

## SAMSØ

## WITHOUT FOSSIL FUELS

### VISION

#### SHOWCASE

- To extend Samsø's role as a showcase for Danish know-how and experience of incorporating an energy system – without fossil fuels, and at the same time show how energy efficient solutions can be introduced to the society.

#### ANCHORAGE

- To ensure the continued anchoring in the local community of the actions initiated, and strive for public ownership of the fossil independent island.

#### OPPORTUNITIES

- To seize the possible opportunities to establish sustainable solutions - usually by using known and proven technologies.

#### INTERNATIONAL

- To learn from international experience.

#### RESOURCES

- To use the natural resources of the island in an intelligent way.

#### SKILLS

- To establish, maintain and develop a flexible way to organize initiatives, so that the targeted work can involve both the professional and human skills that are available to the island.

## OBJECTIVES

### OBJECTIVE 1: That fossil fuels are not used on Samsø

This means that coal, oil or gas used for energy and transportation purposes gradually will be phased out towards 2030. The total greenhouse gas emissions of Samsø will in 2030 be limited to an amount of 0.6 to 2.5 tons per person in greenhouse gas equivalents.

### OBJECTIVE 2: That the decentralized and flexible energy system for renewable energy production are maintained and further developed

This means partly that existing land- and offshore wind turbines will be replaced stepwise with new and more efficient turbines. An overall strategy for this development towards 2030 is scheduled to be in place in 2015. Existing district heating systems will be upgraded and tuned to more efficient operations where this is appropriate. Photovoltaic systems will be established to enable energy consumers to produce their own energy - either on individual basis or in clustered units where this is appropriate. It also means that local biological energy resources, such as organic waste, manure and various energy crops will be utilized optimally to produce energy and soil fertilizer. Furthermore it means the replacement of fossil fuels for individual heating. For example, replacing old oil-fired burners with other forms of heating, including heat pumps. Heating using solar power will probably increase in private households.

### OBJECTIVE 3: That fuel for transport on Samsø and to/from the island will be based on renewable energy

This means that 50% of the local fleet of cars in 2020 will be electric cars - and that in the same year 40-50% of the local commercial transport i.e. transport carried out by entrepreneurs, the agricultural sector, taxis, etc. have switched to bio-fuels or alike. Public transport will as early as possible and at the latest by 2020 be completely free of fossil fuels. In the longer term - by the year 2030 - 80% of the local fleet of cars will consist of electric cars and in 2050 the entire fleet are EVs - apart from nostalgic heritage cars. 80 % of commercial transport of any kind is in 2030 targeted to run on fossil free propellant. Whether this share can be increased towards 2050 or not is to be assessed by 2030. Ferries to the island preferably use gas as propellant in 2020. In 2030, the ferries will only use gas or electricity - energy that is preferably produced on the island. By 2020 it will be considered how efforts are handled in relation to other motorized transport (motorboats, aircraft etc.).

### OBJECTIVE 4: To focus on significant heating savings

This means partly that within the first 10 years, 2020, the energy consumption for heating of our homes will be reduced by 30%. For industry, the energy consumption for heating will be reduced by 5% in 2020. The longer term objective is that the reduction in 2050 is 35% for heating of houses and 10% for commercial activities compared to the consumption in 2009. It also means that new construction will be established with minimal energy consumption, i.e. the energy consumption for heating is 25% less than the then-current building regulations.

### OBJECTIVE 5: To work for substantial savings on the electricity consumption

Det betyder endvidere, at erhvervs-mæssigt nybyggeri etableres med et elforbrug, der til enhver tid er 5 % bedre end seneste bygningsreglement. This means partly that the electricity use for heating in the homes of the island will not rise throughout the period until 2030 compared to consumption in 2009. The increased use of electricity for heat pumps is estimated to be compensated by savings in the total electricity consumption. Whether the 2009 consumption can be maintained or not will be analyzed soon. It also means that the public sector in the period towards 2030 will make electricity savings equivalent to 30% of the 2009-consumption. This may be realized through e.g. the replacement of pumps and electric motors. It also means that new business buildings are established with electricity consumption being 5% better than the latest building regulations.

### OBJECTIVE 6: To seize opportunities as they arise

It is often the case that we do not spot the opportunities to coordinate ideas and thoughts - and listen to the opportunities - such as the opportunities to jointly ensure sustainable solutions, which include several of the cultural and natural resources of Samsø. The population of the island actively contributes to launching initiatives where e.g. clean water, waste management and the diversity of flora and fauna are supported simultaneously. Initiatives can be inspired from inside or from around the world and will naturally include elements of job creation.

### OBJECTIVE 7: To strengthen and establish partnerships

This means that potential partners who can contribute to the financing of action plans are identified and assembled. Share solutions for neighbors and local communities are prioritized. This means that the locals will be active participants and that they will be involved in the well-run partnerships. This also means that we will work intensely with cooperation forms and that we will "stand on the shoulders" of past experience.