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BIODIESEL CHAINS

Promoting favourable conditions to establish biodiesel market actions

# Deliverable 7

# EU-27 Biodiesel Report
# Legislation and Markets

European Union and Member States

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Intelligent Energy Europe

# Biodiesel Chains:

## Promoting favourable conditions to establish biodiesel market actions

## WP 2 “Biodiesel market status”

## Deliverable 7: EU-27 Biodiesel Report

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## EUROPEAN UNION

### LEGISLATIVE MEASURES FOR THE PROMOTION OF BIOFUELS

**Background**

The first move was represented by the European Commission Green Paper "*Towards a European strategy for the security of energy supply*" that was published in November 2000. This Green Paper introduced the very ambitious objective of 20% substitution of conventional fuels by alternative fuels in the EU road transport sector by the year 2020. In this context, it stressed the key role of tax instruments in achieving the objectives set in terms of volumes by reducing the price differential between biofuels and rival products.

Later on, the Commission Communication entitled "*A Sustainable Europe for a Better World: A European Union Strategy for Sustainable Development*" presented to the Göteborg Summit in June 2001 highlighted the important role of biofuels in tackling climate change and in the development of clean energies. This was confirmed in September 2001, by the Commission White Paper on "*European Transport Policy for 2010: time to decide*", which established an objective of a 6% market share for biofuels in 2010.

One year after the publication of the Green Paper and as a result of this large debate, in November 2001, the EC Commission came out with two major proposals in favour of biofuels:

1. a proposal for a Directive promoting the use of biofuels and establishing a minimum level of biofuels as a proportion of fuels sold from 2005 (the so called Promotion Directive)
2. a proposal for a Directive providing a new Community framework for the detaxation of biofuels (the so-called Detaxation Directive).

The EU has since then acknowledged that the promotion of biofuels offers benefits for security of supply and for climate change policy. The biofuel directive explicitly aims promoting the use of biofuels in each Member State, with a view to "*contributing to objectives such as meeting climate change commitments, environmentally friendly security of supply and promoting renewable energy sources*".

The Commission began to pay serious attention to biofuels in 2001 when drafting two crucial directives:

- Directive 2003/30/EC *on the promotion of the use of biofuels or other renewable fuels for transport*
- Directive 2003/96/EC *restructuring the Community framework for the taxation of energy products and electricity*

*Recent developments:*

**Road map on Renewable Energies:**

The Commission proposals of January 10th, 2007 for a Common Energy Policy have given a prominent place to the promotion of biofuels. Amongst the measures proposed in this "energy package", the *Road Map on Renewable Energies* foresees an overall mandatory target of 20% renewable energy

sources in EU gross inland consumption by 2020. Most importantly, a minimum legally binding target for biofuels of 10% of total fuel consumption on energy basis will have to be met in every Member State in 2020.

That proposal was fully endorsed by the European Council in March 8th – 9th 2007.

**Revision of the EU Directive 98/70 on Fuel Quality**
The Commission issued last January, 31st a proposal for the revision of the Fuel Quality Directive (98/70). A measure foreseen by this proposal is the obligation as from 2010 to cut $CO^2$ emissions by 1% per year based on the level of 2010 along the whole product life-cycle where biofuels will play a crucial role to achieve that objective. The proposal also foresees a mandatory monitoring of life-cycle greenhouse gases to be introduced as from 2009 (article 7a of the text). This should apply to both road transport and non-road fuel suppliers. The first vote in the European Parliament plenary is foreseen for January 2008.

The proposal is providing for an increase in the share ethanol to be blended in petrol to 10% with a separate labelling and pump for these ethanol blends, but does not contain any provision on 10% or 15% FAME. EBB considers that the Directive should include minimum shares of FAME (as per EN14214 in the European definition) within diesel which will be necessary to reach the targets set by the review of the Biofuels Directive.

**Commission proposal for a Community Strategy to reduce $CO_2$ emissions from cars**
On this February 7th, the Commission published its *Communication on the Results of the review of the Community Strategy to reduce $CO_2$ emissions from passenger cars and light-commercial vehicles*. The Commission proposed to pursue an integrated approach with a view to reaching the EU objective of 120g/km $CO_2$ by 2012 and will propose a legislative framework (if possible in 2007 and by mid-2008 at the latest) focussing on mandatory reductions of the emissions of 130g/km for the average new car fleet by means of improvements in vehicle motor technology. The Commission proposes 5 additional measures related to technological improvements and to an increased use of biofuels "maximizing environmental performance" in order to achieve a further reduction of 10g/km of $CO_2$. The framework also suggests making use of $CO_2$ related taxation and other fiscal incentives, use of public procurement, traffic management, consumer information etc).

*Legislation*
**Directive 2003/30**
The Directive 2003/30/EC on the promotion of the use of biofuels or other renewable fuels for transport (Biofuels Directive) was adopted on May 8th 2003 and entered into force on May 17th in 2003.
It sets an indicative target to achieve a 5,75% share of biofuels in total petrol and diesel consumed in transport by 2010. An interim target of 2% was fixed for 2005. The reference value of 2% of biofuels will be calculated as from the end of 2005, i.e. 31 December 2005.
The reference value of 5,75% of biofuels will be calculated as from the end of 2010, i.e. 31 December 2010.

However those targets are indicative which means that once implemented at national level, there is no legal obligation for Member States to achieve the levels of biofuels they have adopted in their target.

**Review of Directive 2003/30**
The Commission plans to present by Mid-December, 2007 a proposal for a new framework Directive on the promotion of renewable energy sources (the so-called "comprehensive Directive" on renewable energies) covering the electricity, heating-cooling and transport sectors. The current Biofuels Directive 2003/30 could either be repealed or maintained until 2010 for legal reasons.
One crucial amendment to the biofuels directive would concern the legal nature of the target (from "indicative" to "mandatory") and the level of ambition (from 5,75% to minimum 10%).

Sustainability criteria for biofuels will be included, aiming at further increasing the greenhouse gas benefits of the EU biofuel policy and to minimize environmental risks. The system currently proposed will aim at discouraging the conversion of land with high biodiversity value and with high carbon

stocks for the purpose of cultivating biofuel feedstock as well as the use of environmentally harmful systems for biofuel production. The legislation will list the "sustainability criteria" to be fulfilled by the biofuels in order to count towards the EU biofuel target or to receive (fiscal) support. Biofuels that will fail to meet one of these criteria will count neither towards national biofuel targets nor towards national biofuel obligations/mandates. They will not be eligible for tax reductions and similar types of financial support. Member States will be responsible for ensuring that those criteria are respected and the new Directive will set out some procedural requirements (for example on reporting, verification and monitoring).

Among the sustainability criteria used to evaluate biofuels will be the requirement to achieve a certain level of GHG savings. The Commission will set a cut-off value for minimum GHG reductions in the legislative text in order to be eligible for support. Based on the comments to the Commission consultation, it is expected that the "cut-off value" for biofuels will be set around 20-30% (some NGOs even suggested 60% - DG Agri has recently rejected a proposal at 50%).
The Commission is planning to set up a mechanism based on "default values" for each biodiesel pathway and a methodology to calculate greenhouse gas savings. As far as default values are concerned, the starting point will be the ranges given in the JRC/EUCAR/Concawe "well-to-wheel" study (the "JEC" study). Biofuel suppliers will either choose to use these default values or provide their own data on the savings from their particular production process using the methodology defined in the Directive.
The revised Fuel Quality Directive, will also make reference to some kind of measurement level comparing the GHG performances of biofuels.

EBB has already produced a comprehensive reply to the Commission consultation of May 2007 on *Biofuel issues in the new legislation on the promotion of renewable energy* (EBB doc. 445/PRO/2007).

*Taxation*
**Directive 2003/96**
The Directive 2003/96/EC *"restructuring the Community framework for the taxation of energy products and electricity"* was adopted on October 27th 2003.

Its general aim, already from the beginning, was not to oblige EU Member States to detax biofuels: this legislation only aimed at opening the door to those Member States that are willing to do so to detax biodiesel and biofuels without being obliged to request periodically an official authorisation to Brussels through the long and burdensome unanimity procedure of article 8.4 of Directive 92/81, as it was the case until 2004. Excise duty exemption in the old frame of "Pilot project" approach – article 8.2 of the same Directive), in fact, were not anymore applicable, given that the volumes of biodiesel produced every year in the EU clearly went beyond the threshold of what could be defined as a pilot project.

The detaxation Directive was therefore conceived in order to play a crucial role in:
- simplifying the old so called 8.4 unanimity procedure, by providing an harmonised frame for detaxation in all EU Member States
- guaranteeing to biofuels and biodiesel a clear and solid legal frame that would enable future long term investments

The initial proposal allowed Member States to reduce excise duties in proportion to the percentage of biofuel incorporated in the fuel or end product. However, in order to limit distortions of competition and to ensure the smooth functioning of the Internal Market, the initial text also provided that a full tax exemption could not be granted to biofuels and that the amount of tax on the end product, when intended for sale as motor fuel, may not be less than 50% of the normal rate of excise duty for the corresponding propellant. An exception to such 50% rule was granted to captive fleets and taxis).

Thanks to the commitment of the Spanish Presidency, the 20/06/2002 ECOFIN Council held in Madrid reached a political agreement on the proposed Directive on the detaxation of biofuels.
After negotiations some changes were introduced to the initial text, in fact:
- the 50% limitation was lifted in order to cover not only a reduction but also a full exemption from the excise duty

- such detaxation might be allowed by member states under a multi-annual programme, but up to a maximum of 6 years, this period may be renewed. The Directive will be in force until 2012, however until 31/12/2012 a member state may adopt a six years programme that would remain in force for another six years time (without being renewable).
- no provisions detailing the mechanism avoiding overcompensation of biofuels producers is detailed by the Directive but it is provided that Member States should avoid an overcompensation.

The overall discussion on the Energy taxation was already initiated back to 1997, the new "*Directive restructuring the Community framework for the taxation of Energy products and electricity*" was formally adopted on October 27th 2003 and published as Directive 2003/96 in the EC Official Journal 3 days later. It is definitely one of the crucial, if not the most crucial, measure supporting the use of biodiesel.

**Other supporting measures**

**Biomass Action Plan**

In February 2005, DG Transport and Energy started co-ordinating a new EU initiative in order to cover the increased needs in terms of biomass raw materials coming from the sectors of renewable energies and biofuels.

Such initiative derives from the Commission Communication on "*The Share of Renewable Energy Sources in the EU*" - Commission doc. COM(2004) 366 final - , which concluded that there is need for specific actions to be undertaken for biomass in order to try to meet the ambitious target of a 12% share of renewable energy by 2010 (in comparison to 5.4% in 1997) and the 5,75% 2010 target for biofuels. The "*Biomass Action Plan*" was adopted in December 2005. It outlined measures in three sectors : heating, electricity and transport.

In the overall structure of the Plan the measures in favour of transport biofuels have a rather central position. The Action Plan does not have any direct legislative impact, representing only a list of suggestions and priorities that the Commission set for itself and for its eventual future initiatives in the biomass sector. The following points are mainly of interest for biodiesel:

- EU mandatory targets**:** the final text no longer referred to a Commission proposal for EU mandatory targets. EBB suggestion to postpone this issue until 2006 was taken seriously by the Commission. Mandatory targets were mentioned as an option to be explored within the 2006 report on the implementation of Directive 2003/30.
- The concept of increasing the biodiesel share in conventional diesel was mentioned among the proposed measures of the Plan. This left the door open towards the revision of both the EN 590 standard and the EU Fuel Quality Directive for increasing the biodiesel maximum percentage from 5% to 10%.
- On the agricultural side, the Biomass Plan underlined that an assessment of the Energy crop scheme was needed, and that information campaigns should be done among farmers on the opportunities provided by energy crops
- The Plan still stressed the relevance of biofuels imports in the EU in the frame of a so-called "*balanced approach*". Reference was made to possible future relevant import share of biofuels or their raw materials. In that sense, the Commission confirmed its support for the revision of the EN 14214 standard, in order to accept a broader base of biodiesel raw materials.
- Finally it is worth mentioning that the Commission stresses on the need for a sustainability of the raw materials for biofuels production. This may serve to limit imports especially from those areas where the biodiesel image suffered strong criticism about the eventual negative effect of plantations threatening the rain forest or endangered species.
- Other interesting suggestions are mentioned among the proposed measures listed by the Biomass Action Plan on liquid biofuels, these include different points, and among others the suggestion to:
    1. further encourage the use of biofuels in public fleets
    2. examine how biofuels can count towards the $CO^2$ reduction targets for car fleets
    3. amend the EN14214 standard to pave the way to the use of FAEE

4. ask the relevant industry to explain the technical justifications for practices that act as barriers for biofuels (this could be used in order to question the negative attitude of some vehicle and pump injectors manufacturers towards biodiesel)

Generally speaking the Biomass Action Plan represented another positive step towards the implementation of Directive 2003/30.

## BIODIESEL PRODUCTION AND MARKETS

### Market

The EU market share of biofuels in 2001 was only about 0.3% and has reached a market share of about 1% by 2005. It represents a doubling of the share compared to the level of 2003, however progress was very uneven among the Member States. Only Germany (3,8%) and Sweden (2,2%) had reached their targets.
The Commission expects that the biofuels share might be around 4,2% in 2010 (although other modelling suggest a more pessimistic share of 3,9% or 2,4%).

The overall biodiesel production in the EU has increased from 3,2 million tonnes in 2005 to nearly 4,9 million tonnes in 2006 and has more than doubled since 2004. Biodiesel represents about 80% of all the biofuels produced and consumed in Europe.

In 2007, capacities for biodiesel production reached 10,2 million tonnes (6,09 million tonnes in 2006). 185 biodiesel plants are fully operational and 58 are under construction. According to EBB projections for 2008, capacities could reach 14,8 million tonnes by January 2008 and 17,2 million tonnes by July the same year. This means that the EU biodiesel industry is in a position to reach the 2010 EU target and will certainly be ready, well in advance, to fulfil the 10% biofuels targets endorsed by the March 2007 European Council.
However, if the appropriate measures able to create a real EU market for biodiesel are not secured, there is a risk that the increasing biodiesel industrial capacity remains largely unemployed.

### B99 exports to the EU:

Since the end of 2006 increasingly important quantities of biodiesel are being imported in the EU from the United States. Such imports are entering in the EU market under the form of a blend of 99,9% biodiesel and 0,1% (or even less) mineral diesel ("B99,9").

At present, in the frame of US Federal measures adopted in 2004 to promote biodiesel, US biodiesel producers are eligible for a subsidy of 1 US dollar per every gallon (1US gallon = 3,8 litres) of biodiesel blended with mineral diesel. This means that, in practice, biodiesel can be subsidised up to 263 US$ per cubic meter (i.e. approximately 0,20€ per litre) only by adding a "drop" of mineral diesel to biodiesel. A "B99,9" *blend* in fact gets the maximum subsidy for blending and is then ready to be exported to Europe in order to fully benefit from European subsidy schemes.

Triangular trade started with biodiesel producers or traders from third countries (Malaysia, Brazil, etc.) shipping biodiesel to US harbours to be "blended" with a 1% (but even a 0,001% would be enough) for exporting to Europe afterwards, in a sort of "touch and go" trade.
In most EU countries biodiesel producers are experiencing dumping competition from B99 blends which are offered in the market as pure biodiesel with a substantial discount in some cases going over 100-150€/tonne. This competition, because of being price-setting and disrupting the margins of EU biodiesel producers, already put out of business many EU biodiesel producers.

Should these exports continue at a similar pace during the months to come, the 1 Million tonnes threshold could easily be reached by the end of the year 2007.

**Commission revision of the custom classification for biodiesel**
The Customs Code Committee of the European agreed upon the creation of a separate custom code for FAME. So far, and still until December 31st 2007, biodiesel is falling under code 38249098. As of January 2008, this will be replaced by two new codes. The new code for biodiesel will be **38249091** and will cover "Fatty acid mono-alkyl esters, containing by volume 96,5% or more of esters (FAMAE)". The other code – 38249097 – will continue to cover the many products falling under the "Others" category of chapter 38.

The creation of the new custom code will allow gathering precise statistics on intra-EU and external trade of biodiesel, which will prove particularly helpful to track unfair subsidised exports of US biodiesel.

## Feedstock

About 85% of the biodiesel produced in Europe is based on rapeseed oil, also because of technical reasons.
About 26-28 Million of tonnes of biodiesel would be needed to fulfil the 2020 targets. DG Agriculture evaluated the availability of oil seed crops for biodiesel at about 29 Million tonnes which would mean that only about 4.6 % of the total arable land would be used in order to reach the biodiesel target in a sustainable way.

## Standards

*EN 14214:*

In July 2003, after long years of negotiations, the European EN 14214 on FAME was definitively published by the CEN. The CEN (*Comité Européen de Normalisation*) is the European body defining European standards for any kind of commercial product. The members of the CEN are the different Normalisation Institutes that are active at national level, defining national standards. The working of the CEN is then undertaken by many different Technical Committees (TC), which are again sub-divided in different working groups. As for every CEN norm, Member States (and also accession countries) are obliged to adopt the standard EN 14214 as national norm, by withdrawing their national (DIN, AFNOR, UNI, AENOR…) norm. Such transposition of the EN 14214 norm into a national norm had to be realised before March 2004, although there are still a few national normalisation institutes lagging behind.

According to European rules, in case of conflict, a CEN standard prevails on previous national normalisation rules (that are normally automatically withdrawn). Of course, in the hierarchy of norms a standard has a lower rank than any form of legislation. Therefore, in case of conflict (which normally should not occur), EU or national law prevail on the norms issued by normalisation Institutes.

As from the beginning, EN 14214 is considered as the only reference norm in terms of biodiesel quality. This norm was defined after long negotiations in order to get the simultaneous consensus of the mineral oil industry, car manufacturers and many other stakeholders. It deserves to be defended, as it constitutes a cornerstone for biodiesel development in Europe. In particular, it ensures a quality-led development of biodiesel, and promotes the large-scale production of biodiesel according to the principle of complementarity – not substitution.

Review processes:
A project for a research programme on analytical methods for biodiesel (FAME) has been promoted by the Dutch NEN (i.e. the Dutch Normalisation Institute, which also holds the Secretariat of the Technical Committee 19 of the CEN, one of the two TC responsible, together with TC 307 of FAME standardisation). As from 2003, the programme aimed at creating new analytical methods or at adapting the existing analytical methods to identify the characteristics of FAME. This is because the existing methods were considered not precise enough in order to fulfil the requirements of the EN 14214 standard, and of mineral diesel standards in case of blends.

At the end of the summer of 2004, it appeared more and more clearly that the European Commission intends to launch a wide debate in order to modify the EN 14214 standard. Their aim is to enlarge the number of raw materials that can be used to manufacture biodiesel, making it possible to employ also soybean, sun, palm oil and other fats such as UFO and animal fats.

*EN 590:*
Currently the European Diesel standards allows for a maximum incorporation of biodiesel of 5% in volume in regular diesel.
Last November 13th 2006, the European Commission has mandated the European Committee for Normalisation (CEN) to revise the EN 590 standard to increase the concentration of FAME and FAEE to 10% in volume. Despite the strong obstructionism of the EU car industry, this mandate has already been accepted by the CEN: 21 Member States voted in favour, Sweden voted against because of alleged complications during winter, 4 Member States stayed neutral.

However, the CEN process could still take a long time before the new standard would be adopted.

*International biodiesel/ biofuels standards: recent initiatives*
The US and Brazilian launched a joint initiative in the framework of the ISO Technical Management Board to create a subcommittee of the ISO/TC 28 dedicated to biofuels. A mandate was given to the CEN for setting up a global biofuels standard, which would mirror similar developments in the US ASTM and South American standardisation bodies. The standard would remove the iodine number and cetane number parameter. The European Biodiesel industry strongly deplores the fact that the Commission had accepted this move, under the US and Brazilian pressure.

## Research

### 7th Framework Programme for Research and Development

In December 2006, the Council of the EU definitively adopted a set of laws fixing the guidelines for the allocation of funds under the 7th Framework Programme (FP7), gathering all EU research and innovation activities. The FP7 will run for 7 years, from January 1st 2007 to December 31st 2013. To total indicative budget of FP7 was fixed at € 50,5 bln, compared to the overall FP6 budget of € 17,5 bln. The activities covered by FP7 are divided in four blocks. Biomass technologies and renewable fuel production will be covered by the first block (Collaborative Research) within the Energy programme (€ 2,3 bln budget).

EBB submitted the BIOMAP project proposal under the Commission 7th Framework Programme for research. The aim of the project is to develop an accessible mapping and dissemination tool for biofuels projects (production facilities, testing in car-fleets, use of biofuels in municipalities, research projects under the EU Framework Programme …) to facilitate their dissemination.

### European Biofuels Technology Platform

The Biofuels Research Advisory Council (BIOFRAC) was established by the European Commission in 2005 as a group of major stakeholders of the fuels and biofuels industry. The BIOFRAC had the task to develop a Vision Report addressing all major issues pertaining to the development of biofuels technology and their deployment in the EU. The emphasis was led on research, development and demonstration. The Vision Report was intended as a reference document for all stakeholders of the biofuels sector, as well as a support to the development and implementation of the 7th Framework Programme for research (FP7).

The Biofuels Technology Platform (BFTP) was launched at a Conference in June 2006 with the aim to implement the major proposals outlined in the Vision Report. The main contribution of the BFTP has been the elaboration of a Strategic Research Agenda identifying key RD&D working lines for the next 10 years. This document is currently opened for public consultation.

# AUSTRIA

## LEGISLATIVE MEASURES FOR THE PROMOTION OF BIOFUELS

*National target announced under Directive 2003/30*

Austria sent the three reports implementing Directive 2003/30 to Commission DG TREN within time schedules.
The national indicative targets defined as obligatory targets by Austria are detailed in both the implementation reports.
According to these reports, the targets are defined (in energy content) as follow:

- As from October 1st 2005: **2.5%**
- As from October 1st 2007: **4.3%**
- As from October 1st 2008: **5.75%**
- As from 2010: **10%** (in process)
- As from 2020: **20%** (in process)

*Recent developments*
The political framework programme (Regierungsprogramm 2007-2010 für die XXIII. Gesetzgebungsperiode) foresaw to increase the excise duty for petrol + 1 Cent/ litre and Diesel +3 cents/litre as from 1st of April 2007. At the end, the excise duty was increased for petrol +3 Cents/ litre and by 5 Cents/ litre (Budgetbegleitgesetz 2007). The aim is to achieve a share of 10% biofuels until 2010 and a 20% share of until 2020. Austria is focusing on Methane-based fuel.

The Austrian strategy for achieving its Kyoto targets also will promote biofuels and aims to go beyond the 5,75% share through higher blending rates or through promoting pure Biofuels.
According to the strategy, this should be achieved through local biomass production (70% are assumed to be feasible). Some measures mentioned are promoting the pure biofuel utilisation (obligatory for off-road), detaxation for sulphur free and biogenic fuels, differentiated excise duties etc.

A national biofuels strategy (*"Nationale Biokraftstoffstrategie")* shall be worked out from the biomass producers, the biofuel and mineral oil industry.

### Background

*Legislation*
Environmental concerns have been the main driver for the development of biodiesel in Austria. Early introduction of fuel and biodiesel standards have as early Research and Development program initiated by the Federal Institute for Agricultural Engineering (BLT) already in 1973 were prerequisites for the take off production of biodiesel in Austria.
A new comprehensive legislation establishing mandatory biodiesel use as well as a particular regime of tax exemption was adopted by the Austrian Parliament at the end of 2004. This legislation was based on proposals issued by the Austrian Ministry for Agriculture and Environment during the summer of 2004. The new Austrian legislation came into force as from October 1st, 2005. It replaced a previous legislative system supporting biofuels, based on a full detaxation of biodiesel and on the marketing of pure biodiesel or of blend up to 2%. Due the relatively low excise duty exemption (310€/m³) the old system did not have a real impact on the Austrian market and until mid-2005 more than 80% of the biodiesel produced in Austria was exported towards other EU countries (mainly to Germany and Italy).

The new legislation has dramatically changed the panorama making biodiesel competitive towards mineral diesel in the internal Austrian market. It establishes two main legal pillars for Austrian biofuel promotion policy:

*Biofuels obligation*

A new law setting mandatory targets for the market penetration of biofuels (adopted on November 4th, of 2004 as Ordinance 417 amending the Regulation of 1999 and in force since 1/10/2005) sets a mandatory targets of 2, 5% as from October 1st, 2005, raising it to 4, 3% on October 1st, 2007 and up to 5, 75% already in 1st October 2008 – (Austria intends to anticipate the implementation of Directive 2003/30 by two years). The percentages refer to biofuels, but the Austrian government is convinced that given the absence of Austrian ethanol production, these targets should be reached using almost exclusively biodiesel during at least the first two years of implementation.
The targets are mandatory for all the companies importing and distributing (whoever puts fuels into circulation for the first time), not the ones putting the fuel in the tank.

Clear penalties for not blending are not provided by the law. However due to detaxation, mineral oil distributors have an economic interest to respect the targets because they can gain 28€ per m³ tax exemption for diesel sold by mixing it with only 44 litres biodiesel. Those that treat or use marked diesel (i.e. Diesel Bio Plus) contrary to the law will be liable of a fine of minimum 2000 €.
Although this fine is likely to have little impact, the Austrian government seems to have the intention of threatening to withdraw the state licence to those mineral oil importers and distributors that may claim higher blending amounts than were actually used. Such action would be treated as tax fraud, and penalties would have a much more radical impact. Mineral oil companies will have to register and provide evidence every 1st of May of the annual quantities of biofuels that they have put in the market initially, some problems emerged with the new legal definition of "Substitutionsverpflichteter", i.e. the stakeholders that are obliged to substitute diesel with biodiesel as provided by the new Fuel Quality Law. Eventually, the Austrian Association of the Mineral Oil Industry registered all of their members to the government, which provide around 85% of all fuels. Some of the remaining producers have apparently registered independently.

Tests conducted by the Austrian department of Environment on May 1st 2006 showed that most diesel that is placed on the market contains 4,7% biodiesel (around 3,2% in terms of energy content ). This implies that even "unregistered" stakeholders blend biofuels.

*Taxation*

A law amending excise duty rules (adopted on December 31st, 2004 as Federal Law 180 amending the Oil Tax Regulation of 1995) provides for:
A detaxation of 15€/m³ as from 31. December 2004 – 1st October 2005 for low sulphur (10ppm) diesel (i.e. an excise duty of 302€/m³ for 10ppm instead of the normal 317€/m³)
An increase in the diesel excise duty from 317€/m³ to 325€/m³ in October 1st, 2005
as from the same date the detaxation for low sulphur diesel alone came to an end and a special tax reduction of 28 €/m³ was be granted for a new kind of so called "Diesel Bio Plus" fuel, i.e. a diesel fuel which will be fulfilling at same time two necessary requirements:
- contain less than 10ppm of sulphur
- contain at least 4,4% of biodiesel (blends even above 5% are authorised but labelling is necessary)
Taxation was brought to 297€ if both requirements are fulfilled, otherwise the tax amounted to 325€ (from July 1st 2007 5 cents/litre are added to each category).

A new law increasing the excise duty rules as from July, 1st 2007:
According to the law provided to the budget provisions (BBG 2007), the excise duty on diesel was increased by 5 cents per litre. This means that the increase is valid for each diesel category.

Therefore only two levels of taxation per m³ exist as of July 1st 2007 for diesel:

- 375 € for regular diesel (with maximum 50mg/kg sulphur)

- 347 € for diesel containing minimum 44l of Biodiesel and with a maximum sulphur content of 10 mg/kg.

The 28 €/m³ detaxation is the result of a 15€/m³ detaxation because of low sulphur content combined with a 13€/m³ detaxation for biodiesel. Using this method, Austria can respect article 16 of Directive 2003/96 which clearly provides that biofuels detaxation cannot exceed the amount of a full tax exemption granted on the biofuel part of a blend (in this case the maximum authorised was 4,3% of 325€ = 13,98€/m³, which is not exceeded by the 13€/m³ detaxation because of biodiesel.)
Since July 1st 2007, the full tax exemption granted on the biofuel part of the blend according to Directive 2003/96 amounts to 4,3% of 375€ = 16,13€/m³.
However the levels of detaxation do not change if more than 44l/m³ biodiesel are blended in the normal diesel. The same taxation levels apply if it is used for heating purposes.

A detaxation for low sulphur gasoline containing bio-ethanol will come into force as from October 1st, 2007.
A tax relief of 0,442€/litre bioethanol may be claimed for Blends produced in Austria respecting the ÖNORM C 1114 and:

- containing a minimum share of 70% vol. bioethanol in the timeframe 01/10-31/03
- containing a minimum share of 80% vol. Bioethanol in the timeframe 01/04-30/09

The Excise Duty for unleaded petrol with less/equal than 10mg/kg sulphur content amounts to 447€/m³ and 462€/m³ with more than 10mg/kg sulphur. As From October 1st , the rate will be of 442€/m³ with a minimum biofuel content of 4,4% and sulphur content less/equal than 10mg/kg, otherwise 475€/m³.
For leaded petrol the excise duty is currently 519€/m³ (low sulphur) and 534€/m³ (10mg/kg sulphur). The news rate from this October 1st will be 514€/m³ with a minimum biofuel content of 44l and a sulphur content less or equal to 10mg/kg. Otherwise the excise duty amounts to 547€/m³.

Pure biofuels may be totally exempted from the excise duty, even if small amounts of other products have been added (for enhancing properties or preventing denaturing).

To ensure that sufficient amounts are available for blending in Austria to meet the targets, biodiesel importers need to ensure that a certain percentage of the fuel to be supplied is stored on reserve in the country ("*Notstandsreserve*").

This new Austrian legislation is extremely interesting and creates a good precedent at EU level. The combination of low sulphur plus biodiesel detaxation could provide a valuable basis in order to make biodiesel competitive in those countries where the excise duty is not high enough in order to make biodiesel competitive with mineral diesel even with a full detaxation (as mentioned above Austria was in this situation until beginning 2005). At the same time, this operation should be cost-neutral for the Austrian budget given that this detaxation will be balanced by the additional income to the Austrian Federal Budget coming from the increase of the excise duty on high-sulphur-non-biodiesel gas oil.

**Other supporting measures**

A decree on Information to consumers related to passenger cars (187. Verordnung / 2006) of May 11th 2006 provides what kind of information car manufacturers are obliged to indicate to the consumers. It provides the possibility for car manufacturers to indicate whether the car is warranted for biofuel use or not.

## BIODIESEL PRODUCTION AND MARKETS

In Austria, there are currently 12 large scale plants producing biodiesel and 3 major projects, representing a production capacity of about 326.000 tonnes/year which is more than double compared to 2006 (134.000T). By 2008 a capacity of 406.000 tonnes/year with 15 operational plants shall be attained. Among the big producers with more than 50.000 tonnes/year capacity is G.AT.E. in Ennshafen, Biodiesel Vienna, and projects of SBU BiodieselbetriebsbetriebsgmbH in Krems and Styrian Biofuels GmbH. EOP Biodiesel AG (Germany) bought a 51% share to the Austrian ABID Biotreibstoffe running a biodiesel plant in Hohenau. Last but not least it is worth stressing that the main Austrian mineral oil company, OMV, has announced a 200.000 t/a biodiesel project with Neste Oil using the NexTBtl technology. It is however not clear yet whether the project will be realised. OMV planned to extend its project to 400 000 tonnes biodiesel capacity.

