



D16 – Biofuels Strategies



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European Union

Policy support for biofuels in Europe

Transport and energy policy for Europe was set out at the Transport White Paper and Energy Green Paper in 2005. Regarding reducing carbon emissions and improving security of supply these documents set out a key policy target of: “**20% of all transport fuels to be from alternative sources by 2020**”. In the short to medium term these alternatives are expected to be biofuels and compressed natural gas, in the longer term the vision is for hydrogen to play a major role. To support the development of biofuels in meeting this target, a **Biofuels Directive** (2003/30/EC) was established in 2003 and set an indicative target of 5.75% by energy of all road transport fuels placed on the market to be biofuels by 31 December 2010. The most common approaches to meeting this Directive by Member States have been the use of tax incentives for biofuels and the setting of obligations on fuel suppliers. To support the use of tax incentives the Commission has put in place the **Energy Taxation Directive** (2003/96/EC), which allows Member States to use differential taxation policies for biofuels to stimulate demand.

On 10 January 2007, the Commission presented the Strategic European Energy Review. As part of the Review, the Renewable **Energy Road Map** [COM (2006) 848] set out a long term vision for renewable energy sources in the EU. It proposed that the EU establish a legally binding (mandatory) target of 10% for the share of renewable energy in transport petrol and diesel.

In 2003 an agreement was reached for reform of the **Common Agricultural Policy (CAP)**, moving away from crop-based subsidies to single farm payments. The move was expected to make farmers more responsive to the market and seek greater diversification to strengthen the rural economy. This in itself promotes a move to look at non-food crops such as biomass for energy and biofuel purposes. In addition, while farmers cannot cultivate food crops on set-aside land, they can use this land for non food-crops including biofuels.

Alongside the single farm payment, the reform provides for Energy Crop Aid to further support the development of the bioenergy market. Regulation (EC) 1782/2003 (Chapter 5, Art. 88-89) set this aid at €45/ha up to a maximum of 1.5 million ha across Europe.

However, in its proposals for a “**Health Check**” of the **CAP**, the Commission proposed to abolish the energy crop premium and the compulsory set-aside. More specific, on 20 May 2008, the Commission made a proposal for a Council Regulation on modifications to the CAP (COM (2008) 306 final)). It is stated that due to the recent developments in the bioenergy sector, in particular, to the strong demand for such products on international

markets and the introduction of binding targets for the share of bioenergy in total fuel by 2020, there is no longer sufficient reason to grant specific aides for energy crops. Therefore abolition of Regulation (EC) 1782/2003 is proposed. However Chapter 5 of this Regulation, concerning Energy Crop Aid, shall continue to apply for 2009.

The Biofuels directive

The **Biofuels Directive** (2003/30/EC) was established in 2003 and set an indicative target of 5.75% by energy of all road transport fuels to be biofuels by 2010 and an interim target of 2% by 2005. These national indicative targets, once adopted, are not mandatory. While they constitute a moral commitment on behalf of Member States, there is no legal obligation for them to achieve the levels of biofuel use they have chosen to target.

Progress up to 2006 against the Biofuels Directive, was reviewed in the Biofuels Progress Report, presented by European Commission on January 2007 (COM(2006) 845 final). According to this report, by 2005, only Sweden and Germany have made the most progress and are expected to meet the targets. Other countries have made less progress and some are unlikely to meet the targets. Overall the 2005 target of 2% has been missed and there is concern that the overall 2010 target is not likely to be achieved. For these reasons, the Commission is looking at potential ways to strengthen the Directive.

On 23 January 2008, the Commission proposed a common framework (Directive) for the promotion of energy from renewable sources ((COM2008) 19 final). The proposed Directive sets mandatory targets for the share of energy from renewable sources in transport of at least 10% by 2020 (Artic.3) and establishes environmental sustainability criteria for biofuels and other bioliquids (Artic.15). More specific requires a minimum 35% GHG's emissions saving from the use of biofuels or other bioliquids and the production of raw material from land with no recognised high biodiversity value or high carbon stock. Furthermore, it foresees introduction of diesel blend with 7% and 10% biodiesel by the end of 2010 and 2014 respectively and promotion of biofuels from wastes, residues, cellulosic and lignocellulosic material.

