

Case Study 18: Samsø - renewable energy island programme

Denmark

Summary

A small Danish island Samsø won the contest to be “Denmark’s Renewable Energy Island” in 1997. It meant that Samsø would be expected to convert all its energy supply to 100% renewable energy within 10 years. The means to achieve this included: cuts in consumption and increased efficiency in terms of heat, electricity and transport; expansion of the district heating supply systems combined with utilization of local biomass resources; expansion of individual heating systems using heat pumps, solar heating, biomass-plants and other means; construction of land-based and offshore wind power plants to cover electricity production.

The programme was very ambitious, because it tried to change the energy production and consumption of a whole island within a decade. A large network of different actors evolved to support the project. In addition to the RE island project personnel, also private citizens of Samsø, Samsø municipality, Danish Government, and local and external business took part in the project. An energy plan that investigated the available resources was used as a guideline through the project.



Overall, the renewable energy island project must be deemed almost completely successful, because it fulfilled most of the goals that were set. The primary objective - 100% self-sufficiency with renewable energy using local resources - has been achieved in 8 years, two years ahead of time. Other accomplishments include three new district heating plants that were built and 10 offshore and 11 onshore wind turbines that were established. The project was less successful in the transportation sector and in behavioural changes that the project aimed at.

Lessons learned

The five most crucial factors influencing the project’s success are:

1. The economic benefits of the programme.
2. Local participation.
3. Use of existing networks and organizations.
4. No free-riders.
5. The goals for savings in electricity usage and heating failed.