

**2006 REPORT AS PROVIDED FOR IN DIRECTIVE 2006/30/EC ON THE  
PROMOTION OF THE USE OF BIOFUELS OR OTHER RENEWABLE FUELS  
FOR TRANSPORT IN FINLAND**

**Introduction**

In accordance with Article 4(1) of Directive 2003/30/EC of the European Parliament and of the Council on the promotion of the use of biofuels or other renewable fuels for transport, Finland has produced the attached report

- on measures taken to promote the use of biofuels or other renewable fuels to replace diesel oil or petrol in transport,
- on national resources which have been allocated to biomass production for the generation of energy for purposes other than transport
- on the overall sale of transport fuels and the share of biofuels and other renewable fuels marketed during the past year.

**1. New measures to promote biofuels or other renewable fuels for transport**

Working party for biofuels for transport

In October 2005 the Ministry of Trade and Industry set up a working party to draft a proposal on measures for the introduction of biofuels for transport in Finland. The working party submitted its report on 10 March 2006.

According to the working party it is not practicable to introduce in Finland in the next few years biofuels which would require new vehicle types or distribution network, with the exception of methane, or natural gas and biogas, especially in captive fleets (in urban areas). According to the working party the best means of promoting use of biofuels is an obligation to use them. This obligation would apply to all companies marketing transport fuels. Each actor could, however, decide independently by which means and with which fuels it means to cover the required share of the total of the transport fuel it supplies.

The working party also proposed to launch a programme to develop new Finnish second generation production technologies for biofuels and to bring new biofuels to the market by 2015. In this way, it would be feasible to halve the additional costs to the national economy of biofuels and achieve a share of up to 8% of transport fuels in the energy mix by 2020.

### Obligation to distribute biofuels

On the basis of the working group's proposals, on 19 October 2006 the Government submitted a legislative proposal to the Finnish Parliament concerning the promotion of biofuels in transport. The proposal aims to create demand for biofuels by placing an obligation in respect of the marketing of biofuels on the distributors of transport fuels.

The proposal sets out a minimum percentage of biofuels to be supplied for consumption annually by the distributors of transport fuels. This minimum percentage would increase annually from, in 2008, at least 2% of the total energy content of the petrol, diesel oil and biofuels supplied by a distributor of transport fuels. In 2009, the share would be at least 4%, and in 2010 and afterwards annually at least 5.75%. A separate Government decree would, however, provide for the entry into force of the 2010 obligation. The obligation would be enforced if the quality standards of fuels, in 2010, allow the mixing of the required percentages of biofuels with petrol and diesel oil.

'Distributor' according to law means a person who in accordance with the provision on tax liability of the excise law is liable to pay tax on the petrol or diesel oil he supplies or receives for consumption in Finland. The obligation system is meant to be flexible for distributors, for best cost-efficiency. The obligation would only apply to the total amount of biofuels, allowing the distributors to fulfil the obligation by using biofuels to replace petrol or diesel oil in a ratio they choose within the limits of the quality standards. Neither would the law regulate the origin of the biofuel.

The distributors could subcontract their obligation wholly or partially to another company. Irrespective of contracts, each distributor would be accountable to the Government for fulfilling his obligation either personally or through a contractor. If the distributor failed to fulfil his obligation, the Customs authorities would impose a penalty fee.

The proposed law has been submitted to the Finnish Parliament, and is due to enter into force on 1 January 2008.

### Research, product development and marketing

The Finnish Parliament approved in the second amending budget for 2006 a 9 million euro appropriation for three years for the development of novel second-generation production technologies for biofuels. The appropriation is based on the proposal of the working party on transport biofuels.

The development work to be launched will be focused on the development of new second-generation biofuel production technologies with a view to reducing considerably the additional cost of biofuel production incurred by the national economy, and increasing the energy share of biofuels in transport. Second-generation biofuels may also contribute to greater environmental benefits compared with traditional fuels. The aim is to develop technologies and alternatives which would be competitive in market conditions.

## **2. National resources allocated to biomass production for energy production for purposes other than transport**

Bioenergy is the most important of Finland's renewable energy sources. It rests on a considerable domestic raw materials base. The most important bioenergy sources are waste sludge from the wood processing industry, industrial wood waste material such as sawdust and bark as well as wood chips and recyclable fuels. Bioenergy is used for the production of electricity and heat for industry and the rest of society. In 2005, total use of bioenergy *decreased* by at least 10% from the previous year, due to a strike in forest industry. The relative proportion of bioenergy, however, remained nearly the same, 20% of primary energy, because total energy consumption also decreased nearly as much.

The resources used to promote bioenergy are presented below.