Concerning Biodiesel production figures EBB estimates that 123.000 tonnes were produced in 2006 compared to 85.000 tonnes in 2005. According to Austrian authorities, 321.000 tonnes of biodiesel were brought to the market in 2006 of which 288.500 tonnes through blending.
32.500 tonnes of pure biodiesel were brought in the market or blended within higher FAME share regarded as "non-conform to the standards". Additionally 10.000 tonnes of PPO were consumed, mainly in the agricultural sector.
The overall share of biofuels in the transport fuel market is estimated at 3,54% in energy content (4,7 % in volume).

| FUEL Consumption in '1000 tonnes | 2005 | 2006 | Increase/decrease in % | source |
|---|---|---|---|---|
| Regular DIESEL | | | | |
| | 4.755,6 | 353,2 | -92,6% | WKO/BMWA |
| DIESEL blended with Biodiesel / PPO | | | | |
| | 1.508,5 | 5.801,4 | +284,6% | WKO/BMWA |
| Of which domestic biodiesel | | 77,404 | | ARGE |
| | | | | |
| B100 /PPO | | | | |
| | 3,6 | 20,1 | +452,9% | WKO/BMWA |
| | | 32,568 | | ARGE |
| TOTAL Diesel | 6.267,7 | 6.174,7 | -1,5% | WKO/BMWA |
| TOTAL Biodiesel blend and pure | 1.512,1 | 5.821,5 | | WKO/BMWA |
| | | 321 | | BMWA |
| blend | | 288,5 | | BMWA |
| Pure biodiesel | | 32,5 | | BMWA |
| BIODIESEL PRODUCTION | | | | |
| | 85 | 123 | +69,1% | EBB |
| | | 121,665 | | ARGE |

Austria has one Mineral Oil Refinery in Schwechert owned by OMV which has a refining capacity of about 50% of the total diesel consumed in Austria, the other diesel demand is mainly supplied by a refinery located in Bavaria (Germany) where OMV holds a major share.

### Standards

The introduction of fuel standards was considered as the main driver for the production and consumption of biodiesel in Austria. Indeed Austria was the first country worldwide which defined the

first standards and testing methods for biodiesel as early as in 1991 with the ÖNORM C 1190. An additional standard ON C 1191 for FAME of 1997 together with the standard DIN 51606 are considered to be the predecessor of the European standard EN 14214.
The ordinance on fuels "Kraftstoffverordnung" 1999 amended by BGBl II NR 417/2004, provides that diesel has to respect following requirements:
from 1/01/2005 max 10mg/kg sulphur diesel must be made available
from 01/01/2009 all Diesel in Austria have a max sulphur content of 10mg/kg.
diesel may contain more FAME as specified in EN 590, labelling requirements in the case of higher FAME are as follows: the distributor, mineral oil producers and importers have to label : "beware! Only for vehicles with release of manufacturers".
diesel with a sulphur content of max 10mg/kg and minimum 4,4% Biodiesel (volume) may be labelled as "Diesel Bio Plus".

# BELGIUM

## LEGISLATIVE MEASURES FOR THE PROMOTION OF BIOFUELS

*National Target announced under Directive 2003/30*

Belgium submitted its first, second, third and fourth report under Directive 2003/30. The national indicative targets, based on the energy content of transport fuels are:

- 2005: 2%
- 2006: 2,75%
- 2007: 3,50%
- 2008: 4,25%
- 2009: 5%
- 2010: 5,75%

The percentage will be increased yearly by 0,75%.

### Background

*Legislative background*

Belgian authorities have been discussing for long about the support to be given to biodiesel and biofuels. Already during a Council of Ministers meeting held in January 2004 the Belgian Government took the engagement to translate into a national law the 2% objective implementing it already by the beginning (not the end) of 2005: this proved that a real political will existed at government level. At the end of 2004, two laws were approved that were drafted by the Belgian Ministry for Environment. These laws represented a general implementation of Directive 2003/30 (respecting the 2% target), and included the idea of a full detaxation to be further elaborated by the Ministry for Finance.
But in spite of this political announcement Belgian authorities approved only in summer 2005 a genuine legislative tool providing for biofuels detaxation. The related implementing measures in the form of a quota system have been finalised in the beginning of June 2006, following the publication of a federal law on biofuels.

A special meeting of the Council of Ministers in March 2007 announced the intention of the federal government to introduce biofuels obligations, with the aim to provide an additional incentive for the biofuels market. The date of entry into force of such an obligation as not been communicated yet.

*Taxation*

Directive 2003/96/EC has been transposed in Belgian law by the Royal Decree of 29 February 2004, the Planning Acts of 27 December 2004, 11 July 2005, 27 December 2005 and recently the Act of 10 June 2006.
During the spring 2005 the Ministry of Finances elaborated a draft legislation in order to exempt biofuels from the excise duty. EBB actively lobbied the national authorities and participated in various meetings with other Belgian biofuels stakeholders and with the Ministry of Finance sending also an official EBB position at the very crucial moment of the negotiations.
In July 2005, as a result of the negotiations held during the spring, and upon a proposal of the Ministry of Finance, the Belgian Parliament approved detailed measures on the detaxation of biofuels and biodiesel. The basic principles of tax exemption are laid down in the law of 10 June 2006 regarding biofuels (published in the *Moniteur Belge* of 16 June 2006). The reduced excise rate for biodiesel is in effect since November 1st, 2006.

The rules are rather complicated: the basic concept is that a lower excise duty will be granted to biodiesel blends containing minimum 2.45% in volume of FAME (until December 2005, then increasing by 0,92% each year). The excise reduction granted to such blends in practice represents a full excise exemption for the FAME component, meaning for 2005:

- the Belgian excise for low sulphur diesel is fixed by this law at 374.08€/m³
- A biodiesel blend of at least 2.45% is levied a reduced excise of 365.12€/m³
- The discount for a biodiesel blend is of 8.96€/m³ and amounts to more or less a 2.45% excise reduction for a 2.45% biodiesel blend

The same principle applies to bioethanol blends of minimum 7% in volume (which in the eyes of the Belgian legislator correspond to a maximum 15% ETBE blend).

The reason for which Belgian authorities created this complicated system instead of exempting directly the biodiesel component as such (i.e. the pure biodiesel before the blend) related to the very specific nature of excise duty in Belgium. In fact today the Belgian excise is subdivided I three main parts. The so-called:

1. *droit d'accise* (excise duty)
2. *droit d'accise special* (special excise)
3. *cotisation sur l'énergie* (energy tax)

Two of them (droit d'accise and cotisation sur l'énergie) are common with Luxembourg, and any change needs to be agreed with Luxembourg's authorities. This means that a full detaxation of a precise product cannot be adopted without a prior authorization from Luxembourg (which was not obtained for biofuels).

Belgium has full control only over a part of its excise, the so called "accise spéciale" (special excise). In a first move the Belgian authorities wished to remove this special excise tax, but this would not have been enough (around 160€/m³ of overall detax). EBB could convince them to invent a mechanism reducing the "accise spéciale" for blends in a percentage that at the end of the day grants a full detaxation to the biodiesel component.
It also needs to be underlined that the excise exemption being granted not to FAME as such but only to blends of minimum 2.45% FAME, this may create some implementation problems:

- Traceability: if Belgian administration will apply very strictly these measures it could mean that FAME will have to be traced also after the blending in refinery and that each tank or lorry coming out of the refinery should specify the percentage of FAME blend that it is transporting. In theory also a different pump could be needed for blends: this at least would be the logical consequence of this new law, however Belgian authorities indicate so far that they will implement it in an elastic way and that these problems will not exist.
- Market compatibility: a blend defined as minimum 2.45% FAME is a new invention which may create additional confusion in the European market also since it does not completely fit with the EN590 blend concept of maximum 5%

The legislation also contains some provision that could enable higher tax exemptions for higher blends (such as B30), but this will need a further governmental decree.

Pure vegetable oil will be fully exempted by the three parts of excise (Luxembourg having given green light to this operation). This measure was requested by Walloon farmers wishing to fuel their tractors with straight vegetable oils.

These measures will be of no cost for the Belgian Government since the excise reduction for blends is being accompanied by an increase in the overall excise duty of at least 10€/m³ for both gasoline and diesel, which will enable the Belgian Government to get back the money of the biofuels detaxation. Belgium will probably be the first country to earn money with biofuels, in fact the increase in the excise has been calculated considering that the Belgian biofuels market will attain immediately the targets, which of course will not be the case, so a part of the excise increase will simply create more income for the Belgian state.

*Current frame for detaxation*

FAME content in volume is to be increased by 0.92% each year until 2007:

- 2.45% until 31st December 2005
- 3.37% as from 31st December 2005
- 4.29% as from 5 March 2007
- 5% as from 31st December 2007

The correspondent excise reduction for blends will be increased in a way to maintain a full exemption for the FAME component.

Bioethanol should benefit as from the beginning of 2008 from a similar scheme with an advantageous exemption for blends of 7%.

The current excise rates (in effect as of 5th of March 2007) for biodiesel is to be found in the article 419 of the Programme-Law of 27 December 2004, last modified by the law of 25 February 2007 article 2, 3° :

– excise rate (droit d'accise): 198,3148 EUR/$m^3$
– special excise (droit d'accise spécial): 103,7202 EUR/$m^3$
– energy tax (cotisation sur l'énergie): 14,8736 EUR/ $m^3$

A biodiesel blend with a FAME content of at least 4,29% is thus levied a tax of EUR 317/$m^3$

As of July 2007, the excise on diesel (<50 mg/kg sulphur content) is set at EUR 331/$m^3$.

*Call for tenders under detaxation scheme*

Eventually in June 2006, following some delays at ministerial and parliamentary level, the Belgian Parliament adopted the implementation rules detailing the provisions of a call for tender for biofuels amounts to be granted detaxation as from November 1st 2006 onwards. The following quantities allocated as quotas are as follow:

- November 1st 2006/ September 30th 2007: 286 000 m³
- October 1st 2007/ December 31st 2008: 475 000 m³
- For the period 2009/2012: 380 000 m³ per year
- January 1st 2013/ September 30th 2013: 284 000 m³

The Belgian call for tender has been published in July 2006.

In October 2006, the quotas for the period November 1st 2006/ September 30th 2007 were announced. The following companies have been awarded a biodiesel quota: Neochim in Feluy (125 000m³), Oleon in Ertvelde (72 000m³), Flanders Bio Fuel in Gistel (40 680m³) and Proviron in Oostende (48 320m³).
In December 2006, the overall quota of 2 279 000m³ for the period starting October 1st 2007 and ending September 30th 2013 have been announced. The following companies have been awarded a biodiesel quota: Bioro (988 000m³), Proviron (257 000m³), Neochim (650 000 m³) and Oleon (384 000m³).

*Other federal measures*

The Royal Decree of 10 March 2006 fixes the conditions for the exemptions of excise duty for pure rapeseed GN code 1514 and fuels with a higher limit value as permitted by EN 590 and EN 228.

The Belgian government is encouraging the production of pure rapeseed oil, which is subject to a full detaxation. Procedures for putting PPO on the market have also been established. A royal Decree of November 2006 is determining the technical specifications to be met.

A study on the transposition and implementation of Directive 2003/30 was carried out by Price Waterhouse Coopers with the aim to identify relevant policies and measure in support of the promotion of biofuels.

*Regional promotion measures*

- *Flemish region*

A 40% support is granted for heating installations and material that at company level use renewable fuels( biofuels, biomass). A 30% support is granted for installations and material that at company level are specifically required for the production of renewable energy sources (such as oil press installations). However, installations for the production of biodiesel or bioethanol are excluded from

this measure, in conformity with the decision of the European Commission (N334/2005) on state aid for biofuels.

Environmental friendly investment in the region is eligible for an ecological premium (35% for SMEs and 25% for big companies).
Several projects promoting biofuels are defined under the Climate Policy Plan of Flanders (2006-2012)

- *Walloon region*

The association Valbiom is promoting the non-food biomass production.
The region has appointed a facilitator to support project developers for production and use of biofuels but no direct financial subsidy for promoting biofuels has been made available so far.

- *Brussels Capital*

By 2008, the public administration of the Brussels region should have at least 20% clean vehicles in their fleets (Order of the regional government of July 2003)

## BIODIESEL PRODUCTION AND MARKETS

### Market

*Overview*
In 2006 7,857 Mo $m^3$ diesel were sold on the Belgian market. 1.282 $m^3$ of biodiesel have been placed on the Belgian market, which corresponds to 0,01% of the total diesel consumption.

*Projects and new investments*
The first biodiesel production sites started production in 2006. Biodiesel is available at the pump since November 2006 in Belgium.
A number of large production facilities were built following the outcomes of the call for tenders. Many industrial investments are in perspective:

*Flemish Region*
- *Group Tormans* should set a subsidiary undertaking in Geel for the production of biodiesel with a capacity of 300,000 litres for 2008.
- *Cargill, Bioro and Vanden Avenne Izegem* have entered into a joint venture to build a biodiesel plant in Ghent with a capacity of 200,000 tonnes. The production should start in 2008.
- *Oleon* has started the production in Ertvelde, with a production capacity of 100,000 tonnes/year.
- *Proviron* will set up a biodiesel plant with a capacity of 100 000 tonnes a year in Oostende.
- *Dow Halterm*an has started production in Antwerp. Current capacity is 35,000 tonnes/year.
- *Biofueling* should set up a plant with a 200,000 t/y capacity in Terneuzen.
- *Flanders Biofuels* should produce biodiesel, green electricity and green heat in Gistel. The company received a production quota for the period November 2006/October 2007 but not for the second stage (2007-2013).
- *Ineos* is planning to set up a biodiesel facility in Antwerp.

*Alco Bio Fuel* and *Tate & Lyle Invest* are also planning bioethanol plants in Gent and Aalst.
*Total Belgium* invests in their depot in Antwerp to be ready to distribute biofuels.
On the 1st November 2006, *Green Energy Creations* opened the first pure rapeseed oil filling station near Ghent. As far as the PPO market is concerned, several small units for the production of pure plant oil have been built but they are delivering oil for other purposes than transport (cogeneration,

food applications…). In April 2007, 14 installations were registered but only one applied for tax exemption.

*Walloon Region*

- The biodiesel facility built by *Neochim S.A*. in Feluy is operational since spring 2007, with a capacity of 250,000 tonnes/year.
- A project is also planned in Hermalles-sous-Huy, with a capacity of 100, 000 tonnes

The *Tirlemontoise refinery* has also started the construction of a bioethanol unit at Wanze that should start operations in 2008.

## Standards

The Royal Decree of 4 March 2005 stipulating that biofuels can only be put on the market in case a European standard exists has recently been complemented to provide for two exceptions: captive fleets and biofuels sold directly by farmers to the end consumers.

## Research and Development

The Belgian Integrated Platform for Industrial Biotechnology was established in 2005 under the umbrella of the Ministry for Science Policy, in order to develop a long-term strategy both in terms of policy and research. It covers biomass supply, bioprocesses/bioproducts and bioenergy.

In 2007, there were four research projects financed by the federal research program "Science for a sustainable development":

- "Liquid biofuels in Belgium in a global bioenergy context" (LIBIOFUELS): the objective of this project is to analyse the ecological, micro economic and socio-economic sustainability of the most promising large-scale biomass routes in Belgium. The project will notably include a comparison of the potential and sustainability of the chains in Belgium versus imported biomass, liquid befouls or intermediate products as well as a comparison of liquid biofuel chains with bio-CHP and bioelectricity.
- "Biofuels Sustainable End Use (BIOSES): the BIOSES project analyses the impact of different market introduction scenarios of biofuels in the Belgium transport system, with a focus on the demand side.
- "Clean vehicle research: LCAs and policy measures" (CLEVER): the program will analyse the existing barriers to the introduction of clean vehicle technologies in Belgium, establish the environmental impact of vehicles running with conventional and alternative fuels and/or drive trains and determine policy measures to facilitate a sustainable vehicle choice.
- "Decision-making tools to support the development of bioenergy in agriculture" (TEXBIAG): the objective of the project is to ensure the contribution of bioenergy from agriculture to the mitigation of greenhouse gases emissions, to energy security and to farmers' income and rural development.

# BULGARIA

## LEGISLATIVE MEASURES FOR THE PROMOTION OF BIOFUELS

*National reports and targets under Directive 2003/30*
In the course of the stakeholders discussions held in relation to the drafting of the Renewable Energy Law, participants suggested three principal scenarios for the development of biofuels production for the period between 2008 and 2015, completed by indicative targets.

The following levels for the necessary quantity of biofuels on the domestic market as a percentage of total quantity of fuels used in the period were suggested:
- 2008: 2%
- 2010: 5,75%
- 2015: 10%

**Background:**

*Legislation and taxation*
Until the adoption of the Renewable Energy Law, the legislative basis for introduction of biofuels in Bulgaria did not provide the necessary conditions for their development. Biofuels were indeed treated in several statutory instruments:

The first one is the *Clean Air Act* of July 5, 1999, and more particularly the *Ordinance of the Ministry of Environment and Waters pertaining to the requirements for quality of liquid fuels and the procedure, conditions and manner of their control*, of October 1, 2003.

The Ordinance considers the requirements for percentage content and provides for the use of biofuels as additives to conventional fuels. Annex No. 2 concerns the requirements for diesel fuel and allow the addition of up to 5% methyl ester. The ordinance does give any indications/requirements concerning the composition of biofuels and does not provide any definition.

The *Finances Act and Excise and Customs Warehouses Act* (applicable from January 1, 2006) makes it mandatory that biofuels be stored at customs warehouses after June 1, 2006 (Article 66-2).
Furthermore, article 32 and article 33 provides for a zero taxation rate for pure biodiesel (B100).

It was thus necessary to draft a legislative act which would unite these pieces of legislation and provide for a unifying statutory instrument.

The *Renewable Energy Law* (proposed by the Ministry for Economy and Energy) was discussed at governmental level during 2006. The aim was to devise a general framework and a specific biofuels regulation. In May 2006, the Ministry for Economy and Energy initiated the preparation of a legislation aiming at supporting the use of renewable energy sources and biofuels.
In December 2006 the Bulgarian association for biofuels worked on the seven political axes mentioned in the EU Strategy for biofuels of February 2006 and sent its comments to the Parliamentary Commission of Energy, the Parliamentary Commission of Environment, Parliamentary Commission of Budget, the Ministry of Economy and Energy, Ministry of Environment and waters and the council of ministers.

This law was finally published in the official journal on 19 June 2007. It provides for a zero taxation rate for the biodiesel component in blends. Starting 1st January 2008, there will be a 5% mandate for fuel suppliers. The mandate is indexed on the maximum biodiesel share authorised in EN 590, so that if the standard is revised, the mandate will be adapted accordingly. As of July 2007, the excise duty on conventional diesel amounts to BGN 535,00 (= € 273,55).

Long term, the ministry of energy is aiming at developing higher blends for the public sector and captive fleets (B50).

Another support measure is granted in the form of agricultural subsidies for energy crops. In 2006, subsidies for rapeseed cultivation amounted to BGN 35/hectare (around €18).

## BIODIESEL PRODUCTION AND MARKETS

### Market

The following companies were reported to have biodiesel plants or projects in Bulgaria: *Biodreams* (20 000 tonnes/year in Lovetch), *Galaksi Oil* (a project of 15 000 tonnes/year in Silistra and a 30,000 t/y project in Pleven), *Klas Oil Ltd* (30 000 tonnes/year in Vidin). *Rapid Oil Industries* shoult start production in early 2008. The company *Sluntchevi Luchi* is said to launch a 100 000 tonnes/year biodiesel plant capacity in 2007.

*Eko Petrolium* is reported to plan to build a 150 000 tonnes/year biodiesel facility that should be operational in 2008. The Spanish company *GreeFuel Corporacion* is contemplating the construction of a 45,000 t/y plant in the Pleven region.

There are a number of additional small-scale projects in Bulgaria, the viability of which is still disputable.

Major biodiesel producers are members of the National Association for Biofuels and Renewable Energy Sources. As far as biodisel from used cooking oils is concerned, the branch organization is the Oilseed Oil Producers Association Bulgaria.

### Feedstock

Biodiesel production first started in Bulgaria as early as 2001, and was mainly based on used cooking oils collected from restaurants, as developed by the company SAMPO in Brussartzi (North-Western Bulgaria). However, there has been a rapid increase in production of sunflower and rapeseed-based biodiesel. Today indeed, the energy crops used as raw material for biodiesel are mainly rapeseed and sunflower, although it should be noted that some climatic restrictions exist for rapeseed cultivation.

Bulgaria presents excellent conditions (including climate conditions) for development of agriculture. Indeed, arable land currently represents about 4.9 million hectares, which is equivalent to 44% of the total territory of the country.

In 2005, unused agricultural land (fallow land and uncultivated land) represented some 20% of the entire agricultural land, which could provide significant opportunity for development of biofuels production.

### Standard

The European Standard 14214, which was introduced as Bulgarian State Standard in 2004, provides the specifications of pure biodiesel. There are projects to revise the iodine value, in order make sunflower-based biodiesel conform to the standard.

# CYPRUS

## LEGISLATIVE MEASURES FOR THE PROMOTION OF BIOFUELS

*National Reports and Targets announced under Directive 2003/30*

The Cypriot Ministry for Commerce, Industry and Tourism has been in charge of the implementation of the biofuels Directive and the development of national biofuels legislation. An aid scheme foresees an annual budget of 3.77€ million to cover excise tax reduction.

Cyprus submitted its first, second and third report under Directive 2003/30. In the first report, Cyprus set a target of 1% for 2005. The report also highlighted the lack of energy crops in the limited agricultural surfaces of the island (Cyprus has almost no agriculture), although some studies are being conducted on the potential growth of alternative energy crops.
In its second report submitted under Directive 2003/30, Cyprus stated that the unusual high oil prices in 2005 positively influenced the Government's attitude towards biofuels and especially towards biodiesel. Indeed, there is a keen interest in somewhat reducing the country's total dependence on imported fuels

According to EBB estimations, the 2% and 5,75% targets would represent respectively 16.000 and 51.000 tonnes (this if only biodiesel - and no bioethanol - would be used to fulfil the target).

### Background

*Legislation*
Directive 2003/30/EC has been transposed in national law by a specific legislation on the promotion of the use of biofuels or other renewable fuels for transport purposes (n°66/(I)2005), which has been in force since June 2005. It specifically provides for long-term national programmes to promote the use of biofuels. The definition of biofuels was implemented under the Law on specifications of oils products and fuels (n°148/(I)2003).

*Taxation*
Directive 2003/96/EC on the taxation of energy products was transposed by the taxation law n°91(I)/2004.
Since February 2004, a grant scheme exists for investments in renewable energy sources and is being operated by the Energy Service under Law N.33 (I) /2003. It can cover a maximum of 40% of the amount required, with the maximum eligible amount being 680.000€. Four applications have been submitted for subsidizing biodiesel plants of a total capacity 6,400 tonnes a year.

The grant scheme also provides for subsidies for legal entities under the category "Energy Saving " of about 1.200€ for hybrid and vehicles running on alternative fuels. The maximum number of cars per company is limited to 7.

The excise duty for regular diesel amounts to 143 CYP/m³ (245€/m³). The relevant provisions are the Law n° 66(I) of 2005 amending the Law N° 9(I) of 2004 regarding excise duty taxes. A bill and a decree of the Department of Customs and Excise provided for a full exemption of the excise duty for biofuels.
That exemption scheme was notified to the Commission in October 2006 with further information in February 2007 and raised no objections. The aid scheme would cost about 3.77 Million € and is approved until the end of 2010.
The biofuel part of the transport fuel will be fully exempted from the excise tax , but will still be subject to the 15% VAT and to a levy of 0.33 Cyprus cents per litre (0,56 €cents/litre) for covering costs of maintaining security stocks of fossil fuels.

In order to benefit from that scheme, producers and importers of biofuels need to register on a special register but there are no limits in volume. Biodiesel producers who receive investment aids under other aid schemes (grant scheme) may apply for the tax exemption scheme. In that case the investment received is subtracted from the capital cost forming the basis of the capital repayments in the calculation of the production cost of biodiesel.

### Other supporting measures

The preparation of a National Programme aiming to fulfil the national indicative targets was initiated by the Minister of Commerce, Industry and Tourism at a discussion forum held on 31 May 2005 in Nicosia. The aim of this programme is to guarantee long-term stable conditions so that investors will be confident to invest in biofuel production.

Besides, the Government is considering using imported biofuels for use in its captive fleet. The measure would indirectly stimulate biofuels market in Cyprus (through the fuels distribution system) and contribute to the fulfilment of the national indicative target.

## BIODIESEL PRODUCTION AND MARKETS

### Market

There are only two biodiesel plants already operating in Cyprus: one in Limasol, producing around 1,000 tonnes per day, the other in Larnaka, that started production in 2007 with a 5,000 tonnes/year capacity.

The 2004 report under Directive 2003/30 indicates that investment in the field of biofuels is still very limited, meaning that the potential for biofuels production is not fully exploited. There has been however an interest for the production of biodiesel from used edible oils, considering that the potential for energy crops is negligible (limited land availability and water shortages).

### Feedstock

Cyprus will heavily rely on imports because of scarcity of cultivable lands. A funding project entitled "Evaluation of Energy Crop Potential in Cyprus" was launched for that purpose (*see below Research section*).
Cyprus adopted a law in May 2007 banning the import of biofuel derived from genetically modified (GM) crops. It builds up on a former law which prohibits the cultivation of GM biofuel feedstocks in Cyprus. A spokesman for the Cypriot Parliament explained that the Members of Parliament wish to see Cyprus a declared GM-free territory and make not an exemption for biofuels which they are keen to produce from non-GM feedstocks. The European Commission sent a formal notice to Cyprus based on the eventual breach of article 28 of the EU treaty on the free movement of goods.
The Cypriot authorities had until end of July to respond to the warning of the Commission, which might consider taking further legal actions.

### Standard

Cyprus went for an early implementation of CEN standard EN 590 and EN 14214. This was provided for in Ministerial Order KDP 318/2004 issued under the Law on the specifications of oil products and fuels n°148(I)2003. Furthermore, the Ministerial Order allows the use of higher biofuels blends (above 5% in volume) and biofuels in pure form, provided that the standard EN 14214 is applied and emission requirements are met.

### Research

Since October 2004, the Research Promotion Foundation of Cyprus is funding a project entitled "Evaluation of Energy Crop Potential in Cyprus". The aim is to assess the feasibility of some species as

energy crops on the basis of experimental cultivations. The project is being implemented by the Cyprus Institute of Energy, the Agriculture Research Institute and the National Technical University of Athens. The grant aid for this project is 136.000 CYP (236.000 Euro).

# CZECH REPUBLIC

## LEGISLATIVE MEASURES FOR THE PROMOTION OF BIOFUELS

*National reports and targets under Directive 2003/30*

The Czech Republic has sent the three reports under Directive 2003/30 on the promotion of biofuels. The following targets for biodiesel are mentioned (calculated in term of energy content): 3.7% for 2005 and 5.5% for 2010. An important bioethanol production is expected to start as from 2006 and should contribute to reach a global biofuels target of 5.2% in 2006 (in energy content) and of 6.6% in 2010, exceeding therefore the well known EU biofuels reference targets.

### Background

*Legislation and taxation*

- 1999-2004

Among the ten new EU Member States the Czech Republic is the only country where a relatively well established and producing biodiesel industry already existed prior to EU legislation. In the early '90ies the construction of biodiesel production facilities was supported by state funding (grants were provided under the so-called "*Oleoprogram*") and production started based on a characteristic 31% blend which is still normally used today. From 1999 to 2001 direct subsidies were paid to the producers of RME and blends. From 2001 up to last April 2004 the support took the form of price rebates on the raw materials (rapeseeds) grown on set-aside lands in parallel with direct payments to RME producers. Under this support system, a biofuels market share of 1.4% could be reached for diesel from 1999 until EU accession, when production declined. (source: *"Opinion of the Petroleum Industry concerning the use of biofuels in transport in the Czech Republic")*
This national financial support system had to stop with the entry of Czech Republic into the European Union. It phased out as it was in contradiction with EU law.
It was not replaced by an alternative support scheme for more than a year (until July 1st 2005). However, during this time, many customers shifted to diesel fuel as biodiesel became too expensive.

- 2004 - After the EU Accession

Following EU accession in 2004, the first step towards the new Czech biofuels legislation was demarcated by the transposition of EC Directive 2003/96 into Czech legislation. The new legislation that is in place since July 2005 was approved in April 2004 by the Czech Government. The new scheme (Act 353/2003) phased out already after 6 months on December 31st 2005.
The new law consisted in an excise duty reduction of 95€/m³ as long as the share of biodiesel amounts to at least 31% of the blend itself (this is equal to a full detaxation of the biodiesel component of a 31% blend). This excise duty was in force for six years and was granted to all EU producers and/or importers of biodiesel. At that time, an excise duty reduction of €306 applied for mineral diesel. In addition to this detaxation the Czech Republic was granting a direct subsidy of 257€/m³ to RME producers. This direct aid was supposed to be in force only until the end of 2006 and was granted only to Czech companies producing locally, within the maximum production limit of 125.000 tonnes. It is important to underline that this programme concerned only RME and not biodiesel from other raw materials.
EBB was informed about concerns from within the industry that the government may not have sufficient funds to cover for the biofuels subsidies, but this information has not been confirmed.

- As from December 31st 2006:

In line with the Commission's requirements, the support regime granted to RME was ended on 31 December 2006.
As for the period starting December 31st 2006, the Czech Government adopted a long-term strategy for the use of biofuels in transport last October 12th 2005. (*Resolution No. 1308 concerning the draft of a long-term strategy for the use of biofuels in the Czech Republic)*

This resolution delegated the Ministry of Industry and Trade to coordinate the future Czech biofuels promotion policy, and provided for the creation of an interdepartmental working group to prepare a biofuels legislation.
The Ministry of Agriculture, which was chairing the working group, was reported by the Czech press to be in favour of direct support measures for biodiesel producers, and apparently a budget of €88 million may be earmarked for such direct aid in the future. The other two options considered were no subsidies at all and detaxation. Already in February 2006, the Czech government had approved another programme for financial support to biofuels producers, but this programme will still require an amendment of the related Czech law.
A deadline had initially been set for May 31st 2006 (before the general elections), but due some delay in the decision the final word on the long-awaited Czech national biofuel programme has been left to the new Czech Government, which is lead by the Civic Democrats.

Government Resolution No 1080 of 20 September 2006 provides for a minimum quantity of biofuels to be placed on the market.