A European biofuels strategy

Aiming to support the development of biofuels for the transport market, the Commission has developed an "EU Strategy for Biofuels" (COM (2006) 34 final). The strategy comprises 7 main policy axes:

- 1) **Stimulating demand for biofuels**– in addition to the revision of Biofuels Directive, favourable treatment of 2nd generation biofuels and promotion of public procurement of clean and efficient vehicles are encouraged.
- 2) **Capturing environmental benefits** – three specific issues being covered here are ensuring the optimal GHGs' benefits and the sustainability of biofuel feedstock cultivation, getting CO₂ accounting into transport activities and reviewing the limits on biofuel blends in the current fuel standards.
- 3) **Developing the production and distribution of biofuels**– focusing on encouraging the inclusion of biofuel production in rural development policies at the regional level and discouraging discrimination against biofuels by industry.
- 4) **Expanding feedstock supplies** – looking at allowing sugar crops for biofuel use on set-aside land, using the cereals surplus for biofuel production, reviewing the energy crops aid scheme, monitoring the impact of biofuels on commodity and by-product prices, financing an information campaign for farmers at forest holders, bringing forward a Forestry Action Plan and reviewing waste and animal waste by-products legislation to allow greater use in biofuels.
- 5) **Enhancing trade opportunities** – especially for bioethanol and amend the “biodiesel standard”
- 6) **Supporting developing countries** – the development of a biofuels assistance package and support for developing national biofuel platforms and regional biofuel action plans are envisaged
- 7) **Support for research and development** – aimed at promoting 2nd generation technologies and the bio-refinery concept. Establishment of a European Biofuels Technology Platform has been encouraged to support these developments.



Biofuels strategies in Bulgaria

In 2003, an energy strategy for Bulgaria has been adopted. The strategy has been developed along several axes– energy legislation, institutional framework, tax and price policy for the creation of a RES market, national and regional programmes for energy efficiency and RES, as well training for the reduction of the energy consumption and the use of RES. The fuels are mentioned in a number of laws.

Energy legislation:

- Energetics Law, DV, № 107/09.12.2003 - *It introduces the requirements of the two European Directives – definition of the goal for energy production from RES and a system for green certificates;*
- Energy efficiency Law, DV, № 18/, 05.03.2004;
- Waste control Law, DV, № 80/03.10.2006;
- Decree № 3/01.04.2004 for wastes classification, DV, № 44/2004.
- Law for amendment of Energetics Law, DV, №55/06.07.2007;
- Project for encouraging utilization of RES, of alternative energy sources and biofuels – *put forward for voting in the national assembly.*
- Law for improvement of air quality , DV№/2007;
- Decree of the Council of Ministers that set the quality requirements for liquid fuels and their test methods. (PMS №156/15.07.2003r.) – *In compliance with EU decrees - 96/62EC, 1999/30/EU, 98/70/EU, 2003/17/EU and 99/32/EU. It allows an ethers' content of up to 15% and ethanol's content up of to 5% in fuel and a methyl ester content up to 5% in diesel.*
- Law for the finances and Law for the excises customs duties, DV№31/13.04.2007.

On 15th November, 2007 the Bulgarian Government ratified a National long-term programme for stimulation of biofuels consumption in transport, for the period 2008-2020. This programme was adopted with regard to the EU Resolution of 09/03/2008, which aims to bring the share of biofuels to 10% of the total petrol and diesel consumed in the transport sector, by 2020.

Bulgaria

Increase biofuels use in vehicles is part of the strategy to meet Kyoto Protocol targets. Moreover, a higher biofuels use could contribute in fuels and energy saving, and in energy security of intermediate and long-term plans. A gradually expansion of biofuels share is expected in the next years. A 44.000 tonnes consumption is expected in 2008, 133.00 tonnes in 2010 and 370.00 tonnes in 2020.

