From: Danish Energy Agency

Danish annual report under the Biofuels Directive (Directive 2003/30/EC)

Article 4 of the Biofuels Directive states that

"1. Member States shall report to the Commission, before 1 July each year, on:

- the measures taken to promote the use of biofuels or other renewable fuels to replace diesel or petrol for transport purposes,

- the national resources allocated to the production of biomass for energy uses other than transport, and

- the total sales of transport fuel and the share of biofuels, pure or blended, and other renewable fuels placed on the market for the preceding year. Where appropriate, Member States shall report on any exceptional conditions in the supply of crude oil or oil products that have affected the marketing of biofuels and other renewable fuels.

In their first report following the entry into force of this Directive, Member States shall indicate the level of their national indicative targets for the first phase. In the report covering the year 2006, Member States shall indicate their national indicative targets for the second phase.

In these reports, differentiation of the national targets, as compared to the reference values referred to in Article 3(1)(b), shall be motivated and could be based on the following elements:

a) objective factors such as the limited national potential for production of fuels from biomass;

b) the amount of resources allocated to the production of biomass for energy uses other than transport and the specific technical or climatic characteristics of the national market for transport fuels;

c) national policies allocating comparable resources to the production of other transport fuels based on renewable energy sources and consistent with the objectives of this Directive."

A. Measures to promote the use of biofuels in transport

With effect from 1 January 2005, the Danish Government exempted biofuels from the CO_2 tax imposed on the use of conventional petrol and diesel for transport. The Commission approved the Danish CO_2 tax exemption in case No 59/2005. There is considerable doubt as to the actual effect of tax incentives on the demand for biofuels, because of the widely fluctuating market prices of petrol, diesel and biofuels. In May 2006, the Statoil oil company began selling bio95, which is 95-octane petrol containing 5% bioethanol.

Please see section D below for details of other forward-looking initiatives.

B. Danish resources allocated for the production of biomass for energy uses other than transport

Some 12% of energy consumption in 2007 was biomass-based. Aid in this context amounted to an estimated DKK 2.7 billion. In the 2000-2006 period, over 0.5% (5 PJ approx.) of the energy supply shifted annually from fossil fuels to bioenergy (see Table in Annex).

Some 16% of Danish energy consumption in 2007 was based on renewable energy sources. This is one reason why Denmark is more than self-sufficient in energy.

C. Total sales of transport fuels and share of biofuels, and market conditions

According to preliminary information, in 2007, 2.3 billion litres of petrol and 3.0 billion litres of diesel were sold for transport in Denmark, equivalent to a total of 185 PJ. Cross-border trade gave a net export of 7 PJ, which means that 178 PJ of petrol and diesel was consumed within Denmark. Cross-border trade is traditionally highly variable in its patterns.

Sales of bioethanol-blended petrol in Denmark were 0.3 PJ for 2007, almost double the amount sold in 2006.

This means that biofuels for transport amounted to 0.15% of total sales of petrol and diesel for transport as at 31 December 2006, which thus exceeds Denmark's target of 0.1%.

D. Denmark's biofuel policy and other forward-looking initiatives

By way of extension of the Danish Government’s national energy approach of 19 January 2007, "A visionary Danish energy policy", on 21 February 2008 the Government entered into a comprehensive energy agreement with a large majority of the parties in the Parliament. The agreement establishes targets and contains a long list of concrete initiatives, actions and milestones for the next four years.

Biofuels are a key part of the agreement. The Government’s target is for biofuels to make up 5.75% of fuel use in transport in 2010 and 10% in 2020. This is in line *both* with the EU’s targets as most recently set out in the Commission’s proposal for binding biofuel targets, *and* the targets for biofuels in the approved Danish CO_2 quota allocation plan for 2008-12.

The energy agreement lays down that only biofuels that meet the EU's future sustainability criteria may be used to meet the target. The intention is to meet this requirement by issuing instructions to all suppliers of petrol and diesel in Denmark.

The energy agreement also implements a tax exemption for hydrogen cars and extends the tax exemption for hybrid cars until 2012. A pilot project involving electric cars has also been initiated.

In last year's report the Government reported that it planned to propose legislation implementing the biofuels target in early 2008. In order to ensure it is in line with future EU rules, the proposed legislation has been postponed to the next parliamentary session.

Another noteworthy market-oriented initiative of importance for the use of renewable energy in the transport sector is that large-scale electric car use is increasingly seen by private capital and business as an interesting area for research and development. In a practical example of this, DONG Energy intends, via a subsidiary, to enter into a joint venture company called Better Place Denmark, which will introduce electric cars into Denmark and invest in associated infrastructure (recharging stations, battery swapping stations and intelligent interfacing with the electricity system). The joint venture company is also expected to include Better Place California (Shai Agassi) and probably a further two large international financial investors.