As from January 1st 2007, pure biodiesel is fully exempted from tax. Biofuels under the forms of blends remains without tax exemption. In July 2007, the excise duty on conventional diesel amounted to €351,74.

*0bligation system*
Meanwhile, another law, Act No. 92/2004 was adopted already in 2004, providing for a definition of biofuels. It also set an biofuels obligation for biofuels distributors, but this Act still required the adoption of implementation measures, which was prepared much later in 2005 (Statutory Order No. 66/2005). This order provided for a minimum, i.e. mandatory production quota of 200.000 tonnes of RME per year for the period 2007-2012. There are ongoing discussions if the numerical value of 200,000 tonne of RME should be revised to a relative value of 5% as a percentage of the fuel placed on the market.

In accordance with the Government resolution of September 2006, the Act No 86/2002 on clean air protection was adapted accordingly to provide the following mandatory blending targets for locally sold petrol and diesel oil:

- as of 1 September 2007, 2%
- as of 1 January 2009, 4%

Therefore, as of 1st September, a 2% mandate for RME blend in diesel has come into force. However, the blending of bioethanol with petrol will start on January 1, 2008 (2%) in order to improve controls and prevent excise tax avoidance. No subsidy will apply.

Environment Minister Martin Bursik explained that Prague hopes to boost the share of renewable energy sources and to become less dependent on oil deliveries following the move.

While low-percentage blending will be compulsory as of September 2007, the use of high-percentage biofuels (above 5%) will be included in a multi-annual programme on the use of biofuels in transport. The use of high-percentage blends is expected to begin in 2009.

*Support to energy crops*
In 2006 support granted for the planting and upkeep of energy crops has amounted to CZK 2 000 per hectare of arable land earmarked for cultivation. A total of CZK 1 066 000 was paid out over the year in the form of aid for the cultivation of plants for use in energy generation, which cover an area of 1 033 ha.

## BIODIESEL PRODUCTION AND MARKETS

### Market

In 2005, the biofuel share was 0,05% in energy content. This share is expected to reach 0.37% in 2007 and even 3.94% by 2009, as mentioned in the fourth report under Directive 2003/30.
In 2006, biofuels represented 0,5% in volume of then overall Czech fuel market (29 600 tonnes out of 6 million tonnes of conventional fuels)

The 2006 biodiesel production amounted to 110 000 tonnes, which is less than in 2005 (133 000 tonnes). The majority of the 2006 production was exported to other EU countries. During the same period the production of ethanol remained in a demontration phase (less than 300 tonnes).

The leading producer in Czech Republic is a state owned food and chemical product company – *Setuza* - which has two production units: one in Olomouc with a capacity of 42 000 tonnes per year and the second one in Mydlovary with a capacity of 15 000 tonnes per year.
In July 2005, a major Czech national newspaper, *Hospodarske Noviny*, announced plans of Setuza to continue selling its biodiesel for higher prices on the German market, like in the previous year. The company would only consider to divert its production to supply the Czech market "*if subsidies were higher, the long and risky system of subsidies payments was changed, and if rules were set to cover longer periods*". The company has also not applied for subsidies under the Czech State Agricultural Intervention Fund (SZIF) in 2006. To be able to meet the demand of the German market, *Setuza* is also planning to increase its production capacities to 100 000 tonnes by 2007 (source: EBB capacity list). At its new plant in Usti nad Labem (Aussig), 100 000 tonnes of RME could be produced from 2007 onwards. Setuza also produces around 180 000 tonnes of vegetable oil every year, mainly rapeseed. The second big Czech producer is *Agropodnik* in Jihlava with a capacity of 55,000 tonnes per year. Like *Setuza*, *Agropodnik* exports its biodiesel to Germany, but in 2006 the company applied for the major share, i.e. 53 500 tonnes of biodiesel of the overall 125,000 tonnes that are eligible for support under the State Agricultural Intervention Fund in 2006 The *Jan Horak HH Corporation Ceska Trebova* has apparently asked for another major 17 500 tonnes.

Globally, there are 16 (source: EBB capacities) producers of biodiesel in Czech Republic amounting to a global installed production capacity of around 200.000 tonnes per year in 2005, which could potentially be increased by 50% relatively easy. EBB is in touch with the management of both *Setuza*, *Agropodnik* and *Biopa, which is another known producer in Czech Republic based in Pardubice.*

A Board of Czech Biodiesel producers exists since some years. The President of Setuza is today the President of such a Board. The association is composed by 14 members, i.e. the two main producers and other 12 little companies with very limited capacities.
Another more little association of the biodiesel industry also exists gathering only 4 minor producers.

In spite of national measures Czech producers mainly export to Germany with long term contracts (price in Germany is much more attractive). The Czech market in theory is based exclusively on a 31% blend. Mineral oil refiners are so far rather opposed to blends up to 5% claiming that this entails additional costs for them, but in reality this is a pretext that they are using since they are opposed to biodiesel blends. Czech biodiesel producers on the other hand, would prefer 5% blends to the present 31% reference.

Czech farmers planted more oilseed rape in 2007 in anticipation of the new legislative developments. Initially, the amendment was scheduled to come into force in January 2008 only.

**Standard**

Biodiesel quality used to be defined by the local Czech standard ČSN 656508, which was recently replaced by the EN 14214 standard.

# DENMARK

## LEGISLATIVE MEASURES FOR THE PROMOTION OF BIOFUELS

*National Target announced under Directive 2003/30*

The indicative targets filed in by the Danish authorities to the EC Commission under Directive 2003/30 detail the following:

- no targets (meaning that 0% should apply) in the first and second report.
- 0,1% for 31st December 2006 (target has been revised last November 2005) following pressure from the EU Commission.

### Background

Generally, Denmark takes the position that each EU Member State should promote the renewable energy that is least costly for them, which for Denmark would be biomass-based electricity (waste/straw) or wind energy. The second report puts particular emphasis on the costliness of biofuels market introduction for petrol companies, such as for the distribution system.

In its first report, Denmark stated that "biofuels are not of great benefit to the environment." This negative approach towards biofuels led the EC Commission to investigate the validity of the reasons provided for the 0% target as a first step under the non-compliance procedure, which could eventually end up in a procedure before the Court of Justice.

On July 6th 2005, Denmark received a letter of reasoned opinion from the EC Commission. The Commission decided to issue a negative assessment, arguing that their reasons "lack relevance, seem incorrect, put the desirability of the Directive itself into question, or would – if correct – apply to all Member States; or that the proposed target would not promote the use of biofuels."

Following the pressure of the EC Commission to start a procedure with the Court of Justice, the Danish Government set up a governmental Commission and issued a report later this year (29/06/2006) with recommendations for biofuels use (and an assessment of other alternative transport fuel options) in the Danish transport sector. The Government also set the above-mentioned 0,1% biofuels target for 2006, and announced that it hopes that the EC Commission considers these measures as an adequate response. So far, the EC Commission did not take further steps.

On January 19th 2007, the Danish government presented its energy policy vision "En visonaer dans energipolitik". The key objectives are to reduce Demark's dependence on fossil fuels by 15% until 2025 and to keep the overall energy consumption at the same levels of 2007. Renewable energy shall account for at least 30% in energy consumption in 2025, the share of biofuels shall be at 10% by 2020. The government is also ready to set up interim targets provided that "adequate socio-economically competitive and environmentally sustainable technologies have been developed".

*Legislation*

There was no biofuel obligation imposed by legislation in Denmark which changed until recently. According to DAKA and Emmelev, there might be a Danish market for biodiesel in 2008. However the Danish Minister of Environment is reported to be against biofuels made of raw materials used for food. The government intends to build their legislation on the European sustainability scheme which would have to apply to all raw materials.

*Mandatory targets for biofuels*
The Parliament will soon announce to the Commission that Denmark will introduce a mandatory biofuel scheme with following targets of biofuels (in energy content):

- 2% in 2008
- 3% in 2009
- 5,75 by 2010

This is very good news for Denmark, legislation will not be drafted before this summer break.

*Taxation*
The excise duty of diesel amounts to 364,89€/m³ including a CO2 tax. Since last January 2005, biofuels are exempt from the Danish CO2 tax on such fuel (Law 1391 of 20th December 2004).

At present, the CO2 tax for mineral diesel amounts to 1€/GJ, with mineral diesel having an energy content of 42,7 GJ/t. This implies that around 42,7€ of $CO^2$ tax applies per tonne of mineral oil diesel. An exemption of the $CO^2$ tax should therefore not result in a biodiesel breakthrough which is confirmed by the major biodiesel producers. The CO2 tax amounts to 0,243 DKK /Liter which is approximately 0,032€/liter.

A new energy plan was recently discussed, according to rumors a further CO2 tax might apply.

**Other supporting measures**

The Danish Energy Agency has issued two reports in 2006, proposing R&D fund allocation strategies in order to reach market-competitive status for biofuels.
A budget of 60 million Danish Kroner (roughly 8,05 Mill €) has been allocated by the Danish Government for the coming three years 2006-2009. According to the Danish Center for Biofuels, that money could be spent in the captive fleet initiative. The Fynen Region of Denmark is planning to use high blends of biodiesel in the bus fleets starting in October/November 2007.
Another 200 million Danish Kroner (roughly 26,86 Mill €) have been earmarked for the development of "second-generation" technologies. That money is for the moment only attributed to research in second generation plants and focused on bioethanol.

## BIODIESEL PRODUCTION AND MARKETS

There are currently two biodiesel companies in Denmark, i.e. Emmelev (annual capacity of 90.000 tonnes) and Daka (project of 50.000 t/a plant for biodiesel from animal fats finalized by October/November 2007).

According to the Danish authorities (Energiestyrelsen) 3,7 PJ of Biodiesel were produced in Denmark in 2006, compared to 2,7 PJ in 2005, all of the biodiesel produced was exported.

About 71.000 tonnes of biodiesel were produced in 2005 and 80.000 tonnes in 2006. Daka and Emmelev would be able to deliver approximately 5-6% of Demarks consumption of biodiesel if all production of biodiesel is sold in Denmark (currently all is exported to Germany and Sweden). Currently there is no bioethanol production in Denmark.

# ESTONIA

## LEGISLATIVE MEASURES FOR THE PROMOTION OF BIOFUELS

*National Target announced under Directive 2003/30*

Estonian authorities have submitted their 4 reports under Directive 2003/30. The indicative biofuel targets set out are as follows:

- 2% for 2005
- 5,75% for 2010

### Background

In October 2004 Estonia submitted its first report to the EC Commission under Directive 2003/30, where no target for 2005 is indicated. At the time of writing, Estonian authorities considered it is unlikely that biofuels produced in Estonia would come into the market already in 2005. They also mentioned warranty problems raised by Scania and Volvo, although they were working to convince them. Finally they estimate that the present rapeseed crop production of around 60-70.000 tonnes should be increased in order to allow the development of a non-food rapeseed industry. The definition of more precise replacement targets is postponed until 2005. The second Directive report refers to the "Long term national development plan for the fuel and energy sector up to 2010" endorsed by a decision of Parliament on 15 December 2004. A chapter from this plan states the above indicative targets calculated according energy content.
The 3rd report under Directive 2003/30 reported the biofuel production in Estonia (see market chapter below). The report also underlines that many motor vehicle manufacturers continue to take a very cautious view of the use of biodiesel.
The fourth report brings new elements about the Estonian Development plan to promote the use of biomass and bio energy 2007-2013 and its two implementing phases.

*Taxation*

In February 2005, the Estonian Ministries of Finance, Agriculture, and Environmental Affairs finalised a bill (under the Alcohol, Tobacco and Fuel excise duty act) that fully exempts biodiesel from the fuel excise tax. Permission to exempt biofuels from excise duty was received from the EU in July 2005, exemption is valid until January 1st 2010.
It is specified that it applies to biodiesel defined in the codes CN 1507 to 1518 which are not of synthetic origin. In case of blends the reduced rate applies to the share of biogenic origin.

A biofuel permit gives the right to produce biofuel, import it into Estonia and release it for consumption free of excise duty.
Estonia presently applies to biodiesel the same excise tax rate levied on mineral diesel, which stands at 3840 Estonian kroons (245 € approximately) per 1,000 litres. Dropping the tax for those producers holding the permit would therefore lower the price of a litre of biodiesel by about 3,8 Estonian kroons (0,24 €) in retail which appears as sufficient to introduce biodiesel.
As at 1st January 2007, 11 biofuel permits have been issued. The permit (*"biokütuse luba"*) is valid for 6 years (July 27th 2011) and issued by the Tax and Customs Board of Estonia.
The taxation will be analysed and new measures should be proposed following the Biomass and Bioenergy plan described below.

### Other supporting measures

- Biomass and Bioenergy Development Plan in Estonia

In the light of the European Commission's communications on the Biomass Action Plan and the EU strategy for biofuels, the Estonian government decided to draw up a development plan for the

promotion of biomass and bioenergy. One of the major objectives is to create favourable conditions for domestic biofuels production. Another long term objective is to produce 100% of heat and 6% of electricity from biomass in 2025. The Biomass and Bioenergy Development Plan (period 2007 -2013) in Estonia is split in two phases, the draft version listed the main problems of the biofuel market development in Estonia:

- A lack of information on the effectiveness and use of biofuels in Estonia
- Car manufacturers are still cautious on biofuels
- Need for additional investment by fuel suppliers
- A lack of EU biofuel standard
- Difficulties to receive subsidies for biofuel production
- A lack in R&D for future biofuel technologies
- The draft provides a list of actions to be achieved by 2013:
- A percentage of biofuel in the total fuel consumption will be fixed
- State organizations will promote the use of biofuels by using biofuels in their fleets
- Regarding the raw materials, 50% of the material used should be from local production
-

The plan will include two phases of development:
**Phase 1:** 2007/2008: Different surveys will be carried out to analyse the market, resources and technologies.

**Phase 2:** 2009/2013: The measures will be implemented (subsidies, taxes, standards etc.) according to decision based on the 1st phase.
Here are the measures that should be analysed:
* Ensure R&D in the field of biomass and bioenergy; ensure that a study about cost-competitiveness of biofuels is carried out.
* Increase public awareness, increase international collaboration and network
* Propose a set of measures to organize the market (subsidies, standardisation, and setting of compulsory share of biofuels (analysis and implementation of such mandate as from 2008 if the studies are demonstrating effectiveness).
Concerning biofuels, the possibilities and effects of transport obligations will be analysed.

- **Estonian National Development Plan – RAK**

The Estonian National Development Plan (RAK) is a plan aiming at strengthens the competitiveness of existing firms and stimulates the formation of new firms. Under this measure, in 2005, 57 600 Estonian crowns was granted as support for drawing up business plans for the production of liquid biofuel.

- **Expansion of the Energy crop scheme**

Under the European energy crop scheme Estonian farmers will be paid 45€ / ha.The procedure for applying for aid and proceeding of applications were issued this April, to receive an aid the applicant shall supply at least 1200kg/ha of rape/turnip rape in order to be eligible for aid under the energy crops scheme.

- **Estonian Rural Development Plan (2007-2013)**

The Estonian government approved this plan in February 2007 which provides for investments for the production of biomass and biofuels in agricultural holdings. Although this scheme is more focussed on forestry based raw material support is also given to the production of biofuels from non-wood agricultural products and waste.

## BIODIESEL PRODUCTION AND MARKETS

No pure or blended biofuel was sold for transport purposes in 2005.
According to the statements provided by biofuel-permits holders, in 2005, 889 073 litres of biofuel was produced, and 192 173 released for consumption. The biofuel produced was not sold in Estonia but dispatched to undertakings in other member states.

According to our information, 7.000 tonnes of biodiesel were produced in 2005 and about 1.000 tonnes in 2006. Other sources state that about 5.000 tonnes of biodiesel was produced, of which 85% was exported. About 525.000 tonnes of diesel were consumed in transport in 2006 according to official sources.

Concerning biodiesel production capacities, the main Estonian state-owned rapeseed oil crusher and refiner, *Werol*, was waiting for the final approval of the full biodiesel detaxation before launching a 55.000 tonnes/year biodiesel project. The company which took over the project is Biodiesel Paldiski in Painküla. The biodiesel plant with an annual capacity of 100.000 tonnes per year is currently under construction and will be finalised this November. They focus on rapeseed oil as main feedstock purchased from their strategic partner Werol tehased AS since their rapeseed oil crushing and refining unit is located about 200km from the plant. The company will mainly sell their pure biodiesel (EN 14214 quality) to haulage sector and captive fleets.
Other Estonian companies like *Wester Start* and *Biodiesel Company* have long investing in biodiesel plants. However, since the Estonian market is currently not profitable for biodiesel production because of low mineral diesel prices and high raw material prices the projects were not realized. Currently there are about 4 minor biodiesel projects (with a capacity of about 5.000- 10.000 tonnes/year) but they reported that all their production is in stand-by because it is not profitable. The biodiesel capacities are evaluated at 20.000 tonnes/year in 2006 and are currently at 35.000 tonnes/ year. Capacities are expected to increase to 135.000 tonnes/year by 2008.

## Feedstock

Estonia has produced around 69 200 tonnes of rapeseed in 2003, but the production has been used for cooking oil. An extension of the area for rapeseed cultivation is needed to cover start biofuel production.
In September 2006, the Commission made a proposal aiming at extending the energy crops aid scheme to all new Member States, this further support will be implemented in Estonia in 2007.
In 2006 about 11.375 ha of rape were grown for energy purposes.

## Standards and compliance with EU standards

The EN 14214 specification has already been translated into a national standard, with the addition of a special requirement for the CFPP which was fixed at minus 26 degrees Celsius in order to maintain a good quality in local winter conditions.
Requirements for fuel have been laid down in a regulation of the Minister for Economic Affairs and Communications, according to which fuel to be used for transport purposes must comply with the requirements of standards EVS-EN 228/2004, EVS-EN 590/2004 and EVS-EN 14214/2004.
The marking "E" must be used for petrol and the marking "BIO" for diesel, together with the percentage content of the biofuel component, if the percentage of biofuels mixed with petroleum derivatives exceeds the 5% threshold.

# FINLAND

## LEGISLATIVE MEASURES FOR THE PROMOTION OF BIOFUELS

*National Target announced under Directive 2003/30*

The indicative targets filed in by the Danish authorities to the EC Commission under Directive 2003/30 detail the following:

- 0,1% (for 2005)
- max 2% for 2010

A new law as approved by the Finish Parliament in February 2007, the following targets will come into effect starting January 1st 2008:

- 2% by 2008
- 4% by 2009
- 5,75% by 2010

### Background

*Legislation*

Finland has sent its first report under Directive 2003/30 to Commission DG TREN only in December 2004. It details quite low national targets for biofuels, i.e. 0,1% for 2005 and no more than 2% for 2010. It also mentions that a partial detaxation for limited quantities and only for research purposes should be granted to biodiesel in the short term.
Currently there is no legislation in favour of biofuels in place in Finland but this will change starting from January 1st 2008.
A new legislative proposal was filed in by the working group on October 19th 2006 aiming to create an obligation on distributors of placing biofuels in transport fuels.

*Mandatory targets for biofuels*

As from January 1st, 2008 the biofuels share in petrol/diesel must be at least 2% (energy content), supplied by the distributor of transport fuels. In 2009 the share will be at least 4%, and then at least 5,75% in 2010.

The obligations for 2010 would be enforced through the quality standards of fuels. The law will not regulate the origin of biofuels, in case of non-compliance there will be a penalty imposed by the Customs authorities.

*Taxation*

The Finnish government decided not to grant a full detaxation to biofuels, so far. Negotiations were started in winter 2004/2005 with crushing industry and mineral oil companies in order to find an agreement on a partial detaxation.
These negotiations ended in a proposal from Finnish authorities to allow a tax break of only 220€/m³ out of the 320€/m³ excise duty normally levied on gasoil. This proposal was refused by the vegetable oil industry (Raisio, at that time Associate Member of the EBB) as insufficient in order to make biodiesel competitive with mineral oils in the Finnish market.
Currently, only biogas used as motor fuel is fully exempted from excise duty.

Under the EU Energy taxation directive is 2003/96, Finland also grants partial relief from excise duty for biofuels intended for research and testing only. Two bioethanol projects are carried out under this scheme. The Finnish Ministry of Trade and Industry has granted investment aid for demonstration

projects that can be used both as a transport fuel and for heating. However, these measures are insufficient to create a biofuels market in Finland, and in 2003, biofuels reached a market share of less than 0,1%.

The Finnish Parliament approved a legislative proposal for full biofuels tax exemption. At present, the Fuel Tax Directive only provides for partial detaxation for biofuels used for R&D purposes, which is still too little to make biodiesel competitive in the Finnish market.

**Other supporting measures**

The Finish Parliament approved in 2006 a budget of 9Mill. € for the development of "novel second-generation technologies" until 2009. The Finish government thinks that with its 2nd generation development programme it may be feasible to achieve a share of up to 8% biofuels in transport fuels in its energy mix by 2020.

## BIODIESEL PRODUCTION AND MARKETS

In 2005 biofuel consumption was inexistent in Finland according to its national report; however the EU Commission calculated a 0.11% share in 2003 and 2004. This is due to the fact that there are also small-scale productions and use of biodiesel (and biogas) in Finland, producing on an experimental basis but no reliable data exist on it.
In spite of this rather negative approach of the Finnish government, Neste Oil, now an independent stock exchange listed company (former oil division of Fortum Corporation) announced plans to invest in a large biodiesel facility based on a new biodiesel processing. The technology is based on a stand-alone production unit using hydrotreatment, their product is called NExBTL. The first plant in Porvoo will start production with an annual capacity of 170.000T/y by summer.
Its biodiesel equivalent will be based on hydrogen-treated plant oils and animal fats. A second plant will start production by the beginning of 2009 and another one in planned in Austria as a joint venture with OMV. The Joint venture project with Total has been put on hold.
The Neste Oil strategy is to build at least 2Million tons of annual capacity by 2012/2017.

# FRANCE

## LEGISLATIVE MEASURES FOR THE PROMOTION OF BIOFUELS

*National Reports and Targets announced under Directive 2003/30*

The French authorities delivered 4 reports under Directive 2003/30 (2004, 2005, 2006 and 2007 reports). The first report included already references to the first ambitious announcement made by the government during the summer of 2004 and estimated at 1% of the overall market of conventional diesel the biodiesel sold in France in 2003.

At first, the major outlet for biodiesel has been captive fleets, which can use B30 blends. France already encouraged for more than 10 years the use of biofuels, in the form of direct blending of biodiesel with conventional diesel.
France started the debate concerning the implementation of EU directives at national level during the summer 2004, with the announcement of the *Plan Biocarburants.* On September 7th, 2004, during a visit to the French biodiesel production unit of Compiègne, the Prime Minister announced that the French production capacity of biofuels should be tripled by 2007.

Mid-September 2005 with an official announcement strongly echoed by the media the French Prime Minister Mr. de Villepin announced that France will bring forward by two years (i.e. already to 2008) its goal of reaching a 5,75% target, setting a new target of 7% of biofuels market penetration by 2010, and a 10% target for 2015. This followed various declarations from government representatives repeating that the oil era is coming to an end for France. As mentioned in the third report under Directive 2003/30, the law of July 13, 2005 (n° 2005-781) defining the French policy in terms of renewable energies promotion was modified in January 2006 to provide these new objectives (law n° 2006-11 of January 5, 2006).

The national indicative targets, based on the energy content of transports fuels are:
- 2005: 1,2%
- 2006: 1,75%
- 2007: 3,50%
- 2008: 5,75%
- 2009: 6,25%
- 2010: 7%
- 2015: 10%

### Background

*Taxation*

Biofuels are produced and soled on a commercial scale since 1992 and are benefiting from tax exemptions to offset the additional costs of production. In the 1990's, a full tax exemption from the internal tax on petroleum products (TIPP) was granted to biodiesel. Under Directive 92/81/EEC, this was allowed for biofuels pilot projects. However, the important production increase that came as a result of the detaxation was considered too high for a pilot project. The system was thus adapted to provide for reduced rate of TIPP, the amount of which is reconsidered annually.

Since 2004, a tax break of €330/m³ was granted to motor fuel blends containing FAME (up to 5% at service stations, up to 30% in captive fleets). The tax break used to be of €350€/m³ until December 2003, but was decreased due to the country's budgetary problems. This was further reduced to €250/$m^3$ in 2006. Most importantly, the French tax reductions are limited by a system of production quotas (see below). For 2007, the total amount of detaxation for biofuels reached 260 Mo euros, compared to only 160 Mo euros in 2004 and 200 Mo euros in 2005.

In 2007, the detaxation amounted to 250 euros/$m^3$ for FAME. According to article 19 of the 2006 Finance law, synthetic biodiesel and vegetable oil ethyl esters (FAEE) are also eligible for detaxation, with tax cuts of 250 euros/$m^3$ and 300 euros/$m^3$ respectively.
With regard to conventional diesel, a rate is determined for each region ranging from €428,40/$m^3$ up to €416,90/$m^3$ (as of July 2007).

*Tax on polluting activities*
At the end of December 2004 a new law was adopted by the French Parliament, creating a new tax on mineral oil (Financial Law of 2005, article 32). The new law amends the French Custom code and creates a new tax on polluting activities (the so called TGAP or "Ecotaxe") which will cover all fuels (petrol and gas oil) for transport. Some important modifications both of the TGAP rates and of its basis of calculation were introduced in July 2005. This tax will be levied as a percentage calculated on the basis of the pump price of fuels, excluding the VAT. The TGAP rates will be as follow:

| Year | **2005** | **2006** | **2007** | **2008** | **2009** | **2010** |
|---|---|---|---|---|---|---|
| TGAP | 1.2% | 1,75% | 3,5% | 5,75% | 6,25% | 7% |

The percentage of the tax will be reduced by the percentage of biofuels (i.e. biodiesel or bioethanol) that will have been introduced in the market by the single operators. The percentage of biofuels is to be measured in terms of energy content.
In other words if a mineral oil refiner introduces at least 3,5% of biodiesel in terms of energy content in the diesel market that it sells in 2007, this refiner will be exempted from this new tax. In order to continue to be exempted from the tax a refiner will have to increase the percentage of incorporation every year reaching a share of 7% in terms of energy content in 2010.
This new French legislation is in force since the summer 2005, after that the implementation measures were approved with some difficulties and with the notable opposition of the main French refiner Total.

*Quotas*
The French legislation is providing for a reduced energy tax for certain volume of biofuels marketed in France and distributed via a bidding system on a yearly basis. This system is also opened for non-French companies (currently Italian and German companies hold quotas entitlements). Only quantities produced in the framework of the quota are eligible to detaxation.
At the end of 2004 the initial quota of 317 500 tonnes/year was raised by 70 000 tons to reach 387 500 tonnes. In February 2005 the government launched bids for an additional quota of 480.000 tonnes of biodiesel for periods of 6 years (30.000 for the period 2005-2009, 160.000 for the period 2006-2010 and 290.000 for 2007-2011) and 320.000 tonnes of bioethanol. The bids were published in the Official Journal of the European Communities. In practice these new quotas underpin the construction of four new 200.000 tonnes biofuels production units to be built by 2007, thus tripling France's annual biofuels production capacity to some 1.25 million tonnes, as the Government expects.

It was clear already during the spring 2005 that further additional quotas for the period following 2008 were to be published before the end of 2005. Mr. de Villepin announced that in practice this will mean that the government will soon publish a call for tenders for an additional 1.8 million tonnes of biofuels (instead of the expected 900.000 tonnes) of which more than 1 million tonnes should cover further biodiesel production to be launched from 2008 onwards for a period of 6 years.
Bids for these quotas were eventually launched in November 2005 for biodiesel made from vegetable oil, totalling 1,485,000 tonnes: 100,000 tonnes for 2006-2011, 450,000 tonnes for the 2007-2012 period, and 935,000 tonnes for 2008-2013.

In July 2006, new bids were launched for biodiesel: 200,000 tonnes for 2008-2013, 250,000 tonnes for 2009-2014 and 674,502 tonnes for 2010-2015.

To sum up, the following quotas for biofuels production were published since 2004:

| tonnes | FAME | ETBE* | Ethanol |
|---|---|---|---|
| **2004** | 387,000 | 99,000 | 12,000 |
| **2005** | 417,000 | 130,000 | 72,000 |
| **2006** | 677,000 | 169,000 | 137,000 |
| **2007** | 1,343,000 | 224,000 | 337,000 |
| **2008** | 2,478,000 | 224,000 | 717,000 |
| **2009** | 2,728,000 | 224,000 | 867,000 |
| **2010** | 3,148,000 | 224,000 | 867,000 |

** Only the share of ethanol used to produce ETBE is eligible for detaxation and thus taken into account in the table*

*Mandatory targets for biofuels*

The French government has set the following targets of incorporation of biofuels into fossil fuels. Since 2005, fuel distributors blending biofuels at lower rates have already been penalized by the TGAP.

| Year | Incorporation rate (%) |
|---|---|
| 2005 | 1,2 |
| 2006 | 1,75 |
| 2007 | 3,5 |
| 2008 | 5,75 |
| 2009 | 7 |
| 2010 | 10 |

**Other Measures**

*Increase of systematic incorporation rates – B10 project*

In order to reach the objectives set by the French government, France has notified the the European Commission of its intention to increase the upper limit for the incorporation of biodiesel (from 5% to 10%), of ethanol (from 5% to 10%) and ETBE (from 15% to 20%), despite the opposition from the car manufacturing industry. The government has created a working group in charge of defining a new French B10 norm to be transmitted to the European Commission.

Four member states (Czech Republic, Italy, Austria and Sweden) asked the French government to refrain from modifying the B10 norm, considering the standardization process already ongoing at EU level. The European Commission has expressed the same reservation for the E10 project, which would have been contrary to the Fuel Quality Directive.

Taking this into consideration, France will develop its Superéthanol (E85 project) and allow the incorporation of FAME from 5% to 7% as from January 1st, 2008.

*The 2006 Round table conference on biofuels*

On the occasion of the roundtable of November 30, 2006, the Minister of Industry François Loos and the Minister of Agriculture and Fishing Dominique Bussereau announced new measures in support of B30 and pure vegetable oils:

- B30 is authorized for captive fleets with a dedicated logistic and will be standardized before the end of 2007 by the French Office of Petroleum Standards (BNPé). B30 has been commercialised in France for more than 10 years and is now being used in 6000 vehicles of companies and local councils. This new measure will enable to enlarge the offer and to make B30 easier to get for other companies and councils.

- With regard to the use of pure vegetable oils, article 49 of law no. 2006-11 of January 5, 2006 authorizes their experimental use to run agricultural equipment for a period of one year. Since January 2007, the French government allows local councils to test the use of pure vegetable oil in their vehicles (except passenger transport). Proléa (the French association of oilseed producers) is keeping an eye on this experiment given the warnings formulated by the ADEME (the French agency for the environment and the energy management) and the IFP (the French Petroleum Institute)

## BIODIESEL PRODUCTION AND MARKETS

### Market

*Overview*

For more than 10 years, the French Government has encouraged the development of biofuels, in directly blending small amounts into conventional fuels. As a result, the biofuels share in transport fuels in 2006 was 1,77%, compared to 1% in 2005. This means that the objective of 1,75% in energy content in 2006 set by the French Biofuels Plan has been reached, although the 2005 objective set by Directive 2003/30/CE (2%) has not yet been reached.