### Research and development

Funding for technological development comes mainly from Tekes, the Centre for technology and innovation. In 2005, Tekes funded bioenergy technology projects with about EUR 10 million, down by some EUR 5 million in 2004. In 2006, funding for energy and climate change research was comparable to that in 2005. The funding was sufficient to cover the demand for projects fulfilling the criteria.

### Taxation

Electricity production from renewable energy sources is promoted by means of tax support within the energy taxation system. There were no changes in the tax support base in 2005.

In 2005, the support for energy produced from fuel timber was estimated at EUR 33.3 million. Support payments for electricity produced from biogas and recycled fuel are estimated to have been EUR 0.05 million and EUR 0.6 million in 2005. In total, tax support for energy produced from biomass is EUR 34 million. In particular, the support payments for electricity produced from fuel timber decreased, due to the above-mentioned strike in the forest industry.

In 2006, the energy tax law was amended so that from the beginning of 2007 only forest residue chips, of all fuel timber, are eligible for support.

### Investment support payments and other forms of funding

With the energy support granted by the Ministry of Trade and Industry to businesses and companies the aim is to promote the use of renewable energy sources such as bioenergy, as well as energy saving and the associated commercialisation of new technology. In 2005, a total of EUR 33.1 million was granted as support for energy. In recent years wood energy use has been the priority object of support.

Table 1 shows the Ministry of Trade and Industry's energy support activity in 2005. The figures include European Regional Development Fund (ERDF) appropriations of around EUR 2.3 million.

The 2006 appropriations are on the same level as those of the previous year.

Table 1

		%
Wood energy use		
Energy production	15.2	46
Wood fuel production	4.5	14
Other renewable energy sources		
Biogas	2.5	7
Recycled fuels	1.7	5
Small-scale water power	0.9	3
Solar energy / heat pumps	3.6	11
Energy saving and energy efficiency	2.7	8
Studies	2.0	6
<b>Total</b>	<b>33.5</b>	<b>100.0</b>

#### Support for fuel timber harvesting and chipping

The Ministry of Agriculture and Forestry pays support in accordance with the current law on forestry financing for the harvesting and forestry transport of timber sold for fuel as part of the management of young plantations. The level of support for the harvesting of fuel timber is EUR 7 per cubic metre. Support may also be obtained for chipping fuel timber. In 2005, a total of EUR 5.1 million was used to support fuel timber harvesting and chipping, which corresponds to an increase of well over 8% on the previous year. The appropriation for the year 2006 is on the same level as in the previous year.

### **3. Total sales of transport fuels and the share of marketed pure or mixed biofuels and other renewable fuels**

In 2005 the use of biofuels in transport decreased to zero, because the pilot projects underpinning the use were terminated. In Finland there is also small-scale production and use of biodiesel and biogas on an experimental basis as transport fuel, but the actual use of these biofuels is extremely limited, and there are no statistics on it.

Table 2 below shows road transport fuel consumption in 2000–2005 and the share of biofuels therein:

Table 2

	Total road transport fuels	Petrol	Diesel oil	Biofuels	
	PJ	PJ	PJ	PJ	%
2000	152.9	76.4	76.5	-	-
2001	155.5	77.4	78.1	-	-
2002	158.6	78.8	79.8	0.033	0.02
2003	161.1	79.1	81.9	0.176	0.1
2004	166.1	80.4	85.5	0.186	0.1
2005	166.5	80.3	86.2	-	-

Source: Finnish Statistics Office

In the spring of 2006 Finland's biggest oil company selling transport liquid fuels, Neste Oil OYJ, restarted sales of biofuels. All E98 petrol the company sells in southern and central Finland contains 2 to 5% ethanol.

#### Biofuel production

The only noteworthy Finnish producer of transport biofuels so far is Neste Oil OYJ, which began production of ETBE in spring 2004. The production capacity of the ETBE plant is 100 000 tonnes a year, the ethanol contained in ETBE is imported from Brazil, and the final product is mixed with petrol for export. Neste Oil currently has a biodiesel plant under construction, planned to be completed in spring 2007. The plant produces biodiesel equivalent in its characteristics to good-quality diesel fuel via the process developed by the company itself, which is based on hydrogen-treated plant oils and animal fats. The raw material will mainly consist of palm oil imported from the Far East. The capacity of the plant being completed will be around 170 000 tonnes of biodiesel a year. Neste Oil has announced it will also build a second such plant in Finland, to be completed in 2008.

Altia Oy announced in September 2006 its decision to build a fuel ethanol plant in Finland. The plant's capacity would be 76 million litres of bioethanol a year. The plant would use domestic barley as raw material. Production is planned to start towards the end of 2008. The oil company Stl will also start production of fuel ethanol in Finland. The production is based on several small plants with a capacity of a few thousand tonnes which use waste from the food industry as raw material and are situated close to the industrial plants concerned. The first plant is due to be completed in summer 2007. The investments in this plant have received state support as a new technology project.