Biofuels play an important role in Bulgarian agricultural and energy policies. Subsidies granted to farmers aim to support development of an *energy farming industry*. Subsidies and tax reduction makes Bulgarian production more cost-competitive and this way benefit Bulgarian farmers.

German companies provide Bulgarian farmers with seeds for rapeseed cultivation, under condition to purchase the yield at a fixed ex-farm price. These kinds of agreements are very attractive to farmers. In 2007, 30.000 ha were cultivated with rapeseed (23.000 ha in 2006) giving a total yield of 93 018 tonnes, while cultivation of a total area of 40.000 ha and a total yield of 100.000 tonnes is expected in 2010. *Half of this yield will be used for biodiesel production*. The production of biodiesel from rapeseeds is expected to be 11.100 tonnes in 2010 and to get twice higher within 4 years. It is also expected that demand for biodiesel will be higher than supply.

The Bulgarian Petrol and Gas Association's proposed a gradually increase of biodiesel content in diesel blends, in Bulgarian market (see Table below, % in volume). However, this proposal requires changes in the maximum acceptable content of biodiesel in diesel blends.

2008	2009	2010	2011	2012	2013	2014	2015
1%	1%	2%	3%	4%	5%	6%	7%

Biomass option Although Bulgaria has a huge biomass potential, manufacturers don't use the crop residues for fuel production. Approximately 4.8-5.2 million tonnes per year remain at fields, after harvesting of crops, as biomass. Local farmers still burn the harvest residues at fields to avoid increased cost of using agricultural equipment. Moreover, the Bulgarian rural population traditionally uses biomass – firewood and coal – for heating purposes. In the period 1997-200, the biomass utilisation has 3.4 times increased, while consumption of all other types of energy and oil has remained constant.

Measures to stimulate use of 2nd generation biofuels should be adopted, mainly due to the negative impacts of 1st generation biofuels. Many countries promote research on development and use of 2nd generation biofuels from wastes' biomass.

Bulgaria

According to a study of the Belgian consultative company BLACK & VEATCH, the theoretical potential of biofuels production in Bulgaria is 3.608 ktoe, while the technical potential 380 ktoe. The agricultural wastes are the most promising raw material for biofuels production. Unfortunately this resource is fragmented in small quantities among a high number of companies. Hence, the high transport cost and organizational barriers hinder creation of centralized biofuels plants.

To stimulate introduction of biofuels, operation of three certified laboratories is planned.



Greek Biofuels Strategy

Law 3423/2005, as it was amended by Law 3653/2008 (Artic.55), is the key part of Greek national strategy in biofuels. Law 3423/2005, in compliance with Directive 2003/30/EC, aims to bring the share of biofuels and other renewable fuels in the Greek market to 5.75% of the total petrol and diesel consumed in the transport sector, by 31 December 2010.

Biodiesel and bioethanol are considered the most suitable biofuels for the case of Greece, while use of pure vegetable oil has been investigated as well. The main biofuel on Greek transport market is biodiesel in up to 5% blends. Biodiesel in Greece is produced in accordance with norm ELOT EN 14214 adopted with the Greek Joint Ministerial Decision 334/2004. The raw material used are mainly imported oils (rapeseed oil, soybean oil etc.). However, the development of local sunflower and rapeseed cultivations is foreseen, to meet national needs. (3rd Biofuels Progress Report for Greece)

The introduction of bioethanol in Greek transport market is envisaged for the period 2010-2016 (Law 3653/2008, Artic. 56). The use of bioethanol in gasoline blends is not considered suitable for Greek climate. Therefore its conversion to ETBE (Ethyl Tertiary Butyl Ether) and subsequently ETBE's use in gasoline blends is proposed. Moreover, according to the norm ELOT EN 228:2004 bioethanol can be used in up to 5% blends, while ETBE in up to 15%. Sugar beets, maize and cereals are the traditional crops most suitable for bioethanol production, while sweet sorghum seems a very promising new crop. (3rd Biofuels Progress Report for Greece)

The main instrument of national strategy is the long-term "Programme of biofuel quantity distribution", for biofuels produced up to 2010, set by Law 3423/2005 (Artic. 6.4). However, for the years 2005-2008 the biodiesel quantity to be distributed has been decided on an annual basis under a quota scheme. The biodiesel quantities distributed were 51.000 klit for 2005, 91.000 klits for 2006 and 114.000 klits for 2007, while for 2008 123.000 klits will be distributed (Joint Ministerial Decision D1/A/14639/ 23.06.2008)

To enhance cost competitiveness of biodiesel comparing to conventional diesel, exemption from special consumer's tax has been given to the biodiesel produced under the "Annual distribution Programme". Tax exemption is abolished for 2008, as it was considered that the bureaucracy created has hindered the vigorous operation of biofuels national market.