The 2006 biodiesel production amounted to 743,000 tonnes, up to 492, 000 tonnes in 2005. Biodiesel total consumption also increased significantly in 2006 to reach 631,000 tonnes (compared to 368,000 in 2005). In 2006, biodiesel represented 1,77% of the fuels marketed in France (compared to 01,04% in 2005). A substantial increase in both the French production and capacities is expected in the next two years in order to meet the additional demand generated by the ambitious government plans.
Overall, total biodiesel production capacity in France is expected to rise to 780,000 tonnes by the end of 2007 and to 2,4 Mo tonnes by 2008.

Blends up to 5% represent more than 95% of the biodiesel sold in France, the rest being used by captive fleets. Currently, 7 out of 13 French refineries are blending FAME with conventional diesel at a rate between 2% and 5%, with the company TOTAL having taking the lead.

*Projects and new investments*

The first biodiesel production unit in France was built in Compiègne in 1992.
Mid 2007, there were 5 biodiesel plants operating in France: *Diester* in Rouen Grand-Couronne, Sètes, and Compiègne, *INEOS* in Verdun and *Cognis* in Boussens.
New projects starting in 2008 have been announced by *Diester* (Bordeaux/Bassens, Montoir/Saint Nazaire, Le Mériot and Couderkerque) as well as *Bionerval/Saria* in Lisieux.

Projects starting later in 2009 could include:
- *Ineos* in Lavera (Marseille) ;
- *Sarp Industries* (Véolia) in Limay ;
- *Progilor-Bouvart (Groupe Caillaux)* in Charny sur Meuse ;
- *SCA Pétroles et Dérivés* in Cornillé, Ile et Villaine ;
- *Biocar* in Fos s/Mer.

### Feedstock

If France was to raise its existing biofuels usage targets beyond 10% of all fuels, producers would have to sharply boost imports. Currently, 65% of the vegetable oil needed to make biodiesel comes from French rapeseed, 15-20% from domestically grown sunflower and the rest is made of imported soybean oil or palm oil. It is estimated that 10-15,000 tonnes of palm oil and 100-150,000 tonnes of soybean oil are used annually for biodiesel production.

# GERMANY

## LEGISLATIVE MEASURES FOR THE PROMOTION OF BIOFUELS

*National Target announced under Directive 2003/30*

Germany has submitted its first, second and third report under Directive 2003/30 within the deadlines. The 3rd report underline that the good performance Germany achieved in 2005: Germany achieved a 3.5% share of total fuel consumption in 2005, in energy content. With Sweden Germany was the only country that achieved a biofuels penetration superior to the 2% target fixed in the Directive 2003/30.

The new targets (in energy content) are set as follows:
- 4,4% by 2007
- 6,25% by 2009
- 6,75% by 2010 (then an increase by 0,25% every year)
- ……..
- 8% by 2015

*Recent Developments*
The Federal Environment Minister announced a 17% target by 2020 which was recently confirmed by the coalition. On January 17th, 2007 stakeholders (mineral oil industry, car industry, agriculture) and the Federal Ministry of agriculture and Federal Ministry of Environment decided to work on a proposal for a roadmap on biofuels.
It was agreed that a 17% share is feasible. On July 5th, 2007 took place the Roundtable on Biofuels to discuss the Roadmap. It was agreed to propose in the roadmap on biofuels an objective of 20% share of biogenic origin in transport fuels by 2020. That could be achieved through pure biodiesel, hydrotreating, BtL or other biomass based fuels.
For 2010 a 10% share of biofuels in blending shall be achieved by 7% biodiesel and additional 3% through hydrotreating. The discussion on this issue of 3% through hydrotreating is ongoing. The possibility of hydrotreating of vegetable oils in order to achieve the blending quotas is also mentioned in the integrated Climate and Energy program of the Federal government on July 3rd, 2007, in a limit of 3% volume and provided the vegetable oils are certified.
The Ministries (BMU, BMF, BMELV) are asked to present a proposal by September 30th, 2007.

BBE (German Bioenergy Association) and members of the Pure Plant Oil and biodiesel industry filed a complaint against the federal law establishing the taxation of pure biodiesel and PPO. The complaint brought before the Federal Constitutional Court was rejected and confirmed the constitutionallity of the taxation system of biofuels.

The German government also is currently developing its own sustainability scheme and GHG calculation methodology for biofuels which will take the form of a executive degree to the law on biofuels obligation (see below "sustainability scheme").

The German Biofuel association (VDB) and allied members of the lower house of the Parliament (Bundestag) are aiming to suspend the further excise duty increase by 60€ /m³ of pure biodiesel coming into effect by January 1st in 2008 (see below taxation).

### Background

The Mineral Tax act of 2004 provided a full tax exemption for all biofuels, including blends. The Federal Government needed to report annually on eventual overcompensation to the German Parliament. This law received green light from Brussels after a state aid scrutiny done by Commission DG Competition in February 2004. This legislation was initially supposed to remain in force until 2009. Already in 2004, in the framework of the national sustainability strategy, the German Federal

Government developed a long term strategy for the promotion of alternative fuels in cooperation with the industry. This strategy stresses the short and medium term potential of biodiesel and bioethanol, focusing on synthetic biofuels as long term field of action.

Unlike France or Italy, Germany has no production quota (as defined in the form of a Call for Tender). As a result, and considering the price trends for vegetable oil and diesel fuel in past years, Germany invested substantially in new units and the German capacity is today the largest of Europe. German is also the leader in biodiesel production with more than 2 662 000 Tonnes produced in 2006.

In November 2005, the coalition agreement of the new German CDU-SPD "*Grosse Koalition*" Government provided a further basis for a new German biofuels policy starting in 2006, announcing that full detaxation of biodiesel should eventually be replaced by a regime that involves mandatory targets.

*Mandatory targets for biofuels*

**Adoption of biofuels obligation "Biokraftstoffquotengesetz" and an adapted taxation policy:**

On December 18th 2006, the German Bundestag, the Lower House of the German Parliament, passed the new Biofuel Quota Act. The Act has been passed in the Upper House of the German Parliament at the end of 2006. The law is in force since January 1st 2007.

The obligation is valid for producers and traders of diesel fuel and gasoline as well as for producers of biofuels. There is a separate mandate for biodiesel and bioethanol; and a global obligation for all biofuels.

Mineral oil companies have to fulfil the shares: (the quotas are just an indicative idea of how much biofuels would be needed to fulfil the targets, obligations are in energy content of the fuels):

| Year | Obligation for biodiesel | Approx. Quotas in volume (t) biodiesel | Obligation for bioethanol | Approx. Quotas in volume (t) bioethanol | Global Obligation |
|---|---|---|---|---|---|
| 2007 | 4,4% | | 1,20% | | |
| 2008 | 4,4% | | 2% | | |
| 2009 | 4,4% | 1 498 848 | 2,8% | 2 086 060 | 6,25% |
| 2010 | 4,4% | 1 590 389 | 3,6% | 2 213 465 | 6,75% |
| 2011 | 4,4% | 1 719 040 | 3,6% | 2 392 518 | 7,00% |
| 2012 | 4,4% | 1 840 468 | 3,6% | 2 561 519 | 7,25% |
| 2013 | 4,4% | 1 958 163 | 3,6% | 2 725 324 | 7,50% |
| 2014 | 4,4% | 2 072 125 | 3,6% | 2 883 934 | 7,75% |
| 2015 | 4,4% | 2 170 938 | 3,6% | 3 021 459 | 8,00% |

The biofuels under the quota system should fulfil the following requirements:

- Biodiesel should correspond to EN 14214 (version November 2003)
- Pure Plant Oil should correspond to DIN V 51606 (version July 2006)
- Bioethanol should contain a 99% Volume of alcohol and correspond to Ethyl-alcohol underposition 2207 10 00 and EN 15376 (version Mai 2006)

The companies which are not fulfilling the targets are facing a penalty of 600€/m³ for biodiesel and 900€/m³ for bioethanol. A penalty of 600€/m³ is also due in case of non compliance with the global target.

**Compliance with the obligation can be contractually transferred to a third party:**

The law provides for the possibility of the government to adopt implementations rules without to be adopted by the Bundesrat on following issues:

- that companies should report on the real advantages of the biofuels they place on the market in terms of $CO^2$ savings and sustainable cultivation of lands.

- certification for the requirements for the sustainable cultivation of lands (applying to domestic as imported products)
- certification related to the $CO^2$ emissions savings of the biofuels placed on the market
- definition of new types of biofuels eventually falling within the biofuels obligation.

*Sustainability scheme*

An implementing regulation is currently in preparation which will be dealing with sustainability issues (Nachhaltigkeitsverordnung). A preliminary draft working paper was issued on August 21st which outlines the following ideas:

Biofuels may only count to the mandatory "quota" targets when they fulfil the additional criteria:

1) attain a certain GHG reduction level

The cut off value are fixed at different levels according to the Ministry proposing them.

The Ministry of Agriculture (BMELV) proposes 30%. The Ministry of Environment (BMU) proposes minimum 20% and minimum 40% as from September 1st 2009.

The methodology and system boundaries would be designed in an annex which is yet not finalised. It appears from the draft that direct land uses change would be included in the calculation.

Should the biofuel in question have better GHG performance than the cut off value, the biofuel in question would be rewarded by applying a formula in order to count towards the obligation as from 2010.

2) feedstock was grown according to sustainability criteria: best farming practices excluding certain land

This means cultivation has to exclude use of particular substances having bad impact on the ozone and soil. Soil stabilisation properties and fertility have to be maintained. No bad impact on water quality. Ensure biodiversity. Fertilizers and Pesticides have to be used in a way that respect the environment.

Another provision aims at preventing biomass cultivation on certain types of land such as those defined as high conservation value land as of July 1st 2007 or falling into that criteria. The same applies to land fulfilling certain functions (haltering erosion and maintaining water quality).

A representative from the Ministry of Environment clarified that in Europe the cross-compliance rules would be considered as safeguards but that sustainability criteria need to be developed applying to feedstock produced in third countries. The protection of the rainforests, sensitive ecosystems and other indirect effects of cultivation of feedstocks on certain land would also be tackled.

Although the above mentioned ideas have the purpose of environmental protection, the drafting ministry will be the German Federal Ministry of Finance (BMF), according to the VDB the decree would not come into force before next Year.

*Taxation*

**New Energy Tax Act "Energiesteuergesetz" of July 15th , 2006:**

Following a large-scale debate on the future German biofuels policy, the German Government adopted a proposal for a new energy tax law on July 15th 2006, implementing EU Directive 2003/96. The draft detailed the introduction of a both for pure biodiesel/B100 (100€/m³) and for blends (150€/m³), as well as for pure plant oils (150€/m³) as from August 1st 2006. The draft stimulated a large-scale debate at Parliamentary level.

Shortly after the release of the draft, key finance representatives of the German Conservatives (CDU/CSU) and Social Democratic (SPD) parties announced that an initial agreement on the new German energy taxation provisions had been reached. This deal had implied that the full excise duty of 470 €/m³ would have been applicable for low blends already as from January 1st 2007, replacing the reduced tax of 150 €/m³ that should have been introduced as from August 2006 onwards.

Under the same agreement, pure biodiesel would have been taxed at 90€/m³ as from August 2006 until the end of 2009, subject to a yearly review to prevent overcompensation.

Such proposed deal differed slightly from the initial draft text of the new energy taxation law, which sought to impose a tax of 100€/m³ on pure biodiesel. Second generation biofuels and synthetic fuels should benefit from tax reductions for a longer term, until 2015. Possibly upon pressures of the

Bavarian farmers lobby and the CSU party, German politicians also agreed to postpone the taxation of pure plant oils by 1,5 years, implying that a tax of 150 €/m³ would be introduced only as from 2008 onwards instead of August 2006 as had been planned previously. In addition, it was considered that oil seed crushers should be eligible for structural support schemes to establish esterification units under the new deal.

This deal had to be revised in favour of a progressively increased taxation of biofuels after the proposals were discussed in related committees (Agriculture, Environment, Transport). The new agreement provided a tax of 90 €/m³ as from August 1st 2006 onwards for pure biodiesel. It was foreseen that the tax increase by 60€/m³ each year as from 2008 until 2011. The agreement provided a tax of 150€/m³ as from August 1st 2006 until end 2007 for biodiesel blends. The tax was supposed to progressively be phased out until full taxation will apply in 2007. The agreement implied the full taxation of biodiesel as from 2012, which was two years later than originally foreseen.

The Energy Tax Act became effective as from 1st of August 2006.
This Act finally provided for a gradual decrease of tax exemption for B100 and vegetable oils (indicated in cents/l in the below table), the facutal level of taxation then amounts to as described in the table below (converting energy content to volume and taking into account the shares of biodiesel under the obligation subject to full taxation):

| Year | B100 | Vegetable oil (pure plant oil) |
|---|---|---|
| 2006 / 2007 | 9 cent /l ~ 90 €/m³ | 0€/m³ (full exemption) |
| 2008 | 13,40 cents/ l ~ 150€/m³ | 8 cents/ l ~ 100€/m³ |
| 2009 | 19,70 cents/l ~ 210€/m³ | 16 cents/ l ~180€/m³ |
| 2010 | 26 cents/l ~ 270€/m³ | 25 cents/ l ~ 260€/m³ |
| 2011 | 32,30 cents/ l ~ 330€/m³ | 32 cents/ l ~330€/m³ |
| From 2012 | 44,9 cents/ l ~ 450€/m³ | 45 cent/ l ~ 450€/m³ |

1) The demand for pure biofuels should decrease with the increasing taxation.

2) With respect to blends, from August 1st 2006 to December 31st 2006, the tax applied was 150€/m³. As from January 1st 2007, as the quota will enter in force, biofuels within quota legislation are completely subject to the mineral oil taxation of 470,4€/m³. Excise duty reduction for biofuels should only be granted to amounts that exceed the quota implying that biofuels producers need to pay the full excise duty for 4,4%, in terms of energy content, of their biodiesel or bioethanol production. Beyond the 4.4% quota, biodiesel is taxed at 150€/m³. This means that the more German distributors will sell biodiesel beyond the quota, the more it will be profitable for them.
   Given that biofuels blends beyond the quota should be taxed at 150€/m³, doubts are raised on the competitiveness of B100 and pure plant oil as from 2009.

3) Fiscal incentives will be granted on condition that the biodiesel meets the full DIN EN 14214 specification of November 2003. Pure plant oil needs to meet at least the specification DIN V 51606: This standard is mainly designed for refined rapeseed oil (exclude other type of oil, soybean oil, animal fats, UFO, etc). The detaxation provisions for pure biofuels and the application of the biofuels quota are coupled with the obligation to meet the EN 14214 standard

4) As from January 2012, animal fats biodiesel can no longer be used to meet the quota. The reasoning is that animal-fats based biodiesel would not need any support as the use of animal fats raw materials is secured through the oleo-chemical industry.

5) Fuel used in agriculture: There is a full tax exemption for the fuel used for agricultural and forestry purposes.

6) *"Second Generation" biofuels*
   Until 2015 No taxation applies on synthetic biofuels (BTL), bioethanol from cellulosic and E85.

*7) For public trafic (buses): reimboursment*

The German tax on diesel is 470,40€/m³ with less of 10mg/kg sulphur and 485,70€/m³ >10mg/kg sulphur. This is the second highest tax after the diesel tax of United Kingdom.

The Lower House of German Parliament might suspend the upcoming increase of 60€/m³ of excise duty (from currently 90€/m³ to 150€/m³) for pure biodiesel. However this would mean to modify the law before January 1st 2008. The German Biofuel Association (VDB) also raised the need to consider under-compensation, and that pure biodiesel used in captive fleets shall be fully exempted from excise tax.

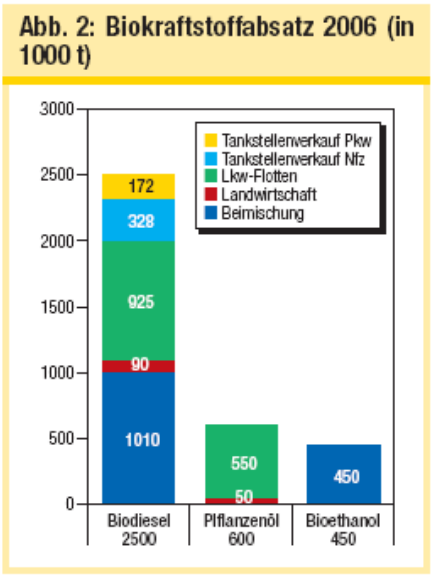
## BIODIESEL PRODUCTION AND MARKETS

The German production capacity of biodiesel has reached 2 681 000 tonnes in July 2006 and has reached 4 361 000 tonnes in July 2007. It should reach 5. 1 Million tonnes at the beginning of 2008. More than 1900 public filling stations are selling biodiesel in Germany. 1 669 000 tonnes of biodiesel were sold in 2005 and 2 662 000 tonnes in 2006.
Germany was and remains by far the biggest market in terms of biodiesel produced in the EU 27.

### Market

Most of the major mineral oil companies are already blending their diesel with biodiesel. As a result, 40% of the biodiesel marketed in Germany is sold under the form of blends below 5%[1], although the German car industry has repeatedly expressed its support for the introduction of higher 10% blends on the German market. In general, the market of blends is increasing sharply, although the pure biodiesel market, mainly targeting road hauliers and captive fleets with separate pumps and labelling, should remain an important strategic segment (60% market share in 2005/2006). However it is anticipated that the increase of taxes on pure biodiesel will considerably hamper the development of the pure biodiesel market.

Abb. 2: Biokraftstoffabsatz 2006 (in 1000 t)




source: UFOP

Prognosis for biodiesel market in 2007:

| Consumption in tonnes | 2006 | Jan-March 2007[2] | Prognosis 2007[3] |
|---|---|---|---|
| Blending | 1.010.000 | 292.000 | |
| B 100 | 1.515.000 | 405.000 | 1.620.000 |
| Sum Biodiesel | | 697.000 | 2.788.000 |
| Diesel consumed | 29.000.000 | | |

[1] Source VDB and UFOP
[2] source BAFA 2007
[3] assuming linear consumption based on Jan-March 2007 figures

## Standards

The German Association for the Quality Management of Biodiesel (AGQM) was founded in 1999 with an aim to secure the quality of biodiesel sold to the pure market because of initial problems. Since then the organisation also worked on standardisation in Germany.
B5 is regulated under standard DIN EN590. Under the current German legislation blends up to 5% can be sold at service stations, without any labelling requirement.

Blends in a percentage higher than 5% can be sold with specific labelling "containing more than 5% volume of biodiesel" (§7, 10. BImSchV of 24. June 2004).

In Germany it is almost sure that a B7+3 will be accepted within EN 590, however this will need to be confirmed.

B100 is regulated under DIN EN14214.
In Germany the minimum standard of EN 14214 has to be fulfilled in any case if blended in EN590 or pure (§ 3 of BImSchV), otherwise the biofuel produced may not count for the quota obligation and not be accounted for tax exemption (in that case full taxation will apply).
The regulation n° 36 (BImSchV) of January 29th, 2007 states which parameters need to be fulfilled and proven for biodiesel:

| Parameter lt. Durchführungs-VO für Biodiesel | |
|---|---|
| Parameter | Wert |
| Dichte bei 15 °C | 860–900 kg/m³ |
| Schwefelgehalt | ≤ 10 mg/kg |
| Wassergehalt | ≤ 500 mg/kg |
| Monoglyceride | ≤ 0,8 % (m/m) |
| Diglyceride | ≤ 0,2 % (m/m) |
| Triglyceride | ≤ 0,2 % (m/m) |
| Freies Glycerin | ≤ 0,02 % (m/m) |
| Alkaligehalt (Na + K) | ≤ 5 mg/kg |
| Erdalkali-Elemente (Ca + Mg) | ≤ 5 mg/kg |
| Phosphorgehalt | ≤ 10 mg/kg |
| CFPP | |
| Quelle: DIN EN 14214 (11/2003) | |

It needs to be mentioned that all the other parameters of the norm need to be respected. The custom authorities may verify if all the parameters are respected and if not charge fines.
Recently the German authorities, through lobby work from EBB and VDB in order to try countering B99 imports, issued a decree reminding that Sojamethylesters do not fulfil the EN 14214 requirements since the Iodine parameter is not respected.

If FAME is blended in regular Diesel, additional requirements on CFPP apply: from the period of November 16th - 28. February / 29. February, the CFPP has to be at max -10°C but it needs to be ensured that (through adding additives) a CFPP of -20°C can be achieved (§5 36 BImSchV).

### Car warranties for B10 and B100

Volkswagen, Audi, Seat and Skoda gave a warranty for B100 use in passenger cars. DaimlerChrysler gave a warranty for B100 use in heavy duty vehicles (as buses). Other manufacturers gave warranty for B100 use in agriculture vehicles.

As mentioned in the Quota Law, as from January 1st of 2007, biodiesel producers and distributors will have to prove the good quality of their biodiesel, respecting the DIN EN14214. For this reason AGQM also provides quality assessment of biodiesel supplied in the German market. German authorities have created a database on biodiesel quality, and they are reported to proceed to unannounced inspections.

Rapeseed is the best feedstock to use to respect the DIN EN 14214. It was reported that the Government wish to give more preference to the domestic market than to third countries imports.
With respect to the 10% blending: at the very beginning Volkswagen and the German car manufacturers met the German government in order to express a rather positive opinion on 10% incorporation of biodiesel in the diesel norm. Since then some technical problems have appeared and German OEMs representatives have changed their approach.

# GREECE

## LEGISLATIVE MEASURES FOR THE PROMOTION OF BIOFUELS

*National Target announced under Directive 2003/30*

In 2004, Greece submitted a very extensive and complete 1st report under Directive 2003/30. This 1st report estimated that 47.000 tonnes of biodiesel would be needed to fulfil the 2% target in 2005 and 148.000 tonnes of biodiesel would be needed for the 2010 target. However as taxation measures were elaborated, an official target of 5,75% was set at for 2010. In June 2006, as Greece has not yet transmitted its second report, the EC Commission decided to send a reasoned opinion, which is the second step in an infringement procedure.
Greece finally presented its 2nd report under Directive 2003/30.
The national indicative targets are as follows:
- **0.7%** for 2005
- **1.1%** for 2006
- **5.75%** for 2010.

**Background:**

*Future legislation:*
According to the Greek authorities, as from 2008 the biofuel legislation should be revised and should establish mandatory targets also for bioethanol.

*Legislation:*

Already in the spring 2004, holding a general consultation of the various industries involved (mineral oils, car, crushers, etc.) Thanks to the cooperation established with Elinoil, EBB got directly in touch with civil servants of the Ministry for Development's Directorate for Energy, which is the leading service dealing with biofuels. Contacts were established also with the National University of Athens which is in charge of official technical evaluations and to which EBB provided, upon request, information on various legislative and scientific aspects of biodiesel.
In June 2004, a meeting was directly organised with Greek authorities in Athens. The government approach appeared to be a very positive one from the beginning, although the decision making needs a lot of time. Such positive approach led to the final adoption of a general legislation providing for a detaxation of biodiesel blends and also for the eventual possibility of higher blends of biodiesel. The implementation measures needed for the legislation to be fully operational were adopted in December 2005.

The Directive 2003/30 has been transposed through the Act 3423/2005 on the introduction of biofuels and other renewable fuels on the Greek market.

**Act 3423/2005 on the promotion of biofuels adopted in 2005**
This act is:
- amending the Act 3054/2002 on the organisation of the market of petroleum products and other provisions, extending it to biofuels.
- setting the conditions for a Programme for the allocation of quantities of biofuels (detailed in the paragraph below)
- establishing the Biofuels Distribution License. A Biofuel distribution license is established for companies that wish to be involved in the production and the retailing of biofuels in Greece. The holders of such licences are entitled to produce or import biofuels and other renewable fuels and to distribute them in Greece.
- setting the national indicative target of 5,75% for 2010

*Mandatory targets for biofuels*
*- none but will be in place as from 2008-*

*Taxation*

**Programme for the allocation of quantities of biofuels fully exempted**
Each participant under this programme has the right to and the obligation to distribute specific quantities of pure biofuels and blends on the Greek market. A provision incorporated in Article 34 of Act 3340/2005 provided for a full exemption from excise duties for the following quantities of pure biodiesel:
- 51 000 m³ (in 2005)
- 91 000 m³ (published by the end of 2005)
- 114 000 m³ (published in December 2006)
In Greece, the normal excise duty for diesel is of 276€. Under the 1st call, 2 500 tonnes of pure biodiesel were allocated to Hellenic Biopetroleum S.A.

Under the 2nd call, 16 companies submitted an application under this call for tender. The quantities were allocated to 14 companies: 12 biodiesel producers and 2 biodiesel traders.

The last call for tender for 114 000 tonnes biodiesel was published on December 22nd in 2006 by the Greek Ministry of Development.

EBB contacted the relevant contacts in the European Commission and the Greek Ministry in order to raise two major issues of concern.
The first concern relates to the preferential treatment of raw material used in this quota scheme and the quantities of the biodiesel produced under that scheme.
The call for tender specifies that the applicant needs to possess a biodiesel production plant within Greek territory and needs to be supplied with raw material from the domestic market originating from certified energy crops. That means that applicants with supply contracts with Greek farmers would have a preference for the allocation of the quota. That would also mean that biodiesel produced from non-agricultural material (animal fats or UCOs) would not be eligible, neither would biodiesel producers which do not have those supply contracts.
The second issue concerns the quantities of those targets since the biodiesel quantities set out in that call would only represent a percentage of less than 1,4% biofuels when compared to the total mineral fuel market of 2007.

The companies awarded under the 2007 quota scheme are as follows:

| Company | Capacity (tonnes/year) | Quota production (m³) | Quota for import (m³) |
|---|---|---|---|
| Ekkokistiria-klostiria Voreiou | 20.000 | 3.000 | - |
| ETB Biokafsima | | - | 4.000 |
| Pavlos N. Pettas | 60.000 | 31.000 | - |
| Biodiesel LTD | 20.000 | 3.500 | - |
| Biodiesel SA | | - | 2.000 |
| Vert Oil SA | 30.000 | 9.000 | - |
| Agroinvest SA | 200.000 | 11.500 | - |
| Staff Colour-Energy | 15.000 | 5.000 | - |
| ELVI | 35.000 | 34.000 | - |
| ELIN Biofuels SA | 40.000 | 8.000 | - |
| MIL Oil Hellas SA | | 800 | - |
| DP Lubrificanti | | - | 1.000 |
| Vioenergeia Papantoniou SA | 20.000 | 1.200 | - |
| TOTAL | 440.000 | 114.000 | |

*Other supporting measures:*

Investments in the field of renewable energy such as plants for the production of biofuels were subsidised varying from 40%-55% depending to the region and statute of the company.

## BIODIESEL PRODUCTION AND MARKETS

### Market:

The Greek diesel market is quite particular since diesel cars can only be owned by companies and not by private companies. Diesel engine passenger cars and light commercial vehicles circulation in urban areas such as Athens and Thessalonica are not permitted (the fumes are said to destruct monuments). In 2004 fuel consumption for transport purposes in Greece reached 2 036 000 tonnes of diesel and 3 814 000 tonnes of petrol.

The distribution of biodiesel started in December 2005 when Hellenic Biopetroleum launched its production. Domestically produced biodiesel amounted to 42.000 tonnes in 2006, and about 55.600 tonnes were consumed in Greece (including imports).

Currently 9 biodiesel plants with a total capacity of 440.000 tonnes per year are operational in Greece as set out in the table below:

| Company | Annual Capacity in tonnes | Location | Production date |
|---|---|---|---|
| Ekkokistiria-klostiria Voreiou | 20.000 | Komothini | November 2006 |
| Pavlos N. Pettas | 60.000 | Patras | August 2006 |
| Biodiesel LTD | 20.000 | Thessaloniki | Summer 2007 |
| Vert Oil SA | 30.000 | Kilkis | December 2006 |
| Agroinvest SA | 200.000 | Achladi | Oct 2006 |
| Staff Colour- Energy | 15.000 | Larissa | March 2007 |
| ELVI | 35.000 | Kilkis | January 2006 |
| ELIN Biofuels SA | 40.000 | Volos | June 2007 |
| Vioenergeia Papantoniou SA | 20.000 | Kalkidiki | Summer 2007 |
| **TOTAL** | **440.000** | | |

Through the imports of biofuels, Greece can reduce its dependence on oil imports and there is also a benefit linked to the reduced $CO^2$ emissions, which could be translated into a financial benefit on account of Kyoto.

### Feedstock

The raw material used by most of the biodiesel producers in Greece are at 70% imported oils (rapeseed, soybeans). 30% of the raw material are domestically produced with cotton-seed, sunflower and used cooking oils.

### Standard

Standardisation of biodiesel has been started in order to implement at Greek level the EU standards. Biodiesel seems to be preferred to bioethanol, also since an EU standard on bioethanol is missing. Biodiesel distributed in Greece has to comply with the specifications of the ELOT EN 14214 standard, adopted by Decision 334/2004 of the Supreme Chemical Council on automotive fuel.
In 2007, it should be possible to blend biodiesel with diesel up to 5% in volume. (Maximum specified in the EN590 standard). The ELOT EN590 allows to blend biodiesel up to 5% in volume.

At a later stage, the Greek government planned to distribute blends of biodiesel with diesel exceeding 5% in volume and also pure biodiesel.

**Research and development**

Greece has focused on pilot tests for biofuels. The company Elinoil has participated at these pilot tests.

With respect to biofuel situation in Greece, EBB remains in contact with Greek biodiesel producers and government officials and carries on monitoring the situation. As subcontractor to the BIODIESEL CHAINS projects funded by the EC Commission, EBB remains in direct contact with Greek biodiesel stakeholders, notably the coordinating organisation Greek Centre for Renewable Energy Sources.

# HUNGARY

## LEGISLATIVE MEASURES FOR THE PROMOTION OF BIOFUELS

*National Target announced under Directive 2003/30*

The targets are defined as follows:
- 0,4-0,6% for 2005
- 5,75% for 2010

### Background

In its first report on the implementation of Directive 2003/30 the Hungarian government indicates that a 0,4-0,6% target could be reached in 2005 through the use of biodiesel (mainly in blends below 5%) and also ETBE. At that time, an outlook for the period after 2005 had not been given yet. The Commission examined whether Hungary had given adequate reasons for setting a target far below the reference value (0,4-0,6% for 2005). The report further details that the average yield for rapeseed crops is quite low in Hungary, but could be improved. Finally the possibility of using UFO as raw material for biodiesel production was mentioned as well.
In its second report on the implementation of Directive 2003/30, the Hungarian Government set forth the national objectives as regards promoting the use of biofuels and other renewable fuels for transport in the Government Decision 2233/2004 (IX.22.) It set the national target at 0.4-0.6% by 2005 and then gradually increased to 2% by 2010. The last Government Decision 2058/2006 (III.27) concerning the development of production of biofuels and promotion of their use for transport sets the national target at 5.75% by 31 December 2010

In its third report under Directive 2003/30, the Hungarian Government decided to introduce a refund of the excise duty until 2010 in order to encourage the blending of biofuels with standard automotive fuels. Until 31 December 2010, distributors of fuel will be able to claim a refund of the excise duty on biodiesel of regulation quality mixed with diesel.