Apart from the abovementioned purely market-oriented initiatives, in last year's report the Danish Government already reported that it had decided in 2006 to boost its efforts to develop new second generation fuel technologies by earmarking a special fund of DKK 200 million until 2010 to help fund large-scale private development programmes. The total additional private and public development fund is expected to be significantly more than DKK 200 million. The funds are allocated annually under the Energy Technology Development and Demonstration Programme (EUDP).

Denmark can now inform the Commission that in 2008 the EUDP allocated DKK 65.45 million in aid to 2 projects from the special pool to develop second generation bioethanol for transport. The projects cover research into, and demonstration of, new technology, see the table of beneficiaries below.

Title	**Applicant**	**Grant (DKK 1 000)**
Yeast strains for 2nd generation bioethanol production	Terranol A/S	11 250
Demonstration of 2G bioethanol production, WP2: Construction and erection of demonstration plant	Inbicon A/S (subsidiary of DONG Energy)	54 200
Total EUDP grant		65 450

As already described in the 2007 report, the Danish Government has allocated DKK 60 million for the 2007–2009 period for pilot projects involving the use of biodiesel in limited "fleets" of vehicles. Denmark now wishes to point out that in the pilot scheme, one or

more limited fleets of vehicles (e.g. public transport or public-sector vehicles) will use a certain amount of biofuels. In addition, tests will be carried out and experience gathered concerning the technical, organisational and financial aspects, amongst others, of using biodiesel in practice and concerning biodiesel supply. A round of applications was announced, to close on 10 December 2007. The Road Safety and Transport Agency received 12 project applications for the biodiesel pilot scheme totalling more than DKK 170 million. 4 promising projects were selected, namely a project for the use of RME (rapeseed methyl ester) at Niras, a project for the use of AFME (animal fat methyl ester) at Teknologisk Institut, a supply project at DAKA and lastly a project for the use of vegetable oil at Odense municipality. The projects have just started.

ANNEX to the Danish annual report under the Biofuels Directive (Directive 2003/30/EF)

TABLE: Availability and use of biomass for energy purposes, 1980-2007

PJ	1980	1990	1995	2000	2001	2002	2003	2004	2005	2006	2007*
Generation											
- straw	4.8	12.5	13.1	12.2	13.7	15.7	16.9	17.9	18.5	18.6	18.0
- woodchips	0.0	1.7	2.3	2.7	3.2	3.7	6.3	6.9	6.9	7.4	7.4
- wood pellets	0.0	1.6	2.1	3.0	3.1	2.9	3.1	3.3	3.3	2.3	2.3
- wood waste	3.7	6.2	5.7	6.9	6.7	6.0	6.3	6.4	6.5	6.6	6.6
- fuel wood	7.6	8.8	11.5	12.4	13.2	13.0	14.9	15.7	17.7	17.7	19.1
- biomass waste	7.6	11.1	17.5	23.6	25.0	26.3	28.4	28.7	30.2	30.7	30.7
- biogas	0.2	0.8	1.8	2.9	3.1	3.4	3.6	3.7	3.8	3.9	3.9
- biodiesel	0.0	0.0	0.0	0.0	0.9	1.5	1.7	2.4	2.7	3.7	3.7
- bioethanol									0.0	0.0	0.0
- fish oil	0.0	0.7	0.3	0.0	0.2	0.1	0.4	0.6	0.8	1.0	1.0
Total generation	**24.0**	**43.3**	**54.2**	**63.8**	**69.1**	**72.7**	**81.6**	**85.8**	**90.3**	**91.9**	**92.8**
Net imports											
- woodchips	0.0	0.0	0.0	0.3	0.4	0.4	0.7	0.8	0.8	0.8	0.8
- wood pellets	0.0	0.0	0.2	2.2	4.1	4.9	6.7	9.5	12.8	13.3	13.3
- fuel wood	0.0	0.0	0.0	0.0	0.3	0.5	0.9	1.4	2.0	2.0	2.0
- biodiesel	0.0	0.0	0.0	0.0	-0.9	-1.5	-1.7	-2.4	-2.7	-3.7	-3.7
- bioethanol	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.3
Total net imports	**0.0**	**0.0**	**0.2**	**2.5**	**3.7**	**4.4**	**6.7**	**9.2**	**12.8**	**12.4**	**12.6**
Total availability = use	**24.0**	**43.3**	**54.4**	**66.3**	**72.8**	**77.1**	**88.3**	**95.0**	**103.2**	**104.4**	**105.6**
- of which used in											
- electricity and heat production	7.9	20.0	30.0	39.4	43.2	47.7	55.5	61.0	64.7	63.5	62.8
- other industries	5.7	9.3	8.6	9.2	9.3	8.5	9.1	8.8	9.3	10.0	9.9
- domestic use	10.4	14.0	15.8	17.7	20.3	20.9	23.7	25.2	29.3	30.8	32.5
- transport	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,2	0,3

* No final data for 2007 are available. The 2007 data are therefore rough estimates based on provisional composition data.

Source: Danish Energy Agency Energy Statistics for 2006 and provisional composition data for 2007.