefit of ourselves, the planet and future generations. This hands-on knowledge is in increasing demand both nationally and globally. 90 % of the windmills on Samsoe are owned by the local people. Risk-taking, substantial investments and trust between the citizens and other actors are part of the succes. The Energy Academy cooperates with many actors in Denmark, Europe, Japan, Africa and the US on local transitions and sustainable energy solutions.

The golf course is painted green
Samsoe has one of Denmark's most beautiful golf courses, located on the farmland of Langemark and Besser. The golf course is managed by local citizens and is as one of the first in the world to have both sustainable greens and machinery for maintenance. The green golf course has become an inspiring prototype for other golf courses in Denmark and abroad. The Energy Academy is responsible for educating and qualifying the greenkeepers on Samsoe and in Denmark.

New pumps save 30 % electricity
All local communities use pumps to circulate water for cooling, distant and central heating. The muncipality of Samsoe, the company Grundfoss and the Academy collaborate to make Samsoe an example of how consumption of electricity can be reduced by 30 % by replacing older pumps with new ones. If Samsoe can achieve this, then everybody else can – and imagine the savings, both in economic terms as well as resource wise. Partnerships such as this are necessary in order to develop greener and more sustainable communities – creating partnerships, including satelite islands and cities, is therefore an important task for the Energy Academy.

Fossil free island by 2030
Samsoe's vision is to be independent of fossil fuels by 2030. Coal, oil and gas will be replaced by sustainable energy in cooperation with PlanEnergi. Seven goals have been formulated to realize the vision, for example, half the local cars must be electric by 2020 and heating in local households must be reduced by 33 %. The local islanders have established an electric cars' union.

Local energy at Samsoe

HEAT FROM THE FIELD
One great example of Samsoe's accomplishments is the impressive solar heat plant with 2.500 m2 solar panels situated between Nordby and Maarup. These panels are combined with a wood chip boiler, which uses wood chips from Samsoe to supplement solar heating. On the south of the island, three straw-based district heating plants distribute heat to the cities of Tranebjerg, Onsbjerg, Brundby and Ballen.

LOW-ENERGY HOUSES
All newer houses – built within the last 5 years – are low-energy houses. Energy for heating, electricity and hot water comes from district heating plants, heat pumps, solar cells or solar heat.

WHEN THE CAR NEEDS RECHARGING
4 public charging stations for the island's electric cars are on their way: one at each ferry harbour, one at the Energy Academy, and one in Traneberg. The social workers' and postmen's cars are electric, and they are popular. The Muncipality of Samsoe has already reached the goal of 50 % electric cars.

THE NEW FERRY RUNS ON GAS
In 2014 the Muncipality of Samsoe will have a new gas-powered ferry. The vision is to replace fossil fuels with biogas, which can be produced on the island. The ferry needs 10 m3 fluid gas each day, and because the muncipality owns the ferry that operates between Sælvig og Hou, they will create a demand for fuel locally produced on Samsoe equalling 1,5 million EURO a year. From autumn 2014 the ferry from Sealand will use the new harbour at Ballen on the eastern side of the island and thereby save both energy and time for the travellers.

MULTI -FUNCTIONAL BIOGAS PLANT
To become fossil free Samsoe will establish a multi-functional biogas plant to produce biogas for transportation. The plant will be able to digest all forms of organic materials, fluid and solid, and will be able to produce different types of fertilizers. The plant will have both a conventional and an organic section. This biogas plant will become the heart of all future management of organic waste and other biomass as well as acting as the redistributing plant.

SOLAR CELLS
Samsoe is the muncipality in Denmark which has the most solar cells per inhabitant.

THE MAP
The map is a visualization of the sustainable energy resources on Samsoe. Everything drawn in black has been established and everything in white and grey is on its way.

ENERGY ACADEMY

ENERGY ACADEMY
Strandengen 1
DK - 8305 Samsoe

T: +45 8792 1011
E: info@energiakademiet.dk
W: energiakademiet.dk

IDEA, ILLUSTRATIONS AND PHOTOS: MALENE LUNDÉN, ENERGY ACADEMY
DESIGN AND EDITOR: GITTE LARSEN, EDITIONS/HOUSE OF FUTURES

Did you know that:

- In 1997 Samsoe became Denmark's (first) Sustainable Energy Island and achieved self-sufficiency in sustainable energy within 10 years.
- 100% of Samsoe's electricity consumption is generated by 11 land-based windmills, and 70 % of the heat comes from sustainable energy sources.
- More than half the private oil-fired boilers in the island's 2000 households have been replaced by eco-heat, solar heat plants and heat pumps.
- 10 offshore windmills south of Samsoe produce so much energy that they compensate for the heat, which is still generated by e.g. oil-fired boilers and the islanders' private transportation in petrol and diesel-powered vehicles. The island is therefore proud to be 100 % CO2 neutral.
- One of Samsoe's offshore windmills produces electricity covering 2000 households' electricity consumption. A land-based windmill covers the consumption of 600 households.
- The wind power on Samsoe has demanded an investment of 40 million EURO. 3700 local citizens have personally invested 70 % of the total 58 million EURO in sustainable energy.
- The Energy Academy has a solar heat plant, solar cells and reuses rain water.
- Media from all over the world are visiting Samsoe to document the great story. Watch interviews and read articles from River Cottage, The New Yorker and many more at www.energiakademiet.dk

Energy Academy