*Legislation*

**1st support scheme for biodiesel production in little unit farms:**
A support scheme for biodiesel was established in Hungary already as from 1999. It consisted in biodiesel production from little units at the farm. The biodiesel was then used for agricultural purposes in a sort of closed agricultural circuit. However, due to the special low rate excise duty on conventional agri-diesel, the final price of biodiesel was higher than the one of conventional agri-diesel. Farmers were not ready to pay such higher price for a new product whose quality, additionally, was relatively poor because of little production units, and the programme failed. As a result already by 2003 there was no more biodiesel production in Hungary.

**National Plan for the promotion of the use of biofuels for transport:**
Marking a courageous change of approach on September 22nd, 2004 the Hungarian Government approved a report of the Ministry of Economy on a National Plan for the promotion of the use of biofuels for transport. The aim of the plan was to establish a regulatory frame in favour of biofuels based on a full refund of the excise duty as from January 2005 and until 2010.

*Taxation*

Given that the Hungarian excise duty – 345€/m3 for low sulphur and 365 €/m³for regular diesel - is relatively high (especially when compared with excise duty level of all the other new EU Member States) this measure is very likely to have a positive impact on the establishment of a future biodiesel market.

The tax concession introduced in 2004 in support of the use of biodiesel for transport was intended to promote the blending of a maximum of 5% of regulation biodiesel with regulation quality diesel fuel but the tax concession did not achieve the hoped-for incentive impact.
Following Parliamentary Decision 63/2005 (VI.28) in June 2005 *on more effective promotion of alternative and renewable sources of energy*, the government prepared a legal framework for promoting alternative and renewable sources of energy. In order to achieve this, the government has passed several measures, including tax concessions related to biofuel (as defined in Law No CXXVII of 2003 on excise duty).

**Tax exemption on biodiesel, differentiated taxes according to sulphur content since January 1st, 2005:**
The Act N°.CI/2004 modifying Act on taxation N°CXXVII./2003 sets the following taxes until December 31st, 2007:

- tax for diesel containing a maximum of sulphur of 10 ppm: 345€/m³ (HUF 85 000)
- tax for diesel containing more than 10 ppm of sulphur: 365€/m³ (HUF 90 000)

This Act provides for a tax exemption for the use of biodiesel: the level of exemption is proportional to the amount of biodiesel contained in diesel fuel.
Calculation of the refund:
Refund = Quantity of biofuel in m³ * 345€/m³
The maximum quantity of biofuel contained in the fuel may not exceed 5% in volume.
The yearly amount of refund that a producer or a trader can get is calculated on the basis of the amount of biofuels sold by producers and traders. In 2005, the limit is fixed to 2% of the total sales of biofuel producers. This percentage is raised by 0.25% each year. (2.25% in 2006, 2.50% in 2007, etc.)

As from January 1st 2008:
The Act N° CXIX/2005 modifies the Act N°.CXXVII./2003. It set the following level of taxes:

- tax for diesel containing a maximum of sulphur of 10 ppm or a minimum of 4.4% biodiesel : 345€/m³ (HUF 85 000)
- tax for diesel containing more than 10 ppm of sulphur or less than 4.4% of biodiesel: 376€/m³ (HUF 93 000)

The tax exemption applies for biodiesel produced from EU raw material.
The refund is calculated as follow:
Refund= Quantity of biofuel in m³ * 345€/m³
The yearly amount of refund that a producer or a trader can get is calculated on the basis of the amount of biofuels sold by producers and traders. In 2005, the limit is fixed to 2% of the total sales of biofuel producers. This percentage is raised by 0.5% each year. (2.5% in 2006, 3% in 2007, etc.)

## BIODIESEL PRODUCTION AND MARKETS

*Overview*
As far as production capacities are concerned, in the framework of the old Hungarian biodiesel programme two experimental biodiesel plants were built in Hungary. These two old production units have a global capacity of 30.000 tonnes. They have been recently bought by one single company - Öko-line - owned by a construction company - Kesz Ltd. They would now be operational in theory, but are not producing yet. EBB is in touch with the management of Öko-line.
Once the appropriate legal background had been created, the building of biofuel manufacturing capacities started

- The Company *Fitodizel* has a production unit with a capacity of 30 000 tonnes/year. Fitodizel planned to upgrade this unit to 120 000 tonnes. The company has also the project to build up a production unit with a capacity of 500 000 tonnes/year. At this time Fitodizel has not found an investor partner yet. However the start of the production is planned for the first half of 2008.

- In July 2005, the country's biggest refinery MOL converted its MTBE factory to produce ETBE and blend it with petrol. In January 2006, MOL Group announced a tender for the supply of yearly 150 000 tonnes of FAME, with a contract period from 2008 to 2012. There 22 bidder and MOL only signed contract with 6 of them. (5 Hungarian firms and 1 Slovakian).
- Hungarian oil-and-gas firm MOL should build a biodiesel plant by the end of 2007 in a joint venture with Austria's Rossi Beteiligungs GmbH, with a capacity of 150 000 tonnes, for around 30 million euros. The start of new plant is planned for November 2007.
- Hungarian firm Oko-Line Kft will open another biodiesel plant in Nagyigmand, near Komarom, in the first quarter of next year, and will sell much of the annual 50,000 tons output to MOL, also exporting some to Germany.
- The company Envirocomplex Kft is also planning to build a unit in Hungary.
- Közeptiszai Mezögazdasagi has a project of building a plant in Kunhegyes. The production trial was successful but the project is said to be in stand by.
- Inter Tram Kft has a project of building a biodiesel plant with a capacity of 100 000 tonnes in Mateszalka.
- MOL should invest €2 mln in a research and development project at the University of Veszprem in Hungary for the development of "second generation" biodiesel. A pilot plant would be established at the refinery of MOL at Szazhalombatta. MOL expected to have results in 2009 and will then decide on the capacity of the production site.

The biodiesel cpacities rose from 12.000 tonnes / year in 2006 to 21.000 tonnes per year in 2007 and are expected to amount to 46.000 tonnes / year by beginning of 2008.

The maximum tax concession which could be granted of 340€/m3 could not guarantee the profitability of biodiesel production. It was unlikely that Hungarian biodiesel could have competed on the German market either, which guarantees much more favourable conditions, with biodiesel produced in the neighbouring countries, and this is presumably the reason why investments failed to materialise.

*Projects and new investments*

Further bioethanol and ETBE manufacturing capacity should be built, for which agricultural raw material is available. The project of a new 50 kilotonne/year-capacity, bioethanol-based factory has begun and will ensure that from mid-2007 some 90-100 kilotonnes of bio-ETBE will be produced in Hungary.

Many serious investors with references in the field of biofuels manufacture have come forward. Intensive discussions are under way on the creation of biodiesel manufacturing capacity. New factories should be able to start production only after 2006 and the entry into use of biodiesel capacities will take at least 24 months.

## Feedstock

With an average yield of 1.8-2 t/ha, rape production in Hungary is below the EU average (3 t/ha). Whereas the conditions for the production of sunflower oil are more favourable, the necessary parameters for the production of regulation quality biodiesel from this do not exist in Hungary.

Calculations show that 0.6-1.4 times as much agricultural raw material could be produced for manufacturing biodiesel as the amount required in order reaching the 5.75% target by 2010. These minimum levels have been calculated on the basis of current agricultural production levels, and the maximum levels have been calculated on the assumption of an increase in production for energy purposes.

# IRELAND

## LEGISLATIVE MEASURES FOR THE PROMOTION OF BIOFUELS

*National Target announced under Directive 2003/30*
The indicative targets filed in by the Irish authorities to the EC Commission under Directive 2003/30 detail the following:

- 0.06% (by the end of 2005)
- 0.13% (2006)
- 2,2% by (2008) under the Mineral Oil Tax relief Scheme II

- 5,75% by 2010 (planned)
- minimum 10% by 2020 (planned)

### Background

*Legislation*
Renewable energy policy is handled through Ireland's Department of Communications, Marine and Natural Resources (DCMNR). The support measures for biodiesel enacted in Ireland are of fiscal nature (see taxation).

*Mandatory targets for biofuels (white paper)*
On March 12th, 2007 the Irish Government published its Energy White paper "Delivering a sustainable Energy Future for Ireland". It sets out the Energy policy framework for the period 2007-2020 and followed up on the "Bioenergy Action Plan for Ireland" of the same month.
A consultation followed the proposals to the white paper, biofuels for transport were *strongly supported*, *albeit with some cautioning on the inherent limitations for domestic resources in terms of land use*. The need to develop *indigenous capacity* and the potential *cross-benefits for agriculture was fully recognised as was the potential to integrate biofuels into the existing supply chain for vehicle fuels*.
The Government announced the introduction of a biofuels obligation scheme by 2009. The biofuel obligations will provide the following targets:

- 5,75% by 2010
- at least 10% by 2020 in light of relevant factors of supply and demand and global sustainability impacts. Ireland favours the development of overall EU sustainability standards for bioenergy in general and biofuels in particular.

Support and research of "2nd generation" including collaboration projects are also mentioned. The biofuels market penetration will be achieved through the encouragement of projects of scale, the Mineral Oil Tax relief scheme, the biofuels obligation and promotion of biofuels in public fleets.

The new measures under the new biofuel obligation scheme will be subject to public consultation by this year and followed by legislation. The "Bio-Energy Ministerial Task Force" is the drafting authority.

Taxation
Excise duty on diesel is 368.05€ /m³ with a sulphur content of less than 50mg/kg. Two tax exemption schemes have been introduced:

**1st Mineral Oil Tax Relief Scheme (MOT I):**
In 2004 the DCMNR amended the Finance Act 1999 which rolled out a major support scheme known as the MOT relief scheme. The pilot initiative was rolled out from August 2005 and will last until the end of 2007. The tax relief amounts to €6 Million and foresees a production of 16 Million litres of

biofuels by the end of 2007. It foresees that 1 Million litres of Biodiesel per annum to be blended within EN590 received tax relief. The call for proposal was launched on 20th April 2005 and received 34 applications. According to official sources already 5.5 million litres of biofuels were brought to the Irish market under this scheme.

**2nd Mineral Oil Tax Relief Scheme (MOT II):**
The 2006 scheme followed up on the pilot initiative rolled out in 2005. Section 98A of the Finance Act 1999 (amended by section 81 of the Finance Act 2006) allows the Minister of Finance to apply a tax relief from Mineral oil Tax (MOT) once he finds that *any biofuel is essential to a pilot project undertaken in Ireland which is designed either to produce biofuels or to test the technical viability of biofuels as motor fuel,* or approves *any other project which relates to biofuels.*
It is a 5 year scheme with an excise relief valued at over €200 Million, aimed at placing 163 Million litres of biofuels on the Irish market by 2008 and a total of 665 Million litres by 2010. Four types of biofuels are supported under the new scheme including high and low blends of bioethanol and pure plant oil.
Concerning Biodiesel these include:

- biodiesel made from pure plant oil, UFOs and tallow, blended with fossil diesel and sold at regular diesel pumps and complying with EN 590. Excise relief is available from 2006-2010, the minimum size is 10 Million litres of biofuel per year (8.830 tonnes/year).
- biodiesel in higher blends of up to 100% in specific fleets vehicle whose engine warranties cover these blends (captive fleets). It may thus include biodiesel complying with EN 14214 blended above the 5% v/v limits permitted under EN 590. The minimum size in this category is very small since it is 100.000 litres of fossil diesel equivalent per annum (about 114 tonnes biodiesel / year).

The volumes are set out as follows:

| Year | Biodiesel/other biofuels blended with diesel compliance EN590 in million litres | Bioethanol 5%-85% blend in million litres | PPO 100% blend in million litres | Biofuels used in captive fleets in million litres | Total in million litres |
|---|---|---|---|---|---|
| 2006 | 44 | 11 | nil | 9 | 64 |
| 2007 | 57 | 40 | 3 | 12 | 112 |
| 2008 | 60 | 85 | 6 | 12 | 163 |
| 2009 | 60 | 85 | 6 | 12 | 163 |
| 2010 | 60 | 85 | 6 | 12 | 163 |
| Total | 281 | 306 | 21 | 57 | 665 |

If all of the biofuel of the first category were to be biodiesel this would equal to 248.123 tonnes of Biodiesel supported from 2006-2010. If all the biofuels supported under the captive fleets initiative were biodiesel this would represent an additional of 50.331 tonnes of biodiesel from 2006-2010.

The Biofuels mineral oil tax relief scheme II was notified to the Commission on July 14th, 2006 (N473/2006). By decision of October 12th, 2006 the Commission did not raise objections to this scheme.

About 102 companies applied under the MOT II scheme, among the 16 biofuels projects awarded, 4 are in the EN 590 category and 5 in the captive fleets category; 3 are in the pure plant oil category and 4 are in the bioethanol category. (*See below at the market section on the companies awarded*)

A **50% vehicle registration tax** relief on cars capable of using biofuels of at least 85% blend also exists in Ireland for the years 2006/2007; Section 135C of the Finance Act 1992 (as amended). The Finance act 2007 extends this relief to electric cars on a pilot basis until January 1st 2008.

**Other supporting measures**

*Incentives for farmers*
Farmers will receive incentives through a €6 Million bioenergy scheme in addition to the EU energy crop premium. This scheme has been introduced by the Department of Agriculture and Food and allows farmers to receive an additional 80€/ha. The premium is limited to a maximum of 37,5 ha per farmer in 2007.
As a follow up of the Bioenergy Action Plan for Ireland of March 2007, a new Bioenergy Scheme (2007-2009) with a budget of €8 Million was recently introduced to provide grants to encourage farmers to plant new energy crops such as miscanthus and willow. This takes the form of grants covering up to 50% of the costs for producing those crops on set-aside land and land covered by the European premium. This scheme applies to a limit of up to 1,400 ha of willow and miscanthus for 2007. It also mentions funding of research in collaboration with DCMNR and SEI to identify plant varieties and crop production and management systems that are most suited to biofuels production in Ireland.

*Captive fleet initiative*
There is a separate captive fleet initiative where private and public partners committed themselves to use biodiesel. According to the Bioenergy Action plan published in March 2007 the Department of Environment, Heritage and Local Government will promote the use of biofuels at up to 5% blends in local authority fleets and ensure that vehicles purchased under public procurement are capable to run on much higher biofuel blends *in the range of 30% and higher.* Bus Eireann, Dublin Bus and Galway City, National Parks and Wildlife Service of the Department of Environment are involved. As announced in the White paper, the Minister for Transport will instruct the use 5% biodiesel blends in its fleets. The Government mandated with immediate effect (March 2007) that Dublin Bus and Bus Eireann use a 5% biofuel blend and achieve a 30% blend in all their new busses. The technical work will be awarded by tenders.

The Department of Transport and Marine and the German-Irish Chamber of Commerce has introduced a pilot project "Biofuels for Transport" promoting the use of pure plant oil in public fleets, the support is in the form of a grant covering 75% of the costs of adapting the engines.

A Sustainable Transport Action Plan will be published before the end of 2007 which will identify further measures *helping to switch to biofuels and more energy efficient forms of fuel for transport*.

## BIODIESEL PRODUCTION AND MARKETS

Under the first MOT scheme 16 Mill litres of biofuels (about 14.128 tonnes of biodiesel) should be produced by the end of 2007, at the end of 2005 the pilot scheme saw the introduction of about 1.3 Million litres of biofuels (about 1.000 tonnes of biodiesel) onto the Irish market. Three Biodiesel projects were approved for excise relief over a two year period: Conoco Philips, Eco Ola and Greyhound Recycling.

For the second scheme, the DCMNR received 102 applications. There were 11 applications received in the Bioethanol category, 36 in the EN 590 category, 18 in the Pure Plant Oil category and 37 in the Captive Fleets Category. A panel comprising officials from DCMNR, Sustainable Energy Ireland and Enterprise Ireland assessed the applications. On 23rd November 2006 Minister Dempsey announced that sixteen biofuels projects were to be granted excise relief under the Scheme. The successful projects in the biodiesel sector are as follows:

| Category | Company name | Volume Awarded for period 2006 - 2010 |
|---|---|---|
| EN590 | **Conoco Phillips Whitegate Refinery Ltd**, Whitegate, Midleton, Co Cork | 93m litres |
| EN590 | **Biodiesel Production Ireland/Topaz Energy Limited**, Beech Hill Office Park, Clonskeagh, Dublin 4 | 68m litres |
| EN590 | **Green Biofuels Ireland Ltd**; Blackstoops, Enniscorthy, Co Wexford | 32m litres |
| EN590 | **Irish Food Processors Ltd**; 14 Castle Street, Ardee, Co Louth | 97m litres |
| Captive Fleets | Greyhound Recycling and Recovery Ltd; Knockmitten Lane, Western Industrial Estate, Dublin 12 | 21.68m litres |
| Captive Fleets | **Emo Oil Ltd**; Clonminam Industrial Estate, Portlaoise, Co Laoise | 9.65m litres |
| Captive Fleets | **EcoOla**; Innovation in Business Centre, Galway Mayo Institute of Technology, Dublin Road, Galway | 9.3m litres |
| Captive Fleets | **Eco Fuels Ltd**; Crohane, Fossa, Killarney, Co Kerry | 6.4m litres |
| Captive Fleets | **Bord na Mona plc**; Main Street, Newbridge, Co Kildare | 0.58m litre |

*Source DCMNR*

When at full capacity in 2008, the scheme could result in 2,2% market penetration of biofuels in the transport fuel market. If all of the biofuels of the first category were to be biodiesel this would equal to 248.123 tonnes of biodiesel supported from 2006-2010. If all the biofuels supported under the captive fleets initiative were biodiesel this would represent an additional of 50.331 tonnes of biodiesel from 2006-2010.

In 2006, about 4.000 tonnes of biodiesel were produced in Ireland. Current existing capacities are evaluated at 6.000 tonnes per year.

According to official statistics, 2.571.000 tonnes (2.538.000 toe) of diesel have been consumed in 2006 of which 1.940 toe of FAME and Pure plant oil. That would mean that FAME and pure plant oil have a share of about 0,076% in total Diesel consumption.

## Feedstock

Land used for agriculture is 4.3 Million ha, 10% (0.4 million ha) is devoted to energy crop production. Production of energy crops in Ireland is relatively low due to poor profitability at farm level. Rape is the main crop grown, but production declined from 6.000 ha (1990s) to approximately 4.000 ha in 2005.

In order to achieve the targets following evaluations were made:
5,75% target: can be achieved purely from indigenous feedstock in the medium-term. In the short term TEAGASC (consultant) considers the best prospects are ethanol from cereals and vegetable oil and biodiesel from rape with a small amount of tallow and UFOs. In the medium/long term the possibilities are 180.000 ha of rapeseed for biodiesel and pure plant oil. The Irish climate is according to the action plan better suited to ligno-cellulosic crops.

10% target: will involve imported feedstock as the land implication of achieving this target from indigenous sources would be in the region of 0.4 Million – 0.5 Million ha. Again ligno-cellulosic feedstock is the preferred option.

# ITALY

## LEGISLATIVE MEASURES FOR THE PROMOTION OF BIOFUELS

*National Reports and Targets announced under Directive 2003/30*

Until late 2005, Italy did not submit any report under Directive 2003/30 to Commission DG TREN competent authorities, which have therefore initiated an infringement procedure. In June 2006, the EC Commission decided to initiate Court proceedings against Italy for not submitting the annual report 2005, which had been due already on July 1st 2005.
The EC Commission also decided to send a reasoned opinion (the second step in an infringement procedure) to Italy for failure to provide adequate reasons for setting a biofuels target significantly lower than the 2% reference value for 2005. In the Decree 128/2005, Italy had namely set a 1% target for 2005 and a 2,5% target for 2010).
However, the law of 27 December 2006 n°296 (2007 Finance Law) redefined the objectives for biofuels market penetration, providing for the following targets (in energy content of the total amount of conventional fuels marketed):

- 1% as from 31 December 2005
- 2,5% as from 31 December 2008
- 5,75% as from 31 December 2010

### Background

*Legislation*
A very general legislation was adopted in the spring of 2005 by Italian Authorities setting some reference targets for the market penetration of biodiesel in Italy. Two disappointing reference targets of 1% and 2,5% were set by this legislation, which additionally does not provide any detail about the means to attain these targets.
More recently, in April 2006 - at the last hour of its very last session before the general elections that took place on April 9th, the Italian Senate has definitively approved a new law providing for an obligation applying to the "producers" of diesel and gasoline fuels to market at least 1% (in energy content) of biofuels in the conventional fuel market. The new law explicitly provides that the 1% market share shall be increased by an additional 1% every year until 2010.

*Taxation*
Until June 31st 2006, Italy allowed a tax break (€413/m³) – i.e. a full detaxation from the national excise duty - for biodiesel blended with conventional diesel (up to 5% at service stations, and up to 25-30% for captive fleets). Pure biodiesel was totally exempted from the excise when used as heating oil, but pure biodiesel use in transport is explicitly forbidden. This makes Italy the only EU Member State in which biodiesel can be sold as a heating fuel, due to the very high excise duty levied on gasoil for heating (€403,21/$m^3$).
In 2007, the detaxation granted to biodiesel amounts to €382/$m^3$. The excise on diesel is to €423/$m^3$.

*Quota*
A quota of 300.000 tonnes/year, covering both transport and heating oil applications, used to be applicable until the end of 2004. This quota was decreased by one third to 200.000 tonnes as from January 2005 (under a six-year programme running from 1 January 2005 to 31 December 2010), creating important difficulties to Italian biodiesel producers which had substantially increased their capacities, expecting an important development of biodiesel quotas and markets in Italy instead. This sudden cut of the quantities subject to detaxation was also very detrimental to the distribution of biodiesel, since many contracts signed with important customers could not be honoured, because of

the shortage on the offer of de-taxed biodiesel. Overall, this contributed to damage the image of biodiesel in Italy, which had long counted as one of the main pillars for biodiesel development.
Italy is in fact one of the only EU country with Germany whose support in favour of biofuels has decreased in the last two years.
In June 2005 this scheme finally received a green light by the EC Commission DG Competition under the state aid procedure. As a result of this publication more than half of the Italian quota was assigned to companies producing biodiesel outside Italy. A new bid for the allocation of the 200.000 quota for 2006 was launched end of October 2005.
However, this quota has been increased to 220,000 tons for crop year 2006 and to 250,000 tons for 2007.
A new quota of 180,000 tonnes of was provided for in the new Italian budget 2007, followed by another quota of 44.480 in March 2007

*Biofuels mandate*
The 2007 budget law also obliges fuel suppliers to blend at least one percent of biofuel in 2007 and 2 percent in 2008. A system of obligation for the biofuel market penetration thus entered in force on January 1st 2007 (Decree of 10th January 2006, modified by the law of 11th March 2006). The obligations are set as follow:

- 1% for 2007
- 2,5% for 2008
- 5,75% for 2010

While no financial penalty is foreseen for 2007, they should apply as from 2008 (€600 per certificate).

This development is good news, although the law is far from being perfect. Indeed, the biofuels obligation was approved as a paragraph of a rather confused law dealing with number of issues ranging from final electoral measures of the Berlusconi government, farmers' retirement funds and avian flu emergency.
This explains some confusion that may eventually be created by:

- The fact that the obligation applies only to fuel "producers" (without covering, in principle, fuel distributors …)
- The "agro-energy production-chain" agreements to be negotiated between farmers, seed producers, biodiesel producers and eventually national or local Italian authorities which seem to represent a pre-condition to mandatory targets.

This last point is particularly important since the law was approved following important pressure coming from the main Italian Farm Union *Coldiretti* who clearly requested to submit the obligation to the definition of "*production chain agreements*" with the aim of restraining the biofuels obligation only to those biofuels produced from Italian agricultural raw materials.

This is clearly a point that will need to be further discussed and possibly clarified, also in term of compatibility with the rules of non-discrimination of the EU Internal Market.
There are certainly many other aspects of this new law that will need to be re-oriented under the new Prodi government.

## BIODIESEL PRODUCTION AND MARKETS

### Production

*Overview*
In 2006, the share of biofuels in the transport sector was 0,46% in energy content.

The 2006 biodiesel production in Italy amounted to 450.000 tonnes, while the production capacity totalled some 900,000 tonnes. Since domestic production level is well above the actual domestic

consumption, around two thirds of the total production was shipped to other EU countries (mainly Germany, France, Austria and Spain).
However, the Assobiodiesel federation recently announced that the country's biodiesel output is likely to fall by at least 27% in 2007 as domestic and export demand remains low.

*Projects and new investments*
In 2007, 22 companies received a share of the 180.000 tonnes quota, nearly half of them operating outside Italy.
In 2007, the following companies had operational capacities in Italy:

- *Novaol Diester*, Livorno: 180,000 tonnes/year
- *Mythen*, Ferrandina: 100,000 t/y
- *Italbioil*, Bari: 130,000 t/y
- *Italbioil,* Verona: 250,000 t/y
- *Oil.B*, Solbiate Olona: 110,000 t/y
- *Fox Petroli*, Vasto: 140,000 t/y
- *Red Oil*, Napoli: 30,000 t/y
- *DP Lubrificanti*, Aprilia-Roma: 155,000 t/y
- *Comlube*, Brescia: 100,000 t/y
- GDR (ex-Docoil), Milano: 25,000 t/y
- *Caffaro SNIA Serichim*, Udine: 100,000 t/y
- *Polioli*, Santhià: 20,000 t/y
- *Cerealdocks*, Verona: 120,000 t/y

Following projects are foreseen, starting 2008/2009:

- *Olearia Olimpo*, Corato: 80,000 t/y
- *Oxem*, Pavia: 200,000 t/y
- *Sabe SFIR*, Trieste: 100,000 t/y
- A joint-venture of *Parodi and Bionor* (Spanish company), Ventimiglia.

## Market

The main feedstock for biodiesel production is rapeseed oil (about 70 percent of the total) and soybean oil (20 percent), as well sun and palm oils to a lesser extend.
Italy imports its rapeseed oil from other EU countries.
In 2007 some 65,000 hectares have been or will be planted to oilseeds. The cultivated surfaces are determined according to contracts between growers and the processing industry. It is already anticipated that 180,000 hectares in 2008 and 240,000 hectares in 2009 will be used for oilseeds production. These ambitious objectives could however find some restriction in the limited availability of land resources.

# LATVIA

## LEGISLATIVE MEASURES FOR THE PROMOTION OF BIOFUELS

*National Target announced under Directive 2003/30*
The indicative targets (in energy content) are set as follows:

- **2% for 2005**
- **5.75% for 2010**

Latvia sent its 4 national reports under Directive 2003/30.

### Background

The conversion rate of Latvian Lats used is as follows: 1 LVL = 1,4261EUR

*Legislation*
Legislation for promotion of biofuels was introduced since 2005 by two Legislations.
The first introduced a partial excise duty exemption both for biodiesel in blends (without quotas) and a total exemption when used pure. Additionally, a specific aid is granted to rapeseed based biofuel producers subject to a quota system. Recently the excise duty scheme introduced in 2005 was amended.

*Taxation*

**Quota based direct aid scheme of 2005:**
The regulation n° 712 of September 13th, 2005 provided direct financial aid for biofuel production based on annual quotas. The first aid scheme n° 540/2005 for biofuels was notified to the Commission in October 2005, raised no objections and will be valid until the end of 2010. It took the form of a quota based direct aid and a reduction of excise taxes for biofuels. The total budget was evaluated at 19 Million LVL – about 26.934 Million €. It is specified that biodiesel has to be made from rape seed in order to receive the direct aid.

The quotas are set annually. In 2005 12.5 Million litres of biodiesel fell under the scheme with a direct aid of 170 LVL per /m³ biodiesel (242,43€/m³). The direct aid for bioethanol amounts to 140 LVL / m³ (199,65€/m³).
In 2006 the quota amounted to 18.000 tonnes of biofuels. Quota 2007 and 2008?
In order to receive support, the biodiesel producer must be registered and exempt from tax debts, the plant must be in operation and comply with quality requirements and oil based biofuel must be produced from rapeseed. In order to take part in the next quotas, the producer had to fulfil at least 70% of his previous allocated quota of which at least 50% has been distributed in the EU, and has proved that tax declarations were correct.

**First law on excise tax reduction for biofuels**
Partial excise duty exemption was introduced in 2005 by the Latvian Biofuel Law n° 498 of July 5th. At the time, excise rate for diesel amounted to 164 LVL/ m³ (232,46€/m³).
Additionally to the direct grant a reduced excise duty rate of 155 LVL / m³ (219,70€/m³) applied to diesel blended with 5-30% volume of biodiesel and to 114 LVL / m³ (161,59€/m³) of diesel blended with at least 30% of biodiesel.
Pure biofuel made from rapeseed oil (RME and rapeseed oil used as fuel) are fully exempted.

**Law revising the excise tax reduction for biofuels scheme**
An amendment to the law of 2005 brought by the regulation N° 662 on excise duties of December 19th 2006 provides an excise duty of 178LVL/ m³ (252,29€/m³) for diesel and 294 LVL/m³ (416,71€/m³) for petrol.
It also modified the levels of reduced taxation and the biofuels eligible under that scheme. The revised scheme was notified to the Commission this May 2007 (n° 254/2007) and did not raise any objections. It will be valid until May 8th 2012. (*The public version of the decision is not yet available*).
It builds up on the previous scheme and modifies the rates of the partial tax exemptions applying to blends:

The reduced excise tax for diesel fuel amounts to:
-170 LVL / m³ (240,96€/m³) if blended with 5-30 % volume rapeseed oil and/ or rapeseed based biodiesel (RME)
- 125 LVL / m³ (170,16€/m³) if blended with at least 30% volume of rapeseed oil and/or RME.

Pure RME or rapeseed oil is totally exempted from the diesel excise duty of 178 LVL/ m³ (252,28€/m³). The total tax exemption also applies to biodiesel and rapeseed oil consumed for heating purposes.

For unleaded petrol containing the reduced excise tax is of:
- -5% ethanol 199 LVL / m³ (282,04€/m³)
- as from July 1st 2007, petrol containing 85% by volume ethanol is taxed at 31,5 LVL / m³ (44€/m³)

**Other supporting measures**

The regulation n° 662 on excise duties of December 19th 2006 provides for two advantages for biofuel producers compared to mineral oil suppliers. The notification requirement and procedures for tax exemptions are less stringent for biofuel blenders as well as the costs of permits and licenses. A traders licence for biofuels costs 100 LVL (141,73€) compared to 500 LVL (708,67€) for fossil fuels. The special permits required to store biofuel products cost 200 LVL (283,47€) compared to 1500 LVL (2.126€)for fossil fuels.
Initially those more favourable measures applied only to biofuels made from rapeseed oil.

