

# ***IEE Project ‘Carbon Labelling’***

## ***Minutes of the 2<sup>nd</sup> Carbon Labelling Workshop***

***20 May 2008, Ljubljana, Slovenia***



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Workshop Venue: **Center Evropa**  
**Dalmatinova 4**  
**Ljubljana**  
<http://www.center-evropa.si>

## Introduction

The Carbon Labelling workshop on “Biodiesel and other Biofuels for new EU Member States” took place in Ljubljana, Slovenia, on 20 May 2008 in the framework of the Carbon Labelling project which is supported by the European Commission under the Intelligent Energy for Europe programme. The workshop was organised by WIP Renewable Energies, Germany in cooperation with the Slovenian Energy Restructuring Agency (ApE).

The workshop was opened by Franko Nemas, Director of ApE, and Dr Rainer Janssen (WIP) who welcomed the participants. 43 participants, mainly key stakeholders from industry and policy sector, attended the workshop.

The main objective of this workshop was to inform stakeholders in Slovenia about biofuels and more specifically about biodiesel as sustainable and efficient transport fuel. This included biodiesel production, legal issues, policies, GHG calculation models, and environmental impacts. In total, 14 presentations were given by biofuel experts.

All presentations are available on the Carbon Labelling website [www.co2star.eu](http://www.co2star.eu).

### 1. Carbon Labelling - The Concept

#### ***Dominik Rutz, WIP Renewable Energies, Germany***

In the first session Dominik Rutz, WIP Renewable Energies ([www.wip-munich.de](http://www.wip-munich.de)), Germany, presented the concept of the Carbon Labelling project ([www.co2star.eu](http://www.co2star.eu)) including its objectives and first results.



The Carbon Labelling project (<http://www.co2star.eu>; EIE/06/015), coordinated by WIP Renewable Energies (Germany), is supported by the European Commission under the Intelligent Energy – Europe programme (October 2006 to September 2008).

Dominik Rutz gave an introduction on the current discussion on opportunities for reducing carbon dioxide emissions in the transport sector in order to meet European greenhouse gas reduction targets. The European Commission wants car manufacturers to cut average new car emissions of carbon dioxide to 130g CO<sub>2</sub>/km by 2012, 18% lower than 2005 levels. Improvements in motor technology would have to reduce average emissions to 130g CO<sub>2</sub>/km, while complementary measures would contribute a further emissions cut of up to 10g CO<sub>2</sub>/km, thus reducing overall emissions to 120g CO<sub>2</sub>/km. These complementary measures include efficiency improvements for car components, such as tyres and air conditioning systems, and a gradual reduction in the carbon content of road fuels, notably through larger use of biofuels.

One opportunity to support CO<sub>2</sub> emission reductions in the transport sector is to inform consumers about the CO<sub>2</sub> reduction potential of biofuels when compared to fossil fuels. This approach is encouraged by the Carbon Labelling project. The aim is to create and implement a European label for CO<sub>2</sub> reductions through biodiesel and fuel efficiency measures.

The Carbon Labelling project implements several labelling initiatives in Europe focussing on products and services with low CO<sub>2</sub> emissions. The project promotes biodiesel, fuel efficiency improvements and ‘low carbon’ freight services. All initiatives of the Carbon Labelling project contribute to improve information and education of fuel consumers, freight customers, and farmers. This first European carbon labelling initiative helps meeting greenhouse gas reduction targets of

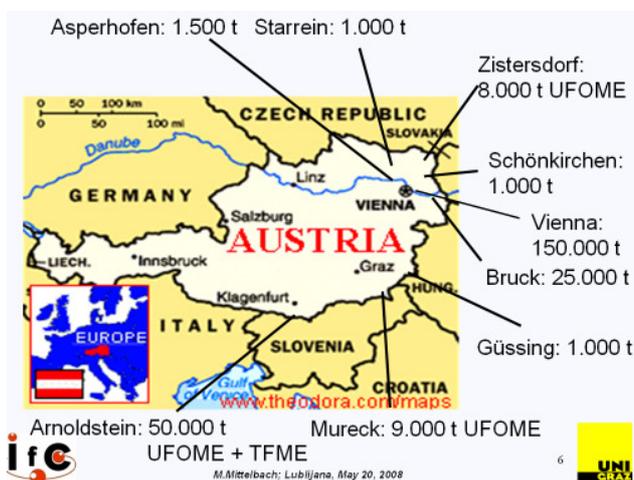
the European Union, reduces petroleum dependence and helps to combat climate change. Carbon labelling also supports and promotes biodiesel in new and smaller EU member states like Malta and Slovenia.

## 2. Biodiesel Technology - Current Production Methods

### *Martin Mittelbach, University of Graz, Austria*

Prof. Martin Mittelbach, University of Graz ([www.uni-graz.at/nawaro](http://www.uni-graz.at/nawaro)), Austria, gave an update about biodiesel technologies and current production methodologies. He presented the development of the biodiesel market in Austria which has the target to produce 580 000 t of biofuels in 2008.

In order to supply the growing European biodiesel markets, a diversification of new feedstock sources is needed: palm, soybean, sunflower, cuphea, crambe, jatropha, castor, yeast, funghi, algae, used frying oil, animal fat and other waste oils. In Austria first experiments with Used Frying Oil started in 1983. Currently, all 150 City Buses in Graz are running with 100 % Biodiesel from Used Frying Oil. This initiative was awarded with the World Climate Star in 2002 and with the Osmose Award in 2006.



Research on biodiesel conversion technologies has increased drastically in the last years. This is represented by the increased number of patents and publications on biodiesel. In general, biodiesel production can be divided into single and multi feedstock technologies. Depending on the feedstock source, so far either homogenous catalysts can be used for transesterification or acidic catalysts for esterification. Two new trends in using catalysts were presented: heterogeneous catalysts and enzymes as catalysts.

## 3. Labelling Initiatives and Results from Q1 in Germany

### *Sven Bürkner, Q1, Germany*

Sven Bürkner, Q1 ([www.q1.eu](http://www.q1.eu)), Germany, presented encouraging results from the introduction of the CO<sub>2</