Greece

Financial and legal instruments of national biofuels strategy include support of biofuels crop production and for investments of biofuels plants, as well as obligatory use of all biodiesel produced under the “Annual programme of biofuel quantity distribution”, in the existing biorefineries (in up to 5% blends)(Law 3423/2003).

To stimulate national production of raw material, the biodiesel produced under contract agreements between the farmers and the oil-seed companies is in priority included in the annual distribution programme. Moreover, the subsidy of 45 euros/ha of energy plant cultivation, foreseen in New CAP Reform, is granted to farmers. The aid will only be granted in respect of areas whose production is covered by a contract between the farmer and the seed processing industry except where the processing is undertaken by the farmer on the holding. Furthermore, a subsidy of 60 euros/hectare of energy plant cultivation will be offered to the biodiesel production facility for seed processing.

As part of the national strategy to promote biofuels, any investment in the field is subsidized from the National Development Law on promotion of investments (Law 3299/04 as amended by Law 3522/2006). Subsidies up to 35% are granted according to region and the type of the enterprise (in case of SMEs an additional 10-20% is granted). Moreover, the “Greek Operational Programme for Competitiveness” for 2007-2013, supports investments for biofuels production.

Ireland



Ireland Biofuel Policy

Biofuels Directive

The EU Biofuels Directive (2003/30/EC) sets indicative targets of 2% market penetration by 2005 and 5.75% market penetration by 2010. Ireland is developing a biofuel industry from a very low threshold. It is committed to achieving a 5.75% target by 2010 and has endorsed the 10% target by 2020 recently agreed by the EU under the new Energy Policy for Europe. Ireland is committed to achieving, and if possible exceeding, the 10% target.

Biofuels Excise Relief Program

In 2005, DCMNR launched a pilot biofuels Mineral Oil Tax (MOT) Relief scheme which resulted in 8 projects receiving excise relief for the production of 16m litres of biofuels over two years. In 2005, 1.3 million litres of biofuels were placed on the market compared with petrol consumption of 8.074 billion litres and diesel consumption of 6.588 billion litres (SEI Energy in Transport 2006 Report).

Under the 2006 Mineral Oil Tax Relief scheme sixteen biofuels projects have been granted excise relief in the following categories:

- Biodiesel complying with diesel standard EN590 and sold at regular diesel pumps.
- Biodiesel in higher blends of up to 100% in specific fleets of vehicles whose engine warranties cover these blends;
- Bioethanol made from wheat, barley, whey and other feedstock, blended with petrol and sold in blends up to 85% in petrol, which can be used in flexible fuel vehicles

The 2006 Finance Act allowed for a 50% VRT reduction in such vehicles. A number of companies have now launched flexible fuel vehicles on the Irish market.

Under the Scheme **which will cost in excess of €200 million over five years**, 1.63m litres of biofuels will be placed on the market by 2008, representing 2.2% of the predicted fuel market for that year.

2009 Biofuel 5.75% Obligation Target

Ireland

The Ministerial Bioenergy Taskforce (Department of Finance, Department of Agriculture, Department of Communications Marine and Natural Resources, Department of Environment Heritage and Local Government, Department of Transport) has endorsed a move by Ireland to develop an obligation scheme that will oblige fuel distributors to achieve an average of 5.75% biofuels (on an energy basis) of their total annual fuel business by 2009. Under current standards up to 5% blends of biofuel in both diesel and petrol can be used in engines without any modifications. The balance of the 5.75% and 10% targets can be achieved by use of higher biofuel blends in modified engines and suitable captive fleets. The basic design of obligation schemes is that supply companies have to account for their fuel mix on an annual basis and that if they do not reach the obligated limit, to pay a fixed amount penalty per litre of target not achieved.