## BIODIESEL PRODUCTION AND MARKETS

### Market

Biodiesel production rose from 5.000 tonnes in 2005 to 7.000 tonnes in 2006.

According to data from the State Revenue Service, production of pure biodiesel increased from about 1.887 tonnes in 2005 to about 6.900 tonnes in 2006.

According the official statistics from the Latvian authorities, 765.176 m³ of regular diesel was consumed on the market in 2006. Biodiesel blended at 5-30% with diesel amounted to 398m³ and pure biodiesel amounted to 1.815 m³ (including imports). The figures indicate that the share of pure biodiesel consumed was 843m³ higher in the previous year.

Approximately 71% of total biodiesel produced in Latvia in 2006 was exported to other Member states.

According to official calculations biofuels represented 0,33% in energy content of the total mineral transport fuels consumed in Latvia in 2005 which decreased to 0,22% in 2006.
The authorities evaluate that the amount of biodiesel needed to fulfil the 5,75% in 2010 would mean that 43.000 tonnes of biodiesel and 32.000 tonnes of bioethanol need to be produced.

Biodiesel capacities totalled 11.000 tonnes per year in 2006 (EBB figures total 8.000 tonnes).
Capacities increased in Latvia to 20.000 tonnes in 2007.
The major biodiesel producer will be Bioventa with its BDI plant in Ventspills totalling a 100.000 tonnes annual capacity as of December 2007. Biodiesel is currently produced in Latvia by 4 small plants owned by SIA with an average capacity of 5.000 tonnes per year.

Pure Biodiesel can be purchased at 14 filling stations.

## Standard

Law n° 772 of October 18th, 2005 provides for requirements for the quality of biofuels.
The Latvian Standard is LVS EN 14214. A separate standard for B30 was introduced in Latvia since 2006 LVS 397:2006.
Diesel blended with up to 5% in volume of biodiesel does not require separate labelling in Latvia.

## Feedstocks

The Latvian government aims of promoting wood-based biofuels since it accounts for about 30% of the primary energy produced. About 84.000 ha of rapeseeds were cultivated in 2006, however because of a long period of drought the average yields decreased by 0,6 tonnes / ha. From the 120.000 tonnes of rapeseed oil produced only 22.000 tonnes were used by the biodiesel plants.

## Studies

The Latvian University of Agriculture conducted a feasibility research on promotion of rape based biodiesel in the Latvian context based on the developments in Germany and in close cooperation with the Latvian farmers cooperative association.

The other research conducted by the same University is focused on the quality of biodiesel and technical performances on engine technology.

The Latvian Biofuels Association and the Environmental Protection Fund of Latvia also carried out a project on promoting the use of biofuels through the promotion of regional organic farming centres. The aim was mainly information sharing between farmers and biofuel producers.

# LITHUANIA

## LEGISLATIVE MEASURES FOR THE PROMOTION OF BIOFUELS

*National Target announced under Directive 2003/30*

The reports presented by Lithuania under Directive 2003/30 briefly summarise the legislation described below and indicate that Lithuania is committed to fulfil the EU reference targets

- 2% in 2005 and
- 5,75% in 2010.

### Background

Lithuania is quite active in the promotion of biofuels and biodiesel. Different legislations exist in order to promote both the production of energy crops and the marketing of biodiesel.
On February 2004, the Lithuanian Parliament (Seimas) adopted a "*Biofuels, Bio Motor Fuels and Bio-Oils Act*" which governs the legal framework for the production, use and promotion of biofuels. Article 8.3 of this law sets the national planned targets for biofuel for 2005 and 2010, which conform to Directive 2003/30/EC.

On the basis of this Act, on August 26th, 2004, the Lithuanian Government adopted a Programme for the promotion of the production and use of biofuels for the period 2004-2010, which aimed at creating the conditions required to make it possible for biofuels to account for at least 2% of all petrol and diesel for transport purposes placed on the market by 31 December 2005, and at least 5.75% by 31 December 2010.

*Legislation*

**Mandatory targets for biofuels:**

In 2005, the Ministry of Economy adopted two legal acts on the mandatory use of biofuel for transport. The first act concerns an amendment to the law on "rules for trade in petroleum products, biofuel, bio-oil and other". Under these acts, as of 31 December 2005, oil products placed on the market in Lithuania must conform to the following requirements:

- diesel fuel shall contain 3% or 5% of methyl ester produced from vegetable or animal fats.
- petrol for 95 octane engines shall be blended with ethyl-tertio-butyl-ether (ETBE) in a minimum percentage of 7 % and a maximum percentage of 15% volume of ETBE. In all cases bioethanol shall make up at least 47% volume of ETBE;
- 95 octane petrol produced without ETBE shall contain at least 3 % or 5% of bioethanol

Those provisions were slightly amended by Order N° 4-345 of September 15th 2006, the requirements regarding the biocomponents in mineral fuels are as follows:

- diesel fuel shall contain 5% volume of methyl ester produced from vegetable or animal fats.
- petrol for 95 octane engines shall be blended with ethyl-tertio-butyl-ether (ETBE) in a minimum percentage of 7 % and a maximum percentage of 15% volume of ETBE. In all cases the bioethanol content in ETBE shall make up at least 47%;
- 95 octane petrol produced without ETBE shall contain at least 5% of bioethanol

*Taxation*

The main financial tool used in order to promote the use of biofuels is tax exemption for biofuels (both pure and in blends). Detaxation is provided by the Excise Act of the Republic of Lithuania applicable from 1 May 2004. The EC Commission approved this detaxation regime without objections under the state aid procedure in July 2005.

The detaxation scheme is providing a full detaxation on the biocomponents of fuels. For blended diesel with 3-5% biodiesel the tax reduction amounts to 0,025 LTL/litre (about 0,72 cents/litre).
The detaxation scheme will be limited to an initial period until December 31st, 2010. The cost of the scheme for the state budget is evaluated at about LTL 250 million (about € 72.4 million)
The excise on diesel is currently 646,69LTL/m³ (187,28 €/m³) .

A law (n° 13-474 and n° 47-1560) in force since January 1st 2006 provides also an exemption of the environmental pollution tax of at least 10% for legal entities which prove they used biofuels in stationary sources of pollution meeting established standards.

**Other supporting measures**

It is useful to remind that other rules published by the Lithuanian Ministry for Agriculture, in March 2004 provide for measures to promote the development of non-food crops to be used for biofuel production: under the frame of the national agricultural policy an extra premium of 160LTL / tonne (about 46,33 € per tonne) i.e. three times more than the CAP energy crop payment is paid to non-food rapeseed growers. A quota system applies to this special regime which was limited to a maximum amount of 19.000 tons of rapeseed for the year 2004 and 33.000 tonnes in 2005.
The main beneficiary of this direct aid scheme was Rapsoila UAB which purchased about 24.100 tonnes of rapeseed.

An extension of that scheme was notified to the Commission on March 13th 2007, (N 434/06). It is an aid scheme entitled "aid for the development of production of biodiesel" and designed to encourage the production of locally produced biodiesel. It is a direct grant to promote the use of biodiesel valid for 6 years. Overall budget is LTL 118 290 000 (about 34,4 million €). Under this scheme 11-50 manufacturers of rapeseed oil intended for the production of RME may benefit of this direct aid scheme if they fulfil 8 specific criteria. The applicant

- may not have tax arrears
- must fulfil his custom obligations
- the raw material is purchased from dedicated land
- rapeseed farmers and crushers have done the necessary declarations
- holds various permits related to environmental protection
- has the technology and equipment for producing rapeseed oil and RME or REE
- has registered the farmer's farm
- submits supporting documents before the deadline

This aid scheme is part of the programme for the promotion of the production and use of biofuels for the period 2004-2010. The beneficiaries may receive a direct aid of 160 LTL/ tonne of rapeseed oil if acquired between January 1st and November 15th of this year. The rapeseed oil produced under this scheme has to be delivered to biodiesel producers before the first of July every year.

A similar aid scheme exists for cereals which was increased from 60 LTL / tonne of cereals to 114 LTL /tonne of cereals. The aid will be granted until December 31st, 2011.
A state aid notification n° 306/2007 of this August 9th provided for technical amendments to this aid scheme (N° 294/2005): the maximum subsidised amount of cereals is 66.686 tonnes for 2007.
It is calculated according to the production capacity of the beneficiaries and their outputs (1 tonne of cereal is used to produce 0,29 tonne of bioethanol).

## BIODIESEL PRODUCTION AND MARKETS

Biodiesel production increased from about 7.000 tonnes (2005) to about 10.000 tonnes (2006). While about 63% of the 2005 production went to exports, all of the production of 2006 went to domestic sales.

According to the statistic department of Lithuania 6.100 tonnes of biodiesel were imported in 2006. That means that about 16.100 tonnes of biodiesel was consumed in 2006 in transport fuels. The relative share of biodiesel in total diesel consumption (about 758.000 tonnes) for 2006 is evaluated to about 1,87%.

According to the Lithuanian authorities, the production cost of biodiesel would amount to 2.45 LTL/l compared to the production cost of 1.29 LTL/l of regular diesel. The price of Biodiesel is evaluated at 2.67 LTL/l, at the pump biofuel blends cost about 2.16 LTL/l compared to 2.14 LTL/l for regular diesel. In order to reach the target for 2010, 40.000 tons of biodiesel per year have to be produced per year.

As from May 2005 a Lithuanian company (*UAB Rapsoila*) started biodiesel production in Lithuania. *Rapsoila* owns a seed crushing facility able to process 10.000 tonnes of rapeseed per year and has esterification capacities of 30.000 tonnes/year. Both plants are located in the city of Mazeikiai, in the northern region, where the main Lithuanian oil refinery is located as well. *Rapsoila* has also some projects in order to start bio-ethanol production.
Two smaller plants with about 10.000T/year capacities (JSC Arvi Cukrus) and (Cooperative SV Obeliai) are also reported to be running.

The company *Mestilla – Linas Agro Group* (previously called *Linas ir Viza* ) has currently the biggest biodiesel production capacity of 100.000 tonnes per year, which was finalized some weeks ago. The Norwegian *Statoil* holds 42,5% of the shares. The BDI plant will produce mainly rape based biodiesel supplied by Linas Agro. The company aims to export biodiesel to the Baltic and Polish markets.

There was an increase in biodiesel capacities from 10.000 tonnes / year in 2005 to 42.000 tonnes in 2006. Capacities are expected to rise to 147.000 tonnes / year as from 2008.

*LUKOIL* the big Russian oil distributor, which is also the biggest fuel company in Lithuania, is currently distributing biodiesel. It is worth mentioning that as from August 2004 over 130 buses controlled by *Vilniaus Autobusai* company were running on biodiesel. This represents approximately half of Vilnius' bus fleet.

## Feedstock

According to the Lithuanian authorities, the main feedstock for biodiesel production is rapeseed which covered in 2006 an area of 148.000ha, yielding 168.000 tonnes.
The potential for oil-based energy crops is evaluated about 290.000 ha by 2010, which is double to the current used area.

## Standards

The biofuels law specifies that the European Norms apply for biofuels for transport and bio-oils sold in the Republic of Lithuania. Therefore an older standard for RME (LST 1705:2001) was replaced. For blends with more than 5% of biofuels, specific labelling at the sales point are imposed.

# LUXEMBURG

## LEGISLATIVE MEASURES FOR THE PROMOTION OF BIOFUELS

*National Target announced under Directive 2003/30*

Luxembourg has presented a report for the years 2003/2004. Luxembourg set an indicative target (in energy content) of 2.75% in energy content for 2006. The target should be incresed annually to reach 5,75% by 2010.

A letter of formal notice has been sent to Luxembourg due to an incomplete biofuel report for 2005.
Although Luxembourg did not present yet the report of 2006, the fact that many buses of the city fleet of Luxembourg are running with high biodiesel blends may represent a positive signal.

### Background

In spite of its 500.000 inhabitants, more than 1 million tonnes of diesel are sold every year at pump stations in Luxembourg (more or less the same amount of Finland). This is because Luxembourg has been following a strategy of very low excise duties (278 €/m³ as of today) in the last years aimed at attracting foreign lorry drivers to fill in their tanks each time they pass through the territory of Luxembourg.
In this perspective, at least in theory, the impact of a voluntary biofuels policy would not be as negligible as one could imagine in such a little country. EBB has calculated that if the 2% target was to be fulfilled only using biodiesel 43.000 tonnes of biodiesel should be sold in the *Grand-Duché*, and 139.000 tonnes of biodiesel would be needed in order to reach the 5,75% target in 2010.

In April 2006, EBB held various meetings with Luxemburg authorities. The Luxembourg government and namely the Secretary of State for Energy have a very positive approach towards biofuels. They highlighted however the difficulties encountered with mineral oil companies opposing the idea of mandates and arguing that not enough storage capacities exists in Luxembourg in order to blend biodiesel in the country. The excise duty being not high enough to make biodiesel competitive in Luxembourg some kind of mandatory target eventually coupled with detaxation would be the only way to create a real market.
The Luxembourg is dependant of their main providers which are Belgium and The Netherlands.

*Legislative background*
The 2003/30 Directive was transposed in the national law with two pieces of legislation: the law of 23 December 2005 concerning the 2006 budget and the *Règlement Grand Ducal* of 30 December 2005 providing the excise duties on energy products. These new laws introduced a provision for detaxation of the biofuel share in blends.

*Taxation*
Since January 2006, biofuels blended with conventional fuels were benefiting from a detaxation scheme.
Article 7-6 of the December 2005 law indicated that blends containing at least 2,17% FAME were benefiting from an excise tax reduction that should not be higher than 10 euros/$m^3$.
Article 2 of Regulation of 30 December 2005, further indicated the level of detaxation: 6 euros/$m^3$ in 2006.

The excise on diesel in July 2007 amounted to € 290,3548 (for diesel with a sulphur content of less than 10 mg/kg).

*Mandatory targets*
Incorporation of 2% biofuel is mandatory as of 1st January 2007 (calculated on the basis of energy content of the total amount of petrol and diesel fuel placed on the market). As a result, the tax exemption for biofuels blends does no longer apply. A pollution tax of 1.200 EUR/$m^3$ has been introduced for companies failing to reach the 2% mandatory target.

A full detaxation is granted for B100 consumed on the Luxembourg territory.

A new law should be published by mi-July 2007 but it is still unclear whether it will provide a mixed system, whereby detaxation would be granted in parallel to the mandatory target.

## BIODIESEL PRODUCTION AND MARKETS

Luxembourg does not have any biodiesel production site. However a part of the Luxembourg rapeseed production is exported to France in order to be processed in Biodiesel. Biodiesel processed in France will be then imported in Luxembourg. The major part of the imported biodiesel in Luxembourg is consumed by the bus fleet of the city of Luxembourg.

# MALTA

## LEGISLATIVE MEASURES FOR THE PROMOTION OF BIOFUELS

*National reports and targets under Directive 2003/30*

Malta already submitted its first report under Directive 2003/30, which did not mention yet the targets that were set afterwards in the December 2004 Regulation. Malta set an indicative target of 0.3% for 2005.
The second report confirms the low targets previously set. The third report indicates that the share of biofuels reached 0.52% of total fuel used for road transport in 2005. This share is higher than the indicative target of 0.3% set for 2005.

### Background

*Legislation and taxation*
Malta has a biofuels legislation in place since December 2004. The law on the '*Use of Biofuels or Other Renewable Fuels for Transport Regulations*' was issued in 2004 and set a national indicative target for biofuels amounting to 0.3% for December 31st 2005. With a consumption of 770.000 litres of biodiesel – i.e. 200.000 liters more than the required 570.000 litres – this (limited) target was already exceeded in August 2005.
As from 2005, the percentage of biodiesel contained in fuel is fully exempted from the diesel excise duty. In July 2007, the excise duty rate for diesel was €332, 40/$m^3$.

*Mandate*
A project for a 5% mandate is in preparation and should be published in September 2007.

## BIODIESEL PRODUCTION AND MARKETS

### Market

It is interesting to note that Malta is totally dependent on imported fuel.
Since 2004, the Maltese *Edible Oil Refining Company EORC* Ltd. runs a project converting cooking oils into biodiesel. By August 2005, the project involved the collection of used cooking oils from catering establishments and about 24.000 households that would have otherwise been drained into the sewage system. The project, named "*Fat Chance*" has been mentioned both by the BBC and Newsweek.
The company *KOSEPS* is currently operating a 3,000 t/y plant and is considering opening another unit in 2008 with a 10,000 tonnes/year capacity.

In 2005, biodiesel was mainly sold under the form of B20 or B30, although occasionally higher blends were sold on request. B100 was sold occasionally for the use in boilers.

Biodiesel accounted for 0.52% of total fuel used for road transport in 2005. This figure is higher than the indicative target of 0.3% set for 2005.

### Feedstock

Given the very little quantities of biomass from agricultural sources available in the island, the only raw material that could be used for biofuels production is municipal or industrial waste. However, the

possibility to produce biodiesel from algae is currently investigated, which would ensure the country's self-sufficiency in terms of available raw materials. KOSECP is setting up a research center with Russian scientist to explore this possibility.

# NETHERLANDS

## LEGISLATIVE MEASURES FOR THE PROMOTION OF BIOFUELS

*National Target announced under Directive 2003/30*

The Netherlands sent their first, second, third and fourth report under Directive 2003/30.

The targets are set as follows:

- 2% for 2006
- 5,75% for 2010

In 2007 the Dutch government has introduced a mandatory target for biofuels. For 2007, the percentage was maintained at 2% but it will be increased gradually each year in order to ensure the transition until 2010.

### Background

*Legislative background*

In the Netherlands the political debate on the implementation of the EU biofuels strategy started at the end of 2003 when the Dutch press reported a strong political will from the Ministry of Environment (VROM Ministry) to fulfil the targets. As from that moment EBB got in direct contact with the Dutch authorities also thanks to a biofuels symposium organised in Utrecht by Novem (the Dutch platform for renewable energy – the equivalent of French ADEME). In this initial time the strong will of the Dutch ministry of environment and economic affairs and industry was only balanced by the Ministry of Finances (excises). A legislative text transposing the EU Biofuels Directive was already expected in 2004. A conclusion seemed so close that, thinking even about mandatory targets, the Dutch authorities addressed to Brussels an important question on the juridical status of eventual mandatory targets for biofuels. Unfortunately the situation did not progress as expected. Biodiesel and biofuels have many opponents in the Netherlands starting from the powerful Dutch food industry which is worried about a potentially increased use of agricultural raw materials.

In June 2005, the Dutch government received a letter from the EU Commission requesting it to speed up the introduction of biofuels, as it was one of the countries lagging behind implementing Directive 2003/30. Following this pressure from the EU Commission, and in view of achieving the Kyoto targets, the Dutch government announced plans to make the use of biofuels more attractive through tax benefits from 2006 onwards.

*Taxation*

Late 2005 a budget of 70 million € was allocated for a temporary detaxation scheme running from January 1st to December 31st 2006. These temporary measures applied for 2% biodiesel and bioethanol blends. Detaxation amounted to 6,10€/$m^3$ for 2% biodiesel blends (corresponding to a total reduced tax of €305/$m^3$ for biodiesel out of the then €380,4/$m^3$ excise duty for mineral diesel). Higher blends did not receive higher tax reductions, but if less than 2% biofuel was blended, the level of detaxation was reduced accordingly.

The first reactions from the Dutch industry upon these proposals were divided. Some producers, like the bioethanol producer *Nedalco* considers the budget plan as still too imprecise as to provide a solid basis for further investments. Others, like the Dutch plant oil producer *Solar Oil Systems,* criticized the fact that pure plant oils was not on the list of biofuels eligible for detaxation. Lastly, the environmental foundation *Natuur en Milieu*, argued that detaxation for all biofuels was not a good practice, as there were "good" and "bad" biofuels – with biodiesel from palm oil or soybean oil belonging to the latter, in their views.

*Mandatory targets for biofuels*
These measures did not contribute to a quick, wide-spread use of biofuels. Consequently, a biofuel obligation legislation was published in November 2006 in the Dutch Official Journal, introducing a mandatory targets for biofuels market penetration (diesel and petrol) as from January 1st 2007. The obligation system should apply until at least 2010 (corresponding to the EU biofuels target set in Directive 2003/30). As a result of this new provision, no detaxation is granted since January 2007.

In a letter to the Dutch Parliament, Pieter Van Geel, Dutch State Secretary for the Environment confirmed mid-march 2006 that as from 2007 onwards, mineral oil distributors in the Netherlands will be obliged to blend 2% biofuels in the fuel placed on the Dutch market. Mr. Van Geel also proposed the concept of a two-stages system for mandatory targets: the initial 2007 blending target should be replaced after 6 or 12 months by more "targeted" requirements.

The following table summarizes the mandates:

| Year | Global obligation of biofuel for(petrol+diesel) | Mandate for Biodiesel | Mandate for Bioethanol |
|---|---|---|---|
| 2007 | 2% | 2% minimum | 2% minimum |
| 2008 | 3,25% | 2,5% minimum | 2,5% minimum |
| 2009 | 4,50% | 3% minimum | 3% minimum |
| 2010 | 5,75% | 3,5% minimum | 3,5% minimum |

The targets are expressed as market share obligation, meaning that in 2007, all fuel suppliers will be obliged to ensure that biofuels account for a certain percentage of their sales in the Netherlands.
As from 2007, 2% of biofuels should be placed on the market, with a minimum of 2% biodiesel and 2% bioethanol. As from 2008, 3,25% of biofuels should be placed on the market. Given that the obligation for biodiesel and bioethanol are of 2,5% each, there is a place for other biofuels to reach the global target as from 2008.

The companies failing to meet the target will face a penalty. The decision will depend on a judge and the fine could reach 450 000 euros.
A system of certificates will be in place, allowing a company producing a biofuels surplus to sell its production to another company (through certificates) in order for each company to reach the targets.

In July 2007, the excise duty on low sulphur diesel (<10 mg/kg) amounted to € 370,75.

**Other measures**

A second legislation should follow at the end of 2007, introducing a certification system guaranteeing minimum sustainability criteria. These criteria will be based on the advice of the Cramer Commission, published on July 14th, 2006.
The criteria should be published before the end of 2007 but it is still unclear on which basis they would build upon. More generally, the Dutch government together with the British, German and Swedish try to influence the European Commission to incorporate sustainability criteria in the proposal for the new Biofuels Directive.

In January 2007, the Minister for Environmental evoked a possible ban on palm oil. However a total ban is legally quite difficult to achieve considering WTO rules. The principle is that palm oil that meets the sustainability criteria will be allowed to fulfill the biofuel obligation.

## BIODIESEL PRODUCTION AND MARKETS

### Market

*Overview*
The biofuels market share of total transport sales in 2006 in energy content was of 0,289% compared to 0,022% the previous year.

While there are a few companies producing pure plant oil as fuel (such as a cooperative in Venray in Limburg), biodiesel production is still in a project phase in the Netherlands but should experience a rapid development. In 2005 there were no capacities for biodiesel production. According to EBB figures, the 2006 production amounted to 18,000 tonnes. In 2007 production capacities were 115,000 t/year and should reach 1,200,000 t/y in 2008.
In 2006, 18.451.574 litres (14.761 toe) biodiesel were sold on the Dutch market.

*Projects and new investments*
The German company Biopetrol (EBB member) will start production in 2008 with a 400,000 tonnes/annum project in Rotterdam and already plans to expand capacity at a later stage. In Eemshaven, in the North of Holland, Biovalue aims at producing at a capacity of 66.000 t/a as from end 2007 onwards. Sunoil is already producing in Emmen with a capacity of 70,000 tonnes per year.

Another plant with a capacity of 35,000 tonnes per year is being operated in Kampen by Vierhouten Vet since November 2006 with a 60,000 tonnes/year capacity. In January 2006, Golden Hope Plantations and the Austrian trading company Godiver GmbH entered into a joint venture and announced there intention to build a 150 000 tonnes per year biodiesel facility in Zwijndrecht. Another joint venture of Rosendaal Energy and Heros for a capacity of 250, 000 tonnes per year was also announced in spring 2006; the construction started in June 2007.
Greenmills in Amsterdam and Argos Oil in Rotterdam have also projects for 2008 (respectively (200,000 t/year and 250,000 t/year).

On a longer term perspective, the following projects are foreseen for 2009:
- Bioenergy in Rotterdam (500,000 t/year)
- WHEB Biofuels in Rotterdam (400,000 t/year)
- Dutch Biodiesel BV in Rotterdam (250,000 t/year)
- J&S Bio Energy in Amsterdam (200,000 t/year)
- Biofueling B.V. in Terneuzen (200,000 t/year)

*Research and Development*
In 2006, €60 million have been earmarked over a period of 5 years for R&D project subsidies promoting second-generation biofuels.

# POLAND

## LEGISLATIVE MEASURES FOR THE PROMOTION OF BIOFUELS

*National Target announced under Directive 2003/30*

Poland submitted its first, second, third and fourth report under Directive 2003/30. Before the entry into force of the *Biocomponents and Liquid Biofuels Act*, the national indicative targets, based on the energy content of transports fuels were as follow:

- 2005: 0,5%
- 2006: 1,5%
- 2007: 2,3%

The level of the targets will be increased each year in order that Poland can meet the 5,75% in 2010. In June 2007, the Polish Government announced the adoption of mandatory targets for the next six years (see below).

### Background

Among the new Member States, Poland is one of the countries which have developed biofuels in a significant way. Bioethanol was first developed at the beginning of the 1990s (as a result of an important overproduction of alcohol), and over the period 1994-1997, a research project on biodiesel from Polish rapeseed was conducted, and led to a proposal for a national biodiesel standard. The proposal has never been adopted, but could have enabled biodiesel producers to develop the technology in order to produce a good quality fuel.

At the end of 2003, the Polish president signed a law an *Act on biocomponents used in liquid fuels and liquid biofuels*, in order to implement the directive 2003/30, providing the basis for mandatory targets and detaxation schemes.
During the spring 2004, the law on biofuels was invalidated, because of three articles contrary to the Polish Constitution. The issue of biofuels has since long become a politically sensitive subject dividing Polish political scene and public opinion. No political party was likely to tackle seriously the issue of biofuels before the general elections of September 2005.

*Legislative background*

- The Act on Biocomponents and Liquid Biofuels (2006)

Directive 2003/30 was eventually fully transposed into Polish law by the *Act on Biocomponents and Liquid Biofuels* of July 21, 2006 as well as the *Fuel Quality Monitoring and Control Act*, of 25 August 2006. These two acts were signed by the President on September 9th 2006 and entered into force on January 1st 2007.
The definition of biofuels provided in this legislation includes any fuel with a bio-component of over 5%. Previously, the Polish legislation only authorized a maximum of 5% biocomponents in fuels. The major bio-components listed in the new legislation are: esters, ethanol and methanol.

- *Biodiesel production*

An important new provision states that 75% of biofuels produced in Poland should rely on special long term contracts (generally 5 years) with local farmers, providing for fixed raw material prices.
In practice, this means that the share of feedstock that can be bought on the free market or imported from non-EU countries should not be greater than 25% of the total production. The Polish Farm lobby pushed for this provision, considering that it could stabilize farm incomes by creating steady prices and consistent demand for grains used to produce biofuels.

The 5-year contract agreement should include:
- The type and volume of raw material to be supplied in respective years to the contract
- The price per unit of the raw material delivered
- The definition of minimal requirements for the raw material
- Sanctions for breaching the contract

This provision obliges the biodiesel producers to buy almost exclusively raw materials for biodiesel production originated from Poland, while the mineral oil industry is explicitly authorised to buy outside Poland the biofuels that they will blend. It also significantly restricts the type of raw material available for biodiesel producers, since it is mainly rapeseed oil that can be provided by Polish producers under these special contracts. Long term, this could lead even to a shortage in rapeseed production. Overall, it does impose serious constrains on the biodiesel industry and makes the production less competitive than in other countries.

Under the terms of Art. 4.1 of the *Biocomponents and Liquid Biofuels Ac*t, the manufacture, storage and marketing of biocomponents are regulated activities within the meaning of the Freedom of Economic Activity regulations and must be entered in the Manufacturers Register.

*Introduction of the concept of "captive fleet"*

The introduction of this concept in the new law has made it possible to use a wide range of liquid biofuels with high biocomponent content, other than those granted marketing authorisation, in vehicles and machines forming part of "captive fleets".
Biodiesel producers can therefore sell 3 kinds of blends on the market: B5, B20 and B100. B100 is authorized for use in specific machinery and vehicles. Contrary to B5, B20 and B100 should be labelled at petrol stations. Selected fleets could use biofuels with different blendings, but should respect quality requirements that edited in the decree issued by the Minister of Economy in September 2006.

*Simplified procedures for farmers*

An important part of the September 2006 law is dealing with simplified procedures allowing the production of biofuels by farmers for their own use. As from 1st January 2007, farmers will be allowed to produce biofuels for their own use at up to 100 litres per hectare of agricultural land, this without having to pay the Value Added Tax on these products. However, they will not be allowed to sell their own biodiesel on the market. According to Art.13.1 of the new law, farmers' production of FAME has to be listed in a dedicated Register and controlled by local Excise Tax Office. However, the Fuel Quality Monitoring and Control Act requires liquid biofuels produced by farmers for their own use to meet only minimum quality requirements essential for environmental protection.

A related law to the 2006 Act on biofuels establishes the regulatory responsibility for biofuels production and use between the government agencies. Industrial production of biofuels is the responsibility of the Ministry of Economy while the on-farm production of biofuels will be overseen by the Ministry of Agriculture.

*Taxation*

- Excise on diesel

There are currently three different levels of excise taxes for diesel in Poland, which are set as follow:

- Diesel (<0.005% sulphur content) = 1180 PLN/$m^3$
- low sulphur (>0.001% ≤0.005%) = 1099 PLN/$m^3$
- zero sulphur (≤0.001%) = 1048 PLN/$m^3$

- Situation before 2007

On 1st May 2004, just before the accession, a Decree on excise duty exemption issued by the Minister of Finance entered into force, providing a system of tax exemptions. A differentiated tax exemption

was granted on biodiesel, depending on the percentage of the blend. The level of detaxation was as follow:

- for blends between 2% and 5%: 1,5 PLN per added liter of biocomponent
- for blends between 5 and 10%: 1,80 PLN per added litre of bio component
- for blends above 10%: 2,20 per added litre of bio component

- The 2007 Decree

On January 1st, 2007 a new decree from the Ministry of Finance amending the 2004 Regulation on Exemptions from Excise Duty, entered into force. The previous taxation scheme was revised because exemptions granted were larger than allowed under EU legislation. Indeed, fuel excise taxes in Poland are amongst the lowest in Europe.

The 2007 decree significantly weakened the support mechanism for biocomponents added to diesel.

The new detaxation scheme was first set as follow:

- For biodiesel blends of minimum 2%: a tax break of 1,00 PLN per added litre of biodiesel is granted (the regular excise tax is 1 048 PLN/$m^3$ for diesel with a maximum sulphur content of 10 ppm).

