



## The Transport Sector

### Converting to Renewable Energy – the Biggest Challenge in the Energy Project

#### Barriers in the Transport Sector

There are numerous barriers to overcome in order to create a transport sector based on renewable energy.

Petrol and diesel driven cars seem cheap in the short run in comparison to cars driven by alternative solutions. The development of alternative fuels is slow, and the infrastructure rewards conventional fuels.

#### Future Priorities

On Samsøe the electricity and heating sectors have had the most attention for the first years. However, it is an ambition that demonstration projects should also be realised in the transport sector, and that renewable energy should be applied for such purposes also.

#### Hydrogen in the Transport Sector

The erection of the offshore wind station is a cornerstone with regard to the conversion of the transport sector into renewable energy. The ambition is to establish hydrogen production on the island based on electricity from the offshore wind turbines.

Hydrogen is seen as the future energy carrier in numerous fields and in the transport sector in particular. Samsøe wants to take part in the development of this technology.

The size of the island is suitable for a demonstration project including production and storage of hydrogen as well as actual transport in cars running on fuel cells. In the long run, marine transport based on hydrogen should also be looked into.

Experiences gathered on Samsøe can support big scale hydrogen conversion in relation to the overall Danish offshore wind energy programme.

#### Other Solutions

However, the long term hydrogen based transport is not the only solution Samsøe looks into as alternative to the conventional petrol driven transport.

Four electricity driven cars are running on the island, and this number is definitely expected to increase.

Decisions on bio-fuel projects are still to be taken. Planning with regard to rational use of energy in the sector shall take place together with demonstration projects in the field.

<u>Composition of the Transport Sector 1999</u>			<u>Yearly Use of Energy</u>		
			1.000 litres	TJ	%
<b>Petrol</b>					
Private cars	1.442	905.000 litres			
Tourists		300.000 litres			
Two-wheeled	200	21.000 litres	1.226	40,3	23
<b>Car diesel</b>					
Tractors	370	905.000 litres			
Vans	51	375.000 litres			
Smaller cars	387	445.000 litres			
Busses	3	85.000 litres	1.810	65	36
<b>Marine diesel</b>					
Ferries	3	2.017.000 litres	2.017	72,4	41
			5.053	177,7	100
<b>Electric cars</b>					
	4			0,09	0,05