VRT Relief

The 50% VRT relief for Hybrid Vehicles has been extended to flexible fuel vehicles to complement the biofuels excise relief scheme. The Department of Finance and the Department of Environment, Heritage and Local Government have launched reviews of VRT and Motor Tax, with a view to rebalancing these tax systems to provide greater encouragement for consumers to opt for vehicles which produce lower CO₂ emissions. It is anticipated this review will be complete prior to the budget in December 2008.



Biofuels strategies in Italy

The main goals of Italian bioenergy development programmes are to decrease fossil fuels dependency on import (more than 80% of total primary energy consumption in 2000 equal to 188 Mtoe), and to fulfil the commitment of Kyoto Protocol to reduce CO₂ emissions by a factor of 6,5% with respect to the 1990 level, and avoid about 100 Mt CO₂ within 2010-2012. Several National Programmes and Laws were issued to promote the use of renewable energy sources (RES).

On the liquid biofuels side, due to the non cost-competitiveness of biofuels compare to fossil fuels, Italian legislation has laid down specific provisions intended to reduce the final cost of biofuels, setting proper tax relieves. In particular, fiscal measures have been targeted on biodiesel and vegetal-based ethanol, substitution products for diesel oil and petrol respectively.

With the *Legislative Decree N.128, May 30th of 2005*, the Italian Government absorbed European Directive 30/2003. It promoted the use of biofuels or other renewable fuels to replace diesel or petrol for transport, but with targets lower than those suggested in the Directive. The following goals are foreseen in terms of calorific values of the fossil fuel replaced: 3,0 % by the end of December 2009.

In spite of this basis, the biofuels strategy defined by Italian Govern in the last years was not very consistent and showed continuous changes year by year.

Currently the situation is still very fluid and the Govern recently established has not defined yet the new strategy. Owing to this situation the market seems to be in a steady state and final users have some concern on the future of biofuels.

In 2008 the situation is:

- A four-year plan – 2007/2010 - reduces the excise level on 250.000 tons of biodiesel per years to 20% (83,2 €/1000 litres) of diesel fuel excise (416 €/1000 litres). The same plan introduces the obligation of National Chain Agreements between farmers and manufactures of biodiesel for the production of a share of 70.000 tons per years (on the total of 250.000 t/y) with the excise reduction.
- A three-year plan – 2008/2010 – reduces the excise level for
 - bioethanol (289,22 €/1000 litres),

Italy

- ETBE (298,92 €/1000 litres),
- Additives and reformulates produced from biomass:
 1. for lead-free petrol: €289.22: per 1 000 litres;
 2. for diesel oil, excluding biodiesel: €245.32 per 1 000 litres.
- Total excise exemption, up to 1.000.000 €/year and starting in 2007, for PPO for energy purposes in Agriculture, but prohibition of PPO use in vehicles.

Coming back to the goal of 3% by the end of 2009, a very interesting new step in the national strategy is the recent *National Decree N. 100, April 23rd 2008* that, for the first time in Italy, introduces a strong penalty for the missing goal. The penalty is from 600€ to 900 € for each 41 GJ of fossil fuels (about 1000 litres – more or less) not replaced by the biofuels). The penalty is expected to change significantly the market of the biofuels in the medium term.



Biofuel Strategy of Latvia

Biofuel production strategy:

- Stimulation of the demand for biofuels
- Set up of production and distribution schemes for biofuel
- Enlargement of raw material stocks
- Market promotion
- State aid to research and development of production
- Complex recyclable use of biomass – biofuel, heat, electricity

National indicative target

Latvia has set as indicative targets 1.25% of biofuels in 2005, 4.25% in 2008, 5% in 2009 and 5.75% in 2010.