- For pure biodiesel: the Polish legislation foresees a special excise on pure biodiesel (B100) which amounts to 1 882 PLN/$m^3$. The tax exemption until May 2007 was 1 680 PLN/$m^3$ which means in practice that pure biodiesel was taxed 202 PLN/$m^3$ (= € 54/$m^3$).

Under this scheme, it is noticeable that higher blends would not receive a larger tax exemption, since the exemption is fixed regardless of the level of biofuels blended with conventional fuel.

These provisions have been heavily criticised by the biodiesel industry, since they make production of biodiesel largely unprofitable. In practice, any addition of biocomponents into diesel makes it more expensive than regular one.

*Revision of the 2007 decree*

In response to continued industry complaints that tax breaks were too small to offset additional costs related to biofuel production, the Parliament approved additional incentives for biofuel production on May 11, 2007. Under the new legislation, the excise tax exemption for biofuel producers has been increased by about 5% for each litre of esters added to biodiesel while the excise tax for 100% biodiesel fuels has been reduced to almost zero:

- the regular excise on diesel remains the same (1 048 PLN/$m^3$)
- the tax exemption for biodiesel blends (minimum 2% biocomponents) is 1,048 PLN per litre of added biodiesel (instead of 1,00 PLN/liter)
- the final excise tax on B100 has been reduced to 10 PLN/$m^3$ (apprx. €2,6/$m^3$), instead of PLN 202/$m^3$. B100 is also exempted from the additional road tax that is imposed on regular diesel, which was not the case in the previous version of the tax law.

The new taxation shall be implemented as from the date of publication of a European Commission decision confirming compliance of the state aid envisaged with the rules of the common market (this should be the case in the fall 2007.)

However, the National Biofuel Chamber still considers these changes as insufficient to avoid a reduction in the planned investment in biofuel production facilities. They stress that the tax breaks are currently too small to offset additional costs related to biofuel production. Consequently, the price difference between biofuels and crude-oil based fuels is insufficient for the consumers demand to shift. The Ministry of Agriculture also strongly critized the new taxation scheme, fearing that it would fail to stimulate new investments in biofuel production, which would create a situation of oversupply of rapeseed.

*Mandatory targets for biofuels*
In June 2007, the Polish Government announced the adoption of mandatory targets for the next six years in energy content, which will be as follow:

2008: 3,45%
2009 : 4,60%
2010 : 5,75%
2011 : 6,20%
2012 : 6,65%
2013 : 7,10%

These yearly targets must be reached in terms of volume of the fuels produced and sold on the market, the legislation does not specify the respective shares for biodiesel and bioethanol (total pool principle).

Penalties are foreseen for companies failing to reach the mandatory targets. There will be three types of penalties, depending on the branch sector, which the company represents.
The principle of the penalty will be a result of: K=5xWx(M-R)/100%, where K is the amount of the penalty (in PLN), W, the total income from fuels and biofuels that have been sold by company (in PLN), the M - national yearly target (in %) and R the percentage of bio components used by the company in total volume of fuels and biofuels sold and/or used.

**Other measures**

*The Regulation on liquid biofuels quality requirements*
On 8 September 2006, a regulation from the Ministry of Economic Affairs providing for quality requirements entered into force. As a result of this new legislation, B100 and B20 could be sold for public and private use from 3rd of October 2006 onwards. According to the new regulation, these products can be sold on petrol station only from labelled pumps. Both products have to meet quality standards published in the regulation

*Agricultural subsidies*
An additional support for farmers of 176 PLN per hectare is to be granted for those signing the long term contracts to supply feedstock to biofuel producers.

*The Long-Term Biofuel Promotion Project 2008-2014*
Additional support for biocomponents and liquid biofuels production will also be provided under the Long-Term Biofuel Promotion Project 2008-2014 (implementing Art. 37 of the *Biocomponents and Biofuels Act*). The aim is to improve the cost effectiveness of the process as a whole, from the cultivation of crops, the production of biocomponents and the manufacture of liquid biofuels and liquid fuels blended with biocomponents up to the end use of the biofuels. The programme should also ensure a stable operating environment for all market participants.

Fiscal solutions will continue to play a major role in ensuring cost-effectiveness of the production. In addition to excise duty relief at a rate close to the maximum allowed by Council Directive 2003/96/EC of 27 October 2003, corporation tax relief is also planned (the Sejm is currently preparing a Draft Act *amending the Corporation Tax Act*, which introduces corporation tax relief for biocomponent manufacturers).

Other financial support instruments offered by the programme include: removing biocomponents used as direct fuel from the list of products subject to fuel duty, a system of subsidies for farmers

cultivating energy crops for use in bio component manufacture, investment support out of EU funds and a reduction of air pollution charges for entities using liquid biofuels in their vehicles.

Preferential treatment for public transport operating in conurbations, holiday resorts and nature conservation areas will be granted in case of use of vehicles using environmentally friendly fuels. An incentive to the use of biofuels, which will also apply to private individuals, will be a reduction of parking charges.

Preferential treatment of public procurement purchases of vehicles and machinery fitted with engines able to use liquid biofuels is also foreseen. Most importantly, government departments will be required to gradually replace their vehicle fleets with vehicles able to run on liquid biofuels.

The Programme also includes education and information measures, notably the introduction of liquid biofuels as a subject in curricula at all teaching levels, broad information campaigns addressed to all vehicle users and actions to encourage and motivate vehicle manufacturers to adapt their vehicles to the use of biofuels.

## BIODIESEL PRODUCTION AND MARKETS

### Market

*Overview*
Biofuels amounted to 0,92% of all transport fuels used in 2006 (compared to 0,47% in 2005). In 2006, 45 000 tonnes biodiesel and 84 000 tonnes bioethanol were used in the transport sector.
In 2006, FAME production amounted to 116,000 tonnes, a large part of which was sold abroad. In 2007, production capacities reached 250,000 tonnes but are expected to be well above 500,000 tonnes already in 2008 if all current projects are finalized.
The share of biodiesel in diesel consumption was 0,70% in 2006 (compared to 0,32% in 2005). Polish diesel consumption is estimated at 5 Mt tons and 6 Mt in 2005 and 2006 respectively.

According to official figures, biofuels production in 2008 is estimated at 310,000 tonnes for biodiesel and 230,000 tonnes for bioethanol.

According to USDA (October 2006), the 5,75% target means that in 2010 an estimated 650 000 tonnes of biodiesel and 370 000 tonnes of bioethanol will be used each year (based on estimation of fuel consumption for 2010).

Poland has a limited and concentrated biodiesel production capacity, but numerous large-scale projects were announced recently for the next years.

*Projects and new investments:*
*Rafineria Trzebinia S.A* (own by the oil company PKN Orlen) was the only producer of biodiesel in 2005. It is today the major biodiesel producer in Poland. Its annual capacity in 2006 was 100,000 tonnes. The largest part of the production was sold on foreign markets, mainly in Germany. Indeed, only 17 100 tonnes were sold in Poland.
Currently, Poland exports both ethanol and methyl ester, Germany being the major purchaser of Polish biofuels. Polish exports of biofuels may however decrease in order for Poland to reach the EU objective.

Moreover, as a result of the new taxation legislation, some projects were frozen. Rafineria Trzebinia S.A stopped production from January to July 2007. While surging oil prices put the business back into profit, the company will probably delay new investments (a capacity increase to 200 000 tonnes/year in 2008 was previously foreseen).

On the other hand, other producers seemed ready in June 2007 to proceed with their projects:
*Elstar Oil* in Malbork started production September 2006 and is now operating at full capacity (100,000 tonnes/year).
*Solvent Dwory* started production in Oswiecim mid 2006 and is currently producing around 1,000 tonnes/day.
*Wratislavia Polmos* will start in the fall 2007 with a 150,000 t/y capacity.
*J&S Energy* is planning to start two production units in Szczecin and Skarbimierz in 2008, with a 150,000 t/y capacity each.
*Grupa Lotos* is said to have plans to open its 100,000 t/y plant in Czechowice by 2008.

In addition to such important investments, there are also a number of small-scale projects. Overall, this might lead to overestimate future provision figures. According to the Polish Agricultural Market Agency, there were in 2007 55 methyl ester producers listed in the Register, declaring a production capacity of approximately 627 Mt.

There are also various bioethanol plants established in Poland. In 2007, the Manufacturers Register contained entries for 18 ethanol producers, declaring a production capacity of 506 Mt.

## Feedstock

Poland has considerable resources of agricultural land, which ranks the country as the 3rd one in the EU (following France and Spain). Agricultural land represents 60% of the surface of Poland.
The areas under cultivation include arable lands and those with permanents crops. They represent 14 379 000 hectares in Poland. Rapeseed is the main feedstock processed in Poland.

According to the Polish Association of Rapeseed Producers (KZPR), rapeseed oil production increased by 52% between 2000 and 2005. The association forecasts 2007/08 acreage and production of rapeseed in Poland to increase up to 10%. In September 2006, the Commission made a proposal aiming at extending the energy crops aid scheme to all Member States, including Poland. This further support could increase the possibility to grow crops for energy use on Polish lands.

## Standards and compliance with EU standards

The Polish standard PrPN-C-40030 was elaborated following a research project on Polish rapeseed over the period 1994-1997. This standard was not adopted by the Polish Committee for Standardisation. The European Norm EN 14214 for esters has been adopted instead. The Polish diesel standard is currently the PN-EN 590. In November 2005, the Polish Ministry of Economics signed a regulation which allows adding up to 5% of biocomponents in regular diesel (this fuel do not need to be labelled on a petrol station). In September 2006 Polish Ministry of Economics signed regulation which allows using 20% blends and pure FAME as fuels (these fuels must be labelled at petrol station).

## Research and Development

*Projects carried out between 2003 and 2005*
Two projects were carried out under the framework "Programme of the Polish Federation of Engineering Associations, Special purpose projects for small and medium size enterprises".
The two projects were subsidised with an amount of 68 378 € (271 500 PLN)

*Projects with completion deadlines between 2006 and 2009*
There are eleven research projects relating to biofuels with completion deadline between 2006 and 2009. (The list of the different projects is available at EBB's secretariat). The funding allocated for these research projects amounts to € 492.007 (1 872 800 PLN). An additional 4 research and development projects were funded in 2006 for a total of €655.662 (2 496 290 PLN).

# PORTUGAL

## LEGISLATIVE MEASURES FOR THE PROMOTION OF BIOFUELS

*National Target announced under Directive 2003/30*

The report filed in by Portuguese authorities to the EC Commission under Directive 2003/30 details the following national indicative targets as set out by the Decree-Law 66/2006 of March 22nd 2006:

- 2% for 2006
- 3% for 2007, and
- 5.75% as from 2008 and at least until 2010.

The government has even announced a more ambitious target of 10% share of biofuels for 2010.

This represents a quite important improvement when compared to the initial 2005 report detailing a very modest 1% target. Portugal initially justified such a gap with the 2% reference with the lack of local availability of oilseeds (Portuguese crushing plants use imported soybeans as the main raw material), and some use of biomass for other purposes than transport. But pressure from EU authorities has led to positive developments in the last two years.

### Background

*Legislation*

The Portuguese government started considering how to implement the EU Directives at a quite late stage. EBB put some pressure via the EC Commission since Portugal seemed not to progress on the issue of biofuels. This was done also under the impulsion of the Portuguese company *Iberol* that became an Associate Member of EBB in 2004. Portuguese delays were reminded to the Commission again in 2005, since no real progress was made during last year. In June 2006, the Portuguese Prime Minister and the main national refining company (*GALP*) announced publicly that 5% biodiesel blends should be generally introduced in the Portuguese markets by June this year. *GALP* is currently supplying 95% of the diesel consumed in Portugal, and the biodiesel should be delivered by two contracted biodiesel producers (*Iberol* and *Torrejana*). Both companies are selling exempted biodiesel under an old legislation applicable to pilot plants and through the quota scheme. Blending of the biodiesel takes place in the *GALP* refineries.

*Mandatory targets for biofuels*

A Decree-Law[4] was adopted in March 2006 and provides for:

- imposing minimum quotas for biofuels in fossil fuels
- the promotion of public-procurement agreements for the use of biodiesel in public fleets (passengers buses and trucks), with blends over 10% biodiesel.

However the penalties for non-fulfilment of the provision are low. In case of breach of the law, physical persons are liable for a fine of 500-3.740€, legal entities for a fine in a range of €2.500 – €44.891€.

*Biodiesel detaxation*

Another fiscal Decree-Law[5] was adopted in the same month of March 2006 providing a partial exemption from excise duty to biofuels, in particular the "Imposto sobre Produtos Petrolifero e Energéticos (ISP)" up to a quota set annually.

[4] Decree-Law 62/2006 of 21 March 2006
[5] Decree-Law 66/2006 of 22 March 2006

Partial excise exemptions are set for the following quantities of petrol and diesel: 2% in 2006, 3% in 2007 and 5.75% between 2008 and 2010.
The detaxation amounts to minimum 280€/m³ to 300€/m³.

On 12th December 2006, the Government of Portugal published a local regulation (Portaria n° 1391-A/2006) calling for the submission of applications to biodiesel tax exemptions in the year 2007.
The tender is split in two phases until 2010. In a first phase, a call for tender has been opened from December 12th 2006 to December 15th 2006 (3 days!). The total amount to be exempted under this call for tender is of up to a total of 205.000 tonnes. Each operator may exempt under this regime up to an annual production of 100 000 tonnes biodiesel. The corresponding exemption is of 280€/m³ to 300€/m³ (decree-law 66/2006).
The level of the excise duty for regular diesel is currently at 364,41€/m³.

The allocation of the available quota was based on criteria set up in the above regulation:
- plants located in national territory
- at least 1/12 or equal of the annual raw material used for the production of the biofuel shall be provided from the national territory
- use of oil obtained from locally crushed seeds
- use of UOF
- production supported by sustained contracts

These are theoretical eligibility criterion, currently the availability of local agricultural raw materials is minimal and imports are required. The most optimistic scenarios assume that a maximum of 10% from the raw material used under this tender could be produced in Portugal.

Additional 15.000 tonnes are allocated to small producers and pilot projects for 2007 (special conditions for "produtor dedicado"). Those special Biodiesel producers "produtor dedicado" may be totally exempted from the ISP up to a global production limit of 15.000 tonnes if they fulfil three requirements:
- annual production of maximum 3.000 tonnes
- demonstration or pollution reduction projects using certain raw material
- place it on his captive fleets and consumers (contracts)

In a second phase, another call for tender will be announced in the 2nd semester of 2007 for the period starting on January 1st 2008 to December 31st 2010. According to our information, the Portuguese authorities are now developing the law for the second period. It might be finalised in 2-3 months and the total volume of the quota will probably amount to 300.000T. Most officials say that the quotas might be annual and not multi annual. There are a lot of problems experienced with the Portuguese customs with the paying of the tax exemption.

## BIODIESEL PRODUCTION AND MARKETS

In 2005, biodiesel production amounted to about 1.000tonnes, with a very good increase in 2006 where about 91.000 tonnes were produced.
According to the Portuguese authorities about 5 Million tonnes of regular diesel were consumed in 2006 of which 80.000 tonnes of biodiesel were incorporated which means a share of about 1,41% in energy content.

Capacities increased from 146.000 tonnes in 2006 to 246.000 tonnes in 2007.

Roughly 12 companies applied for the 2007 quota allocation but only 6 were considered as in a few cases the documentation failed to miss the legal requirements. A complaint was issued on the splitting of the quotas. It is in an unfinished process but the EBB takes the few that the dispute will be settled without further implications.

The table below shows the distribution of the quota in several stages.

Oil Tax Exemption (ISP) in Portugal for 2007

| Company | Quantitiy Requested | Press Release January 25, 2007 | % over quantitiy requested | First Official decision, February 8, 2007 | % over quantitiy requested | Second offcial decision, April 2007 | % over quantitiy requested |
|---|---|---|---|---|---|---|---|
| Torrejana | **60.000** | 43.264 | - 28 | **43.722** | - 27 | **45.790** | - 24 |
| Iberol | **100.000** | 71.136 | - 29 | **72.870** | - 27 | **76.317** | - 24 |
| Bio Vegetal | **35.000** | 20.800 | - 41 | **25.504** | - 27 | **26.711** | - 24 |
| Tagol | **20.000** | 20.000 | - 0 - | **17.547** | -12 | **18.237** | - 9 |
| Biomart | **55.000** | 19.800 | - 64 | **42.078** | -23 | **34.511** | - 37 |
| SNB | - | - | - | **3.279** | - | **3.434** | |
| **TOTAL** | | | | **205.000** | | **205.000** | |

*April 16, 2007 (source José Pinheiro)*

Of the six recipients of the tax exemption, only Iberol and Torrejana are currently producing and selling Biodiesel. Biomart will likely enter the market in September/October 2007 and Biovegetal has various delays. Probably they will enter production by 2008. Tagol will begin production mid October 2007 while other sources indicate that they are in the project phase only.
According to our sources, since the production peak will be in the last quarter of CY 2007 and GALP's two major refineries will close for maintenance in October and November, the 2007 quota might not be reached but this obstacle might be removed if GALP and other refineries create alternative schemes.

The most dangerous threat to the new Portuguese biodiesel industry lies in GALP's joint venture project with PETROBRAS in Brazil for the production of biodiesel through hydrogenation and isomerisation of palm oil. GALP and Petrobras signed an agreement on this July 4th covering the processing of 300.000 tonnes per year of vegetable oils in the Galp Energias refinery. The raw material will be shipped from Brazil.

Although ongoing developments indicate that the government favours hydrogenation and isomerisation of vegetable oils, the Prime Minister of Portugal has repeatedly said that Portugal is and will be committed to traditional biofuels.

## Standards

Portugal took over the Presidency from Germany since July 1st 2007 until January 1st 2008.

# ROMANIA

## LEGISLATIVE MEASURES FOR THE PROMOTION OF BIOFUELS

*National reports and targets under Directive 2003/30*

Directive 2003/30/EC on the promotion of the use of biofuels or other renewable fuels was transposed into the Romanian legislation by the Governmental Decision no. H.G. 1844/2005 concerning the use of biofuels and other renewable fuels for transport, published in the Official Monitor n°44 of 18 January 2006.

Romania has adopted the following targets:

- 2% by 2007 (date of Romania accession to the EU)
- 5,75% by 2010

### Background

*Legislation and taxation*

Within the Romanian Fiscal Code (Law 571/2003), the non conventional biofuels (biodiesel) are exempted from taxes.

A New Fiscal Code (Law 343/2006) is applying as from January 1st 2007. The Law 343/2006 in its 201 article gives a zero taxation (full detaxation) for biodiesel. The full detaxation applies only for the FAME content. The Ministry of Economy and Trade and the Ministry of finance are working in collaboration with Petrom, Lukoil and Rompetrol on methodology norms regarding biofuel tax exemption in the new code fiscal.

In July 2007, the excise on conventional diesel was RON 918,938 (= €260).

*Mandate*

A new legislation has been adopted in May 2007 (Government Decision no 456/2007, published in the Official Monitor no. 345 from 22 May 2007). It modifies Decision no. 1844/2005 to provide for the gradual introduction of mandatory targets (by volume):

- From 1st July 2007: 2%
- From 1st January 2008: 3%
- From 1st July 2008: 4%

Governmental Decision 456/2007 also introduces a new article 12 indicating the level of sanctions in case of failure to blend in the above-mentioned proportions: a fine between 7500 and 15,000 lei will apply.

### National strategy for biofuels

A Governmental Decision regarding a National Strategy for Biofuels will be elaborated in 2007 by the Ministry of Economy and Trade in collaboration with Romanian Institutes.

### Other measures

The Romanian state gives farmers 50 euros per hectare in subsidy, in addition to another 45-50 euros for those who grow energy crops.

## BIODIESEL PRODUCTION AND MARKETS

### Market

Although the current biofuels production in Romania remains modest, investors have shown increasing interest in setting up biodiesel production facilities in Romania over the last months. This interest can be explained mainly by the large farmland area available for biofuels raw materials production and low labour costs.

In 2005, *Martifer* pioneered in announcing plans to invest in biodiesel production plants and raw materials in Romania. *Biomart*, which is a division of the Portuguese *Martifer Group*, announced plans to invest €47 million in building a biodiesel plant at Lehliu Gara, in the Calarasi county. The production should start end 2007 with a 100,000 tonnes/year capacity. An additional €16 million should be invested in a refinery. At a later stage, investments should also be made in crushing capacities. The *Biomart* plant, which has a 100,000 tonnes/annum capacity, came on stream in 2007. *Biomart* aims to provide some 30% of the biodiesel demand in Romania. *Martifer* also announced plans to acquire some 50,000 ha of land from *Agromart* - a rapeseed and flaxseed supplier - to guarantee biodiesel raw materials supply for this plant.

Apart from Biomart, the three other producing companies are *ULEROM* in Vaslui (60,000 t/y capacity) and the crushing company *Ultex Tandarei* (60,000 t/y capacity), and *Autoelite* in Baia Mare (20,000 t/y).

Another company *Man Ferrostaal* (division of the German truck manufacturer MAN) announced also in 2005 its plans to establish a farm centre and a biodiesel factory at Atel and Loamnes, Sibiu. The Atel project is expected to start production by the end of 2007, while construction of the biodiesel refinery should have started in May already and the plant should be operational by 2008. *Man Ferrostaal* estimates that it would need approximately 120,000 ha of rapeseed each year, of a total 3,400.000 million ha of farmland in Romania.

Other biodiesel projects that are being developed include the Constanta-based *Argus* company, *Expur SA in* Slobozia (Ialomita county) with 100,000 t/y capacity and *Procera Biofuels* in Fundulea (Calarasi county) with a 35,000 t/y capacity. Spanish investors are said to be planning to spend €18 million in the north eastern county of Iasi.

The oil company *Rompetrol* is also building a 60,000 tonnes/year bio-diesel unit in Navodari, with an expected start in 2008. Rompetrol Downstream has already introduced in its stations and warehouses network a B2 blend branded 'Efix Diesel', which will be distributed in more than 350 petrol stations. The firm has signed a 20,000 tonnes contract for bio-diesel supply with the Portuguese group Prio/Biomart, part of Martifer.

The oil company *Lukoil* will invest 15 million dollars in a biodiesel production line at a Petrotel refinery and should start biodiesel production in the first half of 2008.

In 2006, Romanian biodiesel production amounted to approximately 10,000 tonnes. Production capacity is estimated to reach 400,000 t/year at the end of 2008.

### Feedstock

Romania holds a very strong position as a producer of edible oils in Europe. With investments estimated at €19,9 million in 2005, the industry has been evolving rapidly in the past couple of years towards high concentration, given the presence of large players, both domestic and international (*Bunge, Cargill, Argus, Agricover, Ardealul* currently account for 85% of the oil market). The value of

the domestic market is estimated at over $300 million (which does not include the value of the 20,000 tonnes of oil obtained in rural crushing plants for household self-consumption).

Although sunflower seed prices have constantly depreciated throughout 2005/06 compared to the previous marketing year in Romania, national authorities expect that areas planted with this crop during the current spring campaign will grow by some 8%. Official statistics released in the first week of May 2006 by the Romanian Ministry of Agriculture, Forests and Rural Development indicates that sunflower seed plantings made up 486,000 ha.

The large majority (90%) of rapeseed production is exported (mainly to Germany, Denmark and Sweden). Rapeseed used in Romania is mainly used in textiles and chemistry. The rape cultivated area and production are increasing continuously.
Stimulated by an increasing demand for rapeseed oil for biodiesel production, farmers planted in the fall of 2005 over 175,000 ha with this crop, but extensive winterkill reduced the cropland area to just 90,000 ha. Yields on the area that survived are also expected to have been affected by the long and cold winter (especially in terms of plant density per hectare). Over 12,000 ha were planted by mid-May with spring varieties of rapeseed. For sunflower, the utilized surfaces amount to 900,000 hectares.

The gradual introduction of modern technology and machinery in Romania will probably lead to an increase in productivity and yields in the very next years. Production efficiency is lower than in other EU countries but have a large room of improvement.

**Standard**

The standard EN 14214 was transposed into national law as SR EN 14214.

**Research and development**

Biofuels technologies were considered within several Research and Development projects. INMA, the national R&D institute for Machinery in Agriculture and Food Industry, ICECHIM, the Chemical Research Institute and ZECASIN developed studies and pilot installations for biofuel production.

In recent years and notably as EU accession negotiation progressed, Romania has been participating in some EU-funded projects related to biofuels, including the BIO-EAST project that aimed to identify the potential of raw material production in Romania for biodiesel production, both for internal use and export. The Romanian project partner organisation was ENERO (*Centre for Promotion of Clean and Efficient Energy in Romania*), and coordinating organisation was the international consulting company EXERGIA-Greece.

# SLOVAKIA

## LEGISLATIVE MEASURES FOR THE PROMOTION OF BIOFUELS

*National reports and targets under Directive 2003/30*

Slovakia already submitted its 2004, 2005 and 2006 reports under Directive 2003/30. In the first report Slovakia indicated a 2% target for 2005, which would be progressively increased until 5,75% by 2010. Interim targets are 2.5% in 2006, 3.2% in 2007, 4% in 2008 and 4.9% in 2009. The 2006 report is very short and only indicates that in order to fulfil the target using biodiesel only, 47.000 tonnes of FAME should be consumed in Slovakia in 2005, while the 5,75% target would require a consumption of more than 150.000 tonnes.
The 2006 report is adding further details on the legislative measures and on the obligation system introduced as from May 2006 onwards.

### Background

*Legislation and taxation*
In the late '90ies, and until 2001, Slovakia used to produce quite consistent amounts of biodiesel on the basis of a full excise duty exemption granted by the Government. In 2001, national production still amounted to more than 30,000 tonnes.

In 2003, the Slovakian Government adopted legislation on the use and production of biofuels. However, this act was incomplete and had no real impact on production.

In October 2004, the Government issued a "*National Programme for Biofuels Development*" listing various measures such as tax incentives and standardisation in order to promote biofuels. A consultative commission comprising some biodiesel producers was regularly consulted by the Government about the new draft legislation, but it took until spring 2006 for the law to be passed by the Government. Resolution no. 1022 was subsequently adopted, providing for the necessary measures to ensure full transposition of Directive 2003/30/EC into Slovak law as well as the implementation of the National Biofuels Programme.

The resulting legislation provides for a biofuel mandate effective as from May 1st 2006 (Government Regulation No 246/2006). Producers and sellers are obliged to place a minimum amount on biofuels on the market of 5.75% for 2010, calculated on the basis of the energy content of the total amount of petrol and diesel fuel placed on the market.

Conditions for the application of the tax relief were set up in Act no. 98/2004 on excise duty for mineral oil, lastly amended by and Act no. 223 of 2006. A detaxation is granted for diesel containing FAME (with maximum content of 5%). The detaxation rate is proportional to the FAME content, with a maximum of €384/$m^3$.
In July 2007, the excise on diesel amounted to SKK 14.500/$m^3$ (= €428) while the excise on biodiesel blends was SKK 13,775/$m^3$ (€ 405).
For pure biofuels, a zero rate of excise duty applies since 1 May 2006.

At present, there is no market for pure biodiesel. Biodiesel market penetration has indeed been impeded for long also due to a strong negative stance of the only Slovak refiner *Slovnaft* on biodiesel and biofuels blends. In fact, the *Slovnaft* refinery was opposing the Government arguing that it would not blend diesel with methyl ester, and if it had to, it would buy the methyl ester where it wanted to, i.e. not necessarily in Slovakia. The refinery was fined by the Ministry of Finance with about €34 million due to unjustified high fuel prices on the market.

The main obstacle for the new legislation will be to allow other mineral oil distributors and not only refiners to blend biodiesel with conventional diesel. If this privilege was left only to refiners, *Slovnaft*, the only refinery operating in Slovakia would probably not follow.

There is no association of the biodiesel industry in Slovakia, as the industry is quite divided, with even the major producer *Palma* having little influence towards the Government.

## BIODIESEL PRODUCTION AND MARKETS

### Market

*Production and capacities*
Biodiesel is the only biofuel to be produced in Slovakia. The 2006 production amounted to 80,000 tonnes, while capacities reached the 100,000 tonnes threshold.
During the first quarter of 2007, Slovakia met the 2% target of biofuels use in all transport fuels.

*Plants and new investments*
Due to a sudden cut in the detaxation by 2004 the biodiesel production regressed very quickly and today most of Slovakian producers are not producing biodiesel anymore, at the exception of *Palma* which is selling its production to Germany.

- Relatively important capacities were installed at the time when biodiesel was still a viable business. Today the largest production units are owned by one of the major national oilseed crushers, *Palma Tumys* (the plant of Palma has a capacity of 36,000 tonnes per year, it is a well built and relatively new plant working on Connemann's technology). *Slovnaft*, the main Slovak refinery besides the very small *Petrochema* refinery – has signed a contract with *Palma* for supply of RME. This is because *Slovnaft* sells on the Austrian market where diesel has to contain RME.
- *EKOTIPS/EKOIL* is another biodiesel producer (real production of around 15,000 tonnes and theoretical production is 18,000 tonnes per year), besides *Bioplus s.r.o.* (capacity equals real production 10.000 tonnes).
- Several smaller plants like *Agro Diesel*, *PD Horne*, *Zentiva* a.s. *Holovec*, and *Slovakofarma* existed but at present it would be impossible to assert how many of them would still be able to produce FAME.
- Representatives of *Palma Tumys* took part in EBB Assembly and events in the past. EBB is in contact with the management of *Palma Thumys*, *Ekotips* and *Bioplus*.

### Standard

The STN 656530 standard applies since 2001. However, some aspects of the Slovak standard were criticised, especially with regard to the criteria set for glycerol content (monoglycerids max. 0,8%, diacylglycerids max. 0,4 % and triacylglycerids max. 0,4%) which are difficult and expensive to measure (GL chromatography). Another controversial aspect is the allowed iodine number (115g I2/100g) which is de facto excluding sunflower and soybean oil based biodiesel.
The Slovakian Government should publish a law on standardisation in the fall 2007.
In addition, the Ministry of Environment is currently preparing technical norms for higher biofuels blends.

# SLOVENIA

## LEGISLATIVE MEASURES FOR THE PROMOTION OF BIOFUELS

*National reports under Directive 2003/30*

Following a letter of formal notice by the EU Commission, Slovenia presented its 1st report to DG TREN in September 2005. The 2nd report has been submitted in June 2006 and the third report in June 2007.
In the first report, Slovenia claimed derogation from the reference values set for the first phase of measures to promote the use of biofuels, arguing that the country presented strong limitations in terms of biofuels production capability, in accordance with article 4 of Directive 2003/30. The Government estimated that the average share of biofuels placed on the market in Slovenia in the period 2006-2008 would be 1.25% less than the reference values set in Directive 2003/30/EC, and 0.75% less for the period 2009-2010 because a large proportion of the biofuels available in Slovenia would be used to generate electricity in combined heat and power plants.

In its 2nd report, Slovenia indicated that the biofuel target for the second phase under Directive 2003/30 is a 5% share of all transport fuels in 2012. This would mean an increase from the average annual share of around 0.7% in 2007 of at least 3% averaged over the period 2008-2012, as follows:

- at least 2% by 2008,
- at least 3% by 2009,
- at least 3.5% by 2010,
- at least 4% by 2011 and, for the following years, at least 5% of the total annual quantity of motor vehicle fuel placed on the market.

### Background

*Legislation*
The 2003/30 Directive was transposed in Slovenian law by the *Rules on the content of biofuels in motor vehicle fuels*, published in 2005 (Official Journal no. 83/05) that provide for a definition of biofuels used as transport fuels and indicates the minimum level of biofuels to be placed on the market each year by fuel suppliers (see below).

*Taxation policy*
The Excise Duty Act of 1998 (published in the Official Journal no. 84/98, last amended in no. 122/06) exempts biofuels used as motor fuels from the excise inspection and payment system when used in their pure form. When biofuels are blended with fossil fuels, a maximum 5% exemption from the payment of excise duty can be claimed, or more for standard fuels containing biofuels.
As of July 2007, the excise duty on diesel is set at €323,30.

*Biofuels mandate*
In 2005 Slovenia adopted the *Rules on the content of biofuels in motor vehicle fuels* (Slovenian Official Journal no.83/05, corrigendum no.108/05), which, in accordance with Directive 2003/30/EC, defines the types of biofuels used as transport biofuels as well as biofuels obligations for fuel suppliers.
Articles 5 and 6 of the Rules provide for the introduction of mandatory targets. As from 2006, fuel distributors must ensure a minimum share of biofuels in all transport fuels placed on the Slovenian market. The obligations are set as follows, expressed in energy value of all vehicle fuels placed on the markets:

- 2006: 1.2%
- 2007: 2%

- 2008: 3%
- 2009: 4%
- 2010: 5%

In case of non compliance with these obligations level, distributors can proceed to a limited transfer of obligations to the following year. However if there is no respect of the obligations the following year, the Slovenian Ministry will not issue a Decision of conformity, what can lead to strained conditions to place fuels on the market.

Considering the possibility to transfer obligations to place biofuels, the Slovenian Government estimated in the 3rd report under Directive 2003/30 that the amount of biofuels to be placed on the market in the following years will be as follow:

- at least 0.7% in 2007,
- at least 1.2% in 2008,
- at least 2.3% in 2009,
- at least 3.4% in 2010,
- at least 4% in 2011,
- at least 4.5% in 2012 and, in the following years, at least 5% of the annual total quantity of motor vehicle fuels placed on the market.

### Other measures

*Incentive for energy crops*

After its accession to the EU, Slovenia adopted the market regulations and the system for direct payments, introducing direct payments for the production of energy crops.

The level of incentive to grow energy crops is set Articles 3 and 10 of the *Decree for direct payments for producers of certain arable crops* (published in the Official Journal no. 10/05, last amended by Nos 113/05 and 99/06). In addition to direct payments, producers of energy crops (rape seed oil) who received SIT 71,291/hectare (€297,50) in 2005 could also receive aid for energy crops of SIT 6, 474/hectare (€27,00).

*Operational programme to reduce greenhouse gas emissions*

The Operational Programme for the reduction of greenhouse gases, adopted by the Government of the Republic of Slovenia on 31 July 2003, is the core Slovenian programme document for the introduction of measures promoting the use of biofuels for transport.

A revised version of this document was adopted by the Slovenian government in 2006, as well as an initial programming document introducing measures to promote the use of biofuels in transport. The Operational Programme indicated that the objective behind the introduction of biofuels in transport in the first five-year Kyoto target period (2008–2012) is to reduce greenhouse gas emissions by 120 000 tonnes CO2 equivalent a year, which will mean replacing 45 000 tonnes of diesel and petrol a year. In terms of the share of biofuels in the transport sector, the average annual use of biofuels for the period 2008–2012 would come to around 3% of all road vehicle fuels.

## BIODIESEL PRODUCTION AND MARKETS

### Market

*Overview*

The biofuels share in transport fuels in 2006 was 0,27% in energy content. In 2006 biodiesel in its pure form or as a blend contributed mostly to the replacement of transport fuels of mineral origin, since so far, no bioethanol production unit has been built in Slovenia. Most biofuels are sold as blends

of biodiesel and conventional diesel, where the FAME content does not exceed 5%. In 2006, some 5 Mo tonnes biodiesel were placed on the market.

According to the third report under Directive 2003/30, there were in 2005 three major biodiesel producers, but only one operating on an industrial scale. The total 2005 production of biodiesel amounted to about 6000 tonnes, more than half of which produced using feedstock grown abroad, mainly in Austria and Germany.

*Projects and new investments*
In 2006, 901 607 tonnes of diesel was sold in Slovenia. Petrol, Slovenia's largest petrol retailer started selling diesel containing 5% of biodiesel at about 20 services stations on July 26th 2005, with limited success so far, since quality problems arose even with low blends.
Biodiesel is mainly imported from Austria and close collaboration between Slovenia and Austria is being established in the field of biofuels.

There are two major biodiesel production projects in Slovenia, which have started production by the end of 2005: *Pinus TKI* and *Oljarcha Tovarna*, both with capacities between 7000 and 10 000 tonnes per year.

The Slovenian oil refinery *Nafta Lendava* and its Austrian partner *CMB Maschinenbau & Handels* announced in January 2007 they would build the biggest biodiesel plant in Slovenia and one of the largest refineries of the kind in Europe. It should open at the beginning of 2008, and its annual production of 60,000 tonnes of biodiesel will represent about 88% of the total production in Slovenia.

A major project was being developed by an important chemical company *Teol d.d* (part of SAVA Group) in Lubljana with a planned capacity of 50 000 tonnes per year but it has been abandoned in the course of 2007, following the takeover of Teol by ExxonMobil.

## Feedstock

Imported oil, waste cooking oil and animal fats should be the major raw material used in Slovenian biodiesel production units. Domestic rapeseed should also be used to a lesser extent. The third report under Directive 2003/30 outlined however an important scope for biodiesel and refined vegetable oils production in Slovenia.
In 2005 rapeseed was grown on about around 2500 hectares of land. The Ministry for agriculture reported that the Republic of Slovenia has between 6000 and 7000 hectares of suitable land available for the production of rapeseed.

## Research and development

Slovenia is promoting the sustainable development of transport at the level of local communities. The Ljubljana Public Passenger Transport Office joined the European Commission's CIVITAS II - MOBILIS programme, with the aim to test the use of biodiesel to power urban bus vehicles, to reduce the quantity of environmentally harmful exhaust gases and to lower fuel costs. In July 2005, a blend of fossil diesel (80%) and biodiesel (20%) was tested in two urban buses but, due to the difficulties of storing the fuel, the municipality decided to switch in 2006 to 100% biodiesel.

# SPAIN

## LEGISLATIVE MEASURES FOR THE PROMOTION OF BIOFUELS

*National Target announced under Directive 2003/30*
Spain has published its first, second, third and fourth reports under Directive 2003/30. In 2004, Spain adopted the 2% reference target for 2005 (in energy content).
The 2nd and 3rd national reports under Directive 2003/30 precise the following targets:

- 2% for 2005
- 5.75% for 2010

### Background

*Legislation and Taxation*
Spain has transposed the EU Directive into national legislation in 2002 already. The first transposition law provided a full detaxation for biodiesel, although biodiesel produced from animal fats was not covered. A new law has been adopted on 30 December 2002 (Law 53/2002 on Tax, Administrative and Social Measures), granting a 0% excise tax rate for biodiesel and covering also biodiesel from animal fats. The definition which is given of biofuels includes bioethanol and biomethanol as well as a long list of vegetable oils – that are considered as biofuels even if they are used pure - (i.e. Soybean, Groundnut, Olive, Palm, Sunflower, Coconut, Rape, Lineseed, Maize, etc…) and of course their derivatives, therefore also biodiesel.
The 0% excise rate applies exclusively to the volume of biofuels blended with other products. The scheme is valid until 31 December 2012. In order to avoid overcompensation, the Spanish Tax Administration will be allowed in the future to eventually reduce the tax exemption granted to biofuels. The General Finance Law of the State may indeed replace the zero rate with a positive rate of tax, considering the comparative production costs of biofuels are and mineral oil fuels. In any case, this positive rate of tax shall not exceed the rate applicable to equivalent conventional fuel.
No maximum quotas have been fixed; therefore the detaxation theoretically applies to unlimited quantities.
The Spanish diesel excise tax used to be €293.86/$m^3$ in 2006 but has been raised since January 1st 2007 to reach 302€/$m^3$.

Furthermore, another Royal Decree 774/2006 (replacing Royal Decree 1165/1995) was adopted in June 2006 on the amendment of special taxes ("impuestos especiales"). The new decree provides that fuel pumps stations and installations where fuels are consumed as a final product can now blend biofuels into fossil fuels without having to provide a financial deposit. This should help the distributors to sell biofuels in Spain.

*Biofuels mandate*
Already in January 2006, APPA biofuels, the Spanish association of renewable energies producers, stated that a binding target was the most effective measure to increase the use of biofuels. The association presented its proposals to the Spanish Government in February 2007.
In April 2007, the Spanish Government decided the establishment of a biofuels obligation and presented in the Senate a corresponding amendment to the Hydrocarbon law 34/1998 of 7 October 1998. This amendment was approved by the Senate on June 7th and the new law 12/2007 was eventually approved by the Congress of Deputies on June 14th.

The new law establishes the following annual targets, expressed as a minimum percentage of fuels marketed for transportation (in energy content):

- 1,9% in 2008
- 3,4% in 2009
- 5,83% in 2010

While the 2008 target is only indicative, the 2009 and 2010 targets are mandatory and failure to reach them will be considered a "very serious infraction" that can lead to:
- a fine up to 30 million euros;
- and the possibility of a one-year long disqualification from the sector.

Most importantly, the government may modify the targets established for 2008, 2009 and 2010 and may also establish additional targets for the following years.

The Ministry of Industry, Tourism and Trade is in charge of developing the details of the targets and should notably focus on:
- the quantification of targets and the types of products that should be used to reach them
- technical issues
- a system of certification which would allow for the supervision and control of requirements
- flexible mechanisms that would favor the achievement of the targets with maximum efficiency.

**Other measures**

In August 2005, the Spanish Government published a "Renewable Energies Plan for the period 2005-2010" (PER), substituting a previous plan "Plan or the promotion of Renewable Energies 2000-2010" adopted in December 1999. The new plan is increasing the objectives for the production of renewable energies to take into account the new targets set at EU level (2% in 2005 and 5,75% in 2010).
The new plan establishes a target for 2010 of 2,200 ktoe for biofuels, representing 5,83% of the consumption of gasoline and diesel used for the transport sector. APPA estimates that to reach this goal, the amount of biofuels consumed in 2006 will have to be multiplied by thirteen. The biodiesel target will represent 60% of the total, meaning an increase by 23 of biodiesel consumption.

The Plan further identifies a number of market barriers for biofuels development in Spain, notably:
- the fiscal uncertainty due to the fact that the detaxation scheme is running until 2012 only and the possibility given to the Spanish administration to replace the 0% excise on biofuels by a positive rate to avoid overcompensation;
- the bad adaptability of some feedstocks (rape) to the Spanish agricultural conditions;
- the unsatisfactory distribution system from biofuels plants to pump stations;
- the lack of car manufacturers warranties for biofuels;
- the high price of vegetable oils sold on the edible oil market;

Accordingly, the new plan recommends measures to promote the use of biofuels (these are only proposals without legislative value):
- the extension of the current tax exemption on biofuels for at least another 10 years;
- the application of all CAP policies related to energy crops, i.e. the €45 support per hectare of land dedicated to energy crops
- an increase in the funding for research in the field of energy crops
- the adaptation of the fuel distribution system to facilitate the delivery of biofuels all across the country
- the formulation of a mandate for the car manufacturing industry to produce new vehicles suitable for the use of biofuels
- the creation of a certification and control system ensuring quality standards for biofuels
- the development of a system for gathering used frying oils.

## BIODIESEL PRODUCTION AND MARKETS

### Market

*Overview*
The Spanish biodiesel sector is relatively young, with the first plant having started operation in 2002. However already in 2004, Spain had a biodiesel production capacity of 70 000 tonnes. Between the end of 2005 and 2006, an important number of new plants have begun operations.
According to APPA figures, biofuels production in Spain reached 445,477 tonnes in 2006, realizing a 44% increase compared to 2005. 72% of the biofuels produced was bioethanol (321,000 tonnes). The remaining 28% was biodiesel (124,577 tonnes).
The Spanish production capacity as of July 2007 should be 500,000 tonnes.
Despite this significant increase in the production, the annual biofuels sales in Spain for 2006 only registered an increase of 19% compared to the previous year, reaching 170,000 tonnes. This represent 0,53% of the total fuels demand. Of the total biofuels consumed in 2006, 67% (144,000 tonnes) corresponded to bioethanol and 33% (56,000 tonnes) to biodiesel.
Accordingly, the exports of biofuels increased by 85% (193,000 tonnes, including some 59,500 for biodiesel).

In 2006, biodiesel has achieved a 0,23% share (calculated on the basis of the energy content) of the diesel market, compared to 0,10% in 2005. The average share of all biofuels in the transport sector in 2006 amounted to 0,53% compared to 0,44% in 2005 (4$^{th}$ report under Directive 2003/30).

*Projects and new investments*
Apart from the 4 Spanish biodiesel producing companies that are EBB members, i.e Bionet, Bionor, Acciona, Biocombustibles Cuenca, Linares Biodiesel Technology SL many more plants and projects have been announced, but many are very doubtful. Several of these projects are joint-ventures involving the Spanish mineral oil industry, biodiesel producers and even Abengoa as traditional bioethanol supplier. 14 companies are currently producing biodiesel in Spain.

The market of bioethanol is Spain is well developed, Spain being on the leader in bioethanol in Europe. The leading company in this field is the private company Abengoa. The bioethanol market took off earlier than the biodiesel market due to a lower taxation on diesel than petrol.

26 plants currently in construction should start operations in 2008 in Spain.

The Resolution no.17009 of 9 September 2006 (published in the Official Journal of 29 September 2003) gives a full list of all petrol and biofuels operators registered in Spain (table no.2).

### Feedstock

The main feedstock used in Spain is sunflower. The climate in Spain is not welcoming for the cultivation of rapeseed. However, sunflower has more difficulties to meet the biodiesel quality standard (iodine value).
The development and selection of new oilseed types is necessary, in order to adapt to the agricultural characteristics of Spain.

### Standards

The Royal Decree adopted on 15 December 2003 (1700/2003) defined the standard for biofuels. The decree included the whole of the norm EN 14214 except for the iodine parameter that the Spanish legislation has slightly increased from 120 to 140, in order to make sunflower seed oil and soybean oil suitable to be used as the only raw materials for biodiesel production. In February 2006, the Spanish

Government had to adopt a new Royal Decree 61/2006 replacing the December 2003 Decree, which was no longer valid as it did not follow the applicable public consultation procedure. The iodine value remains however at 140.

EBB is in touch with Spanish producers as well as with the mineral oil industry and Original Equipment Manufacturers on this issue. The CEN is trying to convince Spain to transpose the EN 14214 without any change, although Europia (the EU mineral oil Federation) and car manufacturers have expressed to EBB little concern about the change in the iodine value, and seems to worry much more about the technical specifications for bioethanol detailed in the Royal Decree.
A report elaborated by Price Waterhouse Coopers in summer 2005 considered all technical and market obstacles that will need to be removed in order to strengthen the marketing of biofuels in Spain.

# SWEDEN

## LEGISLATIVE MEASURES FOR THE PROMOTION OF BIOFUELS

*National Target announced under Directive 2003/30*

The indicative targets (in energy content) are set as follows:
- 2005: 3%
- 2010: 5.75%

Sweden sent its 4 national reports under Directive 2003/30.

### Background

The government introduced a new policy goal in autumn 2005, namely that Sweden should be the first country to stop being dependent on oil.

The Swedish government started an investigation to propose strategies to reach the targets and negotiated with the mineral oil industry in order to convince them to respect the 2% target for 2005. Already in January 2005, an investigative commission submitted its final report on biofuels market penetration, which advocates the raising of blending levels to 5%.
The investigators also proposed the introduction of a "green certificate" as an instrument to promote biofuels whilst pushing out subsidies by 2009.

*Legislation*
The Act 2005:1248, by the Swedish Parliament's decision of December 16th 2005 require that large filling stations have to provide a biofuel alternative. The Act stipulates that as from April 1st 2006, the largest petrol stations must sell renewable fuels. Petrol stations selling more than 3000 m³ of petrol or diesel per year are first concerned. Then as from 2009, petrol stations selling more than 1000 m³ per year will also be covered. Small stations selling less than 1000 m³ of fossil fuels per year are exempted from this obligation.

The Swedish government is coordinating investigatory work undertaken by the Swedish Energy Agency on a certificate system for motor fuels which could come into force from January 1st, 2009.

*Taxation*
Sweden applies three different excise duty rates on both petrol and diesel according to environmental standards. The rate for diesel amounts from SEK 3720(€398,64) to SEK 4296 (€460,37). The main financial instrument to promote the use of biofuels in Sweden is the tax strategy for alternative fuels that was introduced in the government draft budget of 2002. Under the initial strategy, tax relief was available either for pilot projects, which qualify for full exemption from excise duties (at that time €392/m³), or in the form of a general exemption from $CO^2$ tax for "$CO^2$ neutral fuels".
The corresponding taxes on environmental class 1 diesel amount to SEK 1,036 and SEK2,609 per litre (amounting to SEK 3.645~€0,39), as of end 2006 .
The term CO2 neutral fuels mean animal and vegetable fats and their derivates, ethers and hydrocarbons, provided that the carbon atoms in the product are of biological, non fossil origin. Hydrogen gas also is eligible under the scheme. Following the adoption of Directive 2003/30 the government, in its draft pre budget adjusted its tax strategy for alternative fuels so that $CO^2$ neutral fuels were exempt from both $CO^2$ tax and energy tax with effect from 2004 as part of a five year programme (until December 31st, 2008), to the extent of the share of biodiesel. The budget reserved for the measure amounts to approximately €15.5 million. This scheme has been approved by the EC Commission.

Sweden asked a prolongation of the tax Exemption for Biofuels at the end of 2006. No changes were envisaged so the Commission did accept the prolongation of that scheme from January 1st 2009 until December 31st, 2013 (N592/2006). The annual budget of the scheme is estimated at €193 million and €965 million in total.

## BIODIESEL PRODUCTION AND MARKETS

Upon request of the government, the Swedish Energy Agency developed indicators in order to review energy policy targets. For 2005, these indicators showed a market penetration of 2.3% for biofuels used in transport. (Higher value than the EU indicative target of 2% for 2005).
At the end of 2005, the market of private cars is estimated at 4.1 mln private cars on the road in Sweden. 94% of these ran on petrol and about 5% ran on diesel. The main biofuel used in Sweden is ethanol. In 2005 ethanol accounted for almost 87% of biofuel use (in terms of energy volume).
Although, for local reasons, Sweden has been mainly focusing on imports and on other biofuels (ethanol ex wood and synfuels obtained through the gasification of wood), the Swedish biodiesel market is likely to increase in a significant way in the near future. At the beginning of 2005, Sweden had a production capacity of 8 000 tonnes of biodiesel, but these capacities were increased to over 52 000 tonnes by the end of the year 2006.
Until 2007, Norup Biorefineries and Ecobränsle were the only biodiesel producer in Sweden operating at two production sites. Chemical firm Perstorp announced in beginning 2006 a new project for a joint venture with Swedish major mineral oil company Preem. A new plant located in Stenungsund came into operation since end of May with capacities of 160 000 tonnes. Total capacities amount to currently 212.000 tonnes / year.

The number of public filling stations for RME was 21 at the end of 2005 (compared to 297 of E85)

### Standard

An obstacle for the introduction of biodiesel was represented by the particular diesel standard in force in Sweden (the so-called MK1 standard) which is stricter than the EN 590 norm, making it impossible for biodiesel blends higher than 2% to fulfil all of its parameters. In spring 2006, Swedish authorities eventually decided to revise the MK1 standard, in order to allow for up to 5% RME blends in mineral diesel. The Swedish farmers Supply and Crop Marketing Association (SFSCMA) suggested that this will mean that demand for RME will increase to around 200 000 tonnes based on present diesel consumption figures. As from 1st of August 2006, companies are allowed to blend up to 5% biodiesel.

# UNITED KINGDOM

## LEGISLATIVE MEASURES FOR THE PROMOTION OF BIOFUELS

*National Target announced under Directive 2003/30*

The indicative targets filed in by the British authorities to the EC Commission under Directive 2003/30 detail the following:

- 2008/09: 2,0% (2,5% in volume, assuming 100%biodiesel)
- 2009/10: 2,8% (3,75% in volume, assuming Biodiesel at 66% of total biofuel sales)
- 2010/11: 3,5% (5% in volume terms)

### Background

*Mandatory targets for biofuels*

- none for the moment but this will change in April 2008.

*The Renewable Transport Fuel Obligation (RTFO)*

Already in spring 2004, UK authorities launched an Official Consultation on biofuels. EBB provided an extensive official answer to such consultation expressing the point of view of the EU biodiesel industry. We strongly supported an increase of the excise reduction and underlined that the use of a mandatory target of market penetration (RTFO) at UK level would represent an extremely valuable approach in order to boost the use of biodiesel and biofuels. EBB favours such a measure eventually together with a simultaneous use of the detaxation instrument.

During summer 2004, thanks to an amendment introduced by the House of Lords, a clause was introduced in the Energy Bill giving the Government the primary power to introduce a Renewable Transport Fuel Obligation (RTFO) drawn on the experience of the Renewable Obligation that applies to renewable electricity. This meant that the Government could from then onwards creates a RTFO at any time, without requiring the approval of the Parliament.

In November 2005, the UK government announced that it will introduce a biofuel obligation in order to ensure the market penetration of biofuels. The 2006/07 budget report, announced on March 22nd 2006 by UK Chancellor Gordon Brown, eventually confirmed the implementation as from 2008 of the scheme. The RTFO will place a legal requirement on transport fuel suppliers: they will have to ensure that a specified percentage of their overall fuel sales are coming from biofuels, the alternative is to pay penalty.

The levels of obligation were set out in the Budget 2006 and are as follows according the different financial years:

- 2008/09: 2,5%
- 2009/10: 3,75%
- 2010/11: 5%

RTFO levels beyond 2010-11 should be fixed in the following years. The Government should set targets beyond 5% after 2010-11, only if a new quality standard is established within the EU and if the costs are acceptable to consumer.

These targets have been calculated on a volume basis. The level of obligation for 2010 will be below the EU reference value provided in the Directive 2003/30. This level was justified by the UK government by the following factors:

- The EU fuel quality standards: The UK government would like to see the 5% limit (on the amount of biofuel that can be blended into petrol and diesel) revised to authorize higher biofuel blending rates.
- The sustainability risks: Before moving to higher inclusion levels, the UK government would like to finalise a robust sustainability assurance scheme.

- The time required to build a new production plant: 18 months are needed to build a new production capacity and far longer to bring the capacity on stream.
- The time required to develop the appropriate supply infrastructure (construction of new tanks for storage, improving the existing fuel supply infrastructure)
- Time to put in place the RTFO: a feasibility study published by the government last year estimated that an RTFO could be introduced as the earliest in April 2008
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Such obligation will be coupled with a buy-out price to be paid by fuel suppliers eventually failing to meet their obligations. The buy-out price will be set at 15 pence per litre for the first 2008/09 period. Such a low buy-out price is explained by the fact that the new budget report also announces an extension of 20 pence per litre of biofuels duty incentive, which was initially granted only until 2007/08 but which will be extended until the end of 2009/2010.
For the following period, the UK government has also engaged itself to keep the combination of duty incentive and buy-out price at 35 pence per litre (without specifying which will be the most important of the two tools). It should be then decreased to 30 pence per litre in the period 2010/11. The UK government clearly indicated in the budget report that the emphasis will move from the duty incentive towards the buy-out price as the principal support mechanism in future years. Through the combination of both duty incentive and RTFO, the UK government intends to get closer to the 5,75% target in 2010.

In order to look at the potential RTFO system, the UK Government has been launching a *feasibility study* of this system. Life-cycle carbon savings connected to the different biofuels, together with sustainability issues were and will be the main aspects that have been analysed. EBB has participated to these consultations, notably as an expert during an evidence session of the European Union Committee (subcommittee environment and agriculture) of the House of the Lords.

There was an open consultation on the RTFO published on 21st June 2007. The basic idea is that concerned companies will be required to submit monthly reports on both the net GHG savings and sustainability of the biofuels they supply. Renewable Transport Fuel Certificates (RTFCs) are then issued under the RTFO which are tradable (tradable green certificates). The consultation is about the methodology of the reporting scheme and default values on carbon saving for the majority of fuel chains that exit in UK.
The current proposals under the RTFO which shall commence on April 15th, 2008 are as follows:

- reward biofuels in accordance with the carbon savings they offer from April 2010
- only feedstocks meeting sustainability standards as from April 2011 may be rewarded
- set up "stretching indicative targets" for the level of carbon and sustainability performance
- explore a voluntary labelling scheme with the Low Carbon Vehicle Partnership (LowCVP)

The current reporting scheme is seen as a first step, there are concerns about whether an UK mandatory assurance scheme would give rise to WTO issues.
The scheme takes into account existing sustainability, social accountability and agri-environmental schemes which will be benchmarked against an RTFO Sustainable Biofuel-Meta Standard.

The supporting documents to the consultation are to be found on following link: http://www.dft.gov.uk/consultations/open/rtforeporting/

*Taxation*

The primary means of support for biofuels was the fuel duty incentives. As from January 2002, a 20 pence/litre (roughly 300€/m³) duty differential on both biodiesel and bioethanol (2005) has been introduced. The 2005 budget law confirmed that the biofuel duty incentive would continue at least until 2008/09, which was confirmed by the 2006 pre budget report. The price differential of 20 pence per litre is confirmed until the financial year 2008/09.

The UK has the highest EU excise duty on diesel (806,61€/m³ for regular Diesel, 713,23€/m³ for sulphur free and ULSD in January 2007), which means that theoretically, an important room exists in order to provide biodiesel and biofuels an appropriate detaxation. However the UK has always applied a partial detaxation that, before mineral oil price rise, used not to be sufficient to make biodiesel

competitive versus mineral diesel thus encouraging biodiesel production exclusively from cheaper raw materials.

The 2006 pre budget reported that the duty on petrol and diesel should be raised by 1.25 pence per litre (around 19€/m³) in November. This increase should also apply to biofuels.

**Other supporting measures**

*Regional Selected Assistance (RSA)*
To promote biofuels market penetration, the UK Government also make use of RSA grants that are permitted under EU law. Under this scheme the Argent plant (EBB member) benefited from an RSA grant of £1,2 mln, and the North East Regional Development Agency also offered grant funding to prospective biofuels facilities.

*Enhanced Capital Allowances (ECA)*
The UK government announced in December 2005 that it will apply an ECA scheme for biofuel plants that meet qualifying criteria for a good carbon balance in the design of their plant. The scheme is delayed for the moment.

*Government grants*
In July 2005, the UK government received the approval of the EU for a state aid for a refuelling infrastructure grant programme which aims to increase to reinforce the infrastructure of alternative refuelling stations for road vehicles.

*Government fleet as examples*
Cars for ministers have been subject to a review by the Government Car and Dispatch Agency in 2005. Under this review all new government vehicles added to the fleet will be either hybrids or diesel-engine vehicles which will be run on a 5% biodiesel blend. Other initiatives are taken in London as well (local and police authorities).

## BIODIESEL PRODUCTION AND MARKETS

The total sales of biofuels for 2005 were amounting to 118 million litres, with a total of 49 million litres for road fuel, the rest being using mainly in electricity power generation.
Biofuels represented 0,24% in volume which equals to 0,18% in energy content of the total road fuels in 2005.

In 2005, 33 million litres of biodiesel (EBB figures indicate that about 51.000 tonnes of biodiesel was produced in 2005) have been sold compared to 85 million litres of bioethanol. The part of biodiesel represents 0,07% in volume of total fuel sales (0,06% in energy content).

The RTFO policy has created stimulation for capital investment in biofuel production plants.
As for 2005 the UK production of biodiesel was around 51 000 tonnes (up from 9 000 tonnes in 2004). The production increased nearly fourfold in 2006 reaching production of 192 000 tonnes. However biodiesel producers strongly suffer from unfair B99 imports as they are a major target market.

The major producing companies in the UK are Argent Energy, Biofuels Corporation, Greenergy, Global Commodities, D1 Oils Plc and BIP. Many projects for new plants have been announced in the UK during the last months, including major project for capacities between 150 000 to 400 000 tonnes (Argent Energy, Ineos, D1Oils plc, Biofuels corp.). The total UK production capacity, if these projects will be realised, should increase substantially to over 1.672.000 tonnes by the end of 2009.

The UK public can now find easily biofuels at the pumps. Biodiesel is available at well over 138 filling stations (under the form of 5% blend).
In 2006, the British Ministry of Trade and Industry, upon request from the UK firm Glencor asked the European Commission to authorize the removal of import tariffs for soy oil from Brazil to be used for biodiesel production. EBB has been in close contact with the European Commission on the issue, stressing the fact that tariffs removals would provide a negative precedent and signal to the biodiesel industry, possibly leading major imports of plants oils and eventually biodiesel in the EU.

## Feedstock

The main feedstock used in UK include: used frying oils, tallow, straw, and agricultural crops.
Average rapeseed yields are typically 3 tonnes /ha. Current rapeseed rapeseed oil production is estimated at 450.000 tonnes and national crushing capacity exceeding national crop potential.

## Standards

The majority of biofuels sold in the UK are sold under the form of blend, mainly at or below the 5% level fixed by the European standard.

## Research and Development

An assessment "Liquid biofuels and hydrogen from renewable resources in the UK in 2050: a technical analysis" was published in 2004, weighing the costs and benefits of producing renewable hydrogen exclusively for the transport sector in the long term.
A number of projects on the development of advanced production methods for biofuels have been supported by the Government, including:

- Work of the Low CVP (A partnership of automotive and fuel companies, government, academia, environment groups and other stakeholders, set up to accelerate the shift to clean low carbon vehicles and fuels in the UK) on the development of a methodology for calculating the carbon intensity of fuels
- Work of the Low CVP on the development of an environmental standard for biofuel
- *'Technology Status review and carbon Abatement Potential for Renewable Transport Fuels in the UK'* - carried out by Imperial College of Science, Technology and Medicine
- *'Hyperthermophilic Proteolytic Fermentation to Generate Ethanol as a Transport Fuel'*, being carried out by BLC Leather Technology Centre Ltd.
- *'Lipase Alcoholysis of Triglycerides to Produce Biodiesel'* also being carried out by BLC Leather Technology Centre Ltd.
- *'Biofuel production from plant biomass derived sugar'*, being carried out by TMO Biotec Ltd
- *UK carbon reduction potential from technologies in the transport sector,* being carried out by E4Tech.