Policy measures for biofuels

In order to promote the use of biofuels, the Cabinet of Ministers has developed the programme “**Production and use of biofuels in Latvia (2003-2010)**” which was accepted on December 19, 2003. A new agricultural production sector would be developed and the requirements for utilisation of its products, biofuel and by-products, would be set. A full legislative framework for biofuels is under preparation..

On July 22, 2004, the Cabinet of Ministers issued the Decree No. 511 on the strategy for implementation of the programme “**Production and use of biofuels in Latvia**”, which stated the competences of Ministries as regards the implementation of the programme .

In order to encourage the development of biofuels, on 17 March 2005, **The Biofuel Law** was adopted; its goal has been to encourage biofuels market and thus to support the use of environmentally friendly renewable energy sources.

Since 2005, the state grants direct support to biofuel producers. Financially supported quotas for the production of biodiesel and bioethanol are set every six months.

Motivation for the target

Latvia expects to meet its targets, as there is a quite high interest of entrepreneurs in production of biofuels. Moreover, the report mentions that there are no specific technical or climatic barriers in the Latvian fuel market, that could significantly affect (negatively) the use of biofuels. Latvia's motivation for promoting biofuels is mainly based on strengthening the agricultural sector.

The "Biofuel Production and Use in Latvia for 2003-2010" programme serves as a framework document for forecasting biofuel use and the related production and trade issues. A biofuel share of 5.75% of total consumption in 2010 will require the consumption of 75 thousand tonnes of biofuel, i.e. 32 thousand tonnes of bioethanol and 43 thousand tonnes of biodiesel. Latvia is also increasing its biodiesel production capacity, in order to process imported rapeseed oils. Consumer interest in use of bio-fuel is raised.

The [Latvian Ministry of Economics](#) has developed an action plan to enact the Law on Bio-Fuel which identifies concrete tasks and the responsible institutions for their implementation.

In order to promote production and utilization of bio-fuel in Latvia, a scheme has been introduced according to which support for the production and utilization of bio-fuel is offered in two ways: as reduction of the excise tax and as direct support to bio-fuel producers.

In Latvia the support is given directly to bio-fuel producers and the annual supported quota is granted in proportion to production capacity. The financially supported quota will be granted to enterprises until 2011. The Energy Development Guidelines for 2007-2016 have determined that the proportion of bio-fuel in transport must reach 10% in 2016 and 15% - in 2020.

It is planned that in autumn 2007, the high-production bio-diesel fuel plant [SIA BioVenta](#) with capacity of 100.000 tons per year will launch its operation, and this will definitely influence the attainment of the previously mentioned targets. Parallel to this, there are also several activities aimed at raising consumer interest in using bio-fuel. The Ministry of Economics has produced a number of publications, booklets and books on bio-fuel.

A Consultative Council on Bio-Fuel Development has been established which will co-ordinate the work of institutions involved in the enactment of the Bio-Fuel Law. The main tasks of the council will be to analyse the situation of bio-fuel sector in the state, to make recommendations on the development of bio-fuel industry, to prepare proposals for the necessary normative acts regarding the bio-fuel sector, as well as to prepare resolutions on

Latvia

the projects of respective normative acts, analysing the special purpose programmes and guidelines for the bio-fuel sector and make comments on these.



Poland Biofuels Strategy

Increase of use of biofuels in transport is considered as important element of sustainable development, leading to increased safety of fuels supply as well as lowering environmental impact of transport sector. The key part of the national strategy is setting goals of biofuels share in total transport fuel supply till 2014. Annual biofuels levels in fuels production and trade are binding to all business entities and charges shall be imposed on those missing the target. The main financial tool stimulating production and trade of biofuels is removing excise duty from bio-components as well as other tax reduction tools for biofuels producers. Final biofuel price shall be competitive in comparison with traditional fuel price at pump station.

Financial and organisational elements of the national strategy include support firstly to biofuels crop producers, using general EU and national sources, than to biofuels producers in form of grants. Biofuels market shall be stimulated by steps increasing demand for biofuels in towns (special ecological zones and parking fees), reduction of environmental fees, support to biofuel-driven fleets, together with commitment of using biofuels in state-level fleets during the next years. Elements of financing have been included in the new EU funding programs. Those financial and organisational actions shall be supported by research and development activities and awareness rising and educational campaigns.

Necessary amendments in legal system shall be introduced in order to implement the program and its funding. Charges collected from entities not fulfilling required level of biofuels in fuels volume shall be administered by the National Environmental Fund and used for support of biofuels production. Special funds shall be allocated for supporting local initiatives and actions increasing demand for biofuels.

Financial support is expected to be available within EU Structural Funds both at the national as well regional levels.

Implementation of the national strategy shall be monitored by the Minister of Economy based on quarterly reports. Corrective actions shall be undertaken.

Following EU leaders March Summit of 2008, Poland is declaring reaching minimum 10% share of biofuels in transport fuel mix.

Poland

Presently Ministries of Economy, Environment and Public Health are discussing methods of establishing zones, where only biofuels and RES driven cars would be accepted.

National strategy is beginning to be reflected in documents of various organisations and institutions in the whole biofuels chain (agriculture, production, transportation, public sector).

Spain



Spanish Biofuels Strategy

The objective of the Renewable Energies Plan (2005-2010) is to reach 2,2 Mtoe, four times more than the target of the last Plan (2000-2010), and a share of 5,83% in total fuel consumption. This goal exceeds the requirements set by Directive 2003/30/CE for a 5.75% of the total petrol and diesel consumed in the transport sector, by 2010.

The Spanish National Government has prepared a new law that makes obligatory the biofuels consumption by use of imposed mixtures. Unfortunately, this new law is in a draft form since 2007. However, it seems that the final version will be published by the end of this year, 2008.

This document, firstly determines which fuels could be called biofuels, and these are: bioethanol, biodiesel, biogas, biomethanol, biodimethylester, bioETBE, bioMTBE, pure oil, biohydrogen, and other synthetic biofuels.

The new law obliges the suppliers of petrol products, to sell a certain quantity of biofuels with the conventional fossil fuels. The quantities required can be seen at the following table.:

	2008	2009	2010
<i>Ratio of biofuels</i>	1,9 %	3,4 %	5,83 %

This ratio is calculated by relating the biofuel sold with the total amounts of fuels sold during a determined period. This new law allows the fuel stations to blend on their holdings, in order to fulfill the requirements set.

Sweden



Biofuels Strategies, Sweden

In order to achieve the biofuels directive Sweden has adopted several incentives for increasing the use of eco-cars and biofuels. Public vehicles purchased should be eco-cars, but the national government can only recommend regional and local authorities to buy eco cars.

The national objective is that at least 85 % of the cars purchased in government administration will be eco-cars.

▪ **Biofuels are tax free** except from VAT. Petrol and diesel have a fuel (CO₂ and energy) taxation of SEK 6,61 and SEK 5,20 respectively per liter, exkl VAT.

- At the fuel stations the price is¹:

- <i>Biogas</i>	SEK 10,0	(€1,10) per literpetrol eqv. (12,05 kr/Nm ³)
- <i>Petrol</i>	SEK 13,39	(€1,44) per liter
- <i>Ethanol (E85)</i>	SEK 8,29	(€0,90) per liter
- <i>Diesel</i>	SEK 14,49	(€1,56) per liter
- <i>RME</i>	SEK 10,45	(€1,11) per liter

▪ **Beneficiary cars** (owned by the employer, used even in private by the employee) have **reduced beneficiary tax by 40% for gas and hybride cars, and 20% for ethanol cars.**

▪ Private persons get **SEK 10.000 (€1.100) in eco-car reward** (Hybrid, gas, ethanol and efficient²)

- *In May 2008 Swedish ethanol car 100.000 where sold.*

▪ **Compulsory supply of biofuels** at fuels stations if sold more than 3000 m³ diesel or petrol per year. (>3000 m³ sold petrol or diesel during 2006, >2500 m³ sold petrol or diesel during 2007, >2000 m³ sold petrol or diesel during 2008, >1000 m³ sold petrol or diesel during 2009.)

- *Normally Ethanol, E85, is offered as it is cheaper to install.*

¹ by 2008-05-13

² <120 g CO₂/km

Sweden

- *In October 2007 ethanol pump #1000 was established. E85 is now offered in more than every four petrol station.*
- *Natural or biogas is offered at 75-80 filling stations.*
- From the 1 July it is allowed to **convert your petrol car to an ethanol** one (flexi fuel vehicle). Cost ~€ 1000
- **30 % contribution** of the cost to install a public **biogas filling station**
- **Eco-cars enjoy free parking** (decided locally in each municipality) **and free of congestion charge in Stockholm**
- National funding for **R&D in 2nd generation biofuels**

United Kingdom



UK Strategies and Policies for the Development and Support of Biofuels

Renewable Transport Fuel Obligation (RTFO)

Biofuel strategies for the UK are now headed by the **Renewable Transport Fuel Obligation** (RTFO) which will be launched in **April 2008**. Announced in November 2005, the RTFO aims to be the UK primary mechanism to develop a market for biofuels, in order to ensure that carbon savings will be made and that the objectives of the EU Biofuels Directive will be delivered.

It will also be the first legal requirement on transport fuel suppliers to ensure that a certain percentage of their overall fuel sales are from a renewable source (as opposed to incentives only as it was before).

Prior to the RTFO, the UK started implementing measures to encourage the use of biofuels in order to fulfill its obligation towards the Directive 2003/30/EC.

The main initial incentives, as decided in the budget 2002 were:

- A 20-pence per litre duty incentive on biodiesel, implemented in July 2002;
- The same duty incentive introduced for bioethanol, in January 2005.

Both duty differentials were extended until 2008 (under the Alternative Fuels Framework that required a 3 year certainty).

Budget 2004 announced:

- Support for the industry through regional selective assistance grants;
- Enhanced Capital Allowance scheme which provides businesses with enhanced tax relief for equipment in the cleanest biofuels processing plants. This scheme is managed by the Carbon Trust.

United Kingdom

However, the RTFO now **requires transport fuel suppliers to ensure that 5% of total fuel sales are from renewable sources by 2010/ 2011**. This 5% target represents around 2.5 billion litres of biofuels per annum, and would achieve a saving of 1 million tonnes of carbon (which roughly corresponds to removing 1 million cars from the roads).

The RTFO sets the following gradual targets, for all types of biofuels for transports (which will be mainly biodiesel and bioethanol):

<i>Financial Year</i>	<i>Level of Obligation</i>
2008/09	2.5%
2009/10	3.75%
2010/11	5%

The main measure of implementation of the RTFO (as decided in the budget 2007) is the extension of the 20 pence per litre duty differential for biofuels to 2009/10, and **a buy out of 15 pence per litre** in the first year of the obligation that fuel suppliers must pay if they fail to meet their biofuels targets. The support for biofuels thus equates a reduction of **35 pence per litre incentive for this first year**.

There are also duty incentives for motorists to use alternative fuels (road fuel gases and biofuels).

Agricultural Incentives

Incentives for farmers are the following:

- The Single Payment for biofuel crops grown on set-aside land can be received;
- An annual aid payment of 45 euros per hectare is available for growing biofuel crops on non set-aside land.

UK Targets

United Kingdom

The UK targets are slightly below the requirements set by the EU Directive (whose reference value is of 5, 75% for all petrol and diesel by the end of 2010), but a number of technical barriers and practicalities had to be taken into account, such as vehicles warranties that do not allow more than a 5% biofuels blend at the moment.

The RTFO needs confidence that biofuels are made in a sustainable way to ensure that the maximum carbon emissions are saved. The government wants to be certain that raising the share of biofuels above 5% will “represent an effective use of the UK biomass resources”.

Therefore, the RTFO sets the first carbon and sustainability reporting requirement, which will be managed by a consortium of organizations, known as the Low Carbon Vehicle Partnership.

The carbon and sustainability reporting will ensure that obligated companies calculate and report on the greenhouse gas savings of the fuel they use on a life-cycle or well-to-wheel basis (this takes into account the level of carbon savings achieved over the whole life of the fuel and the sustainability of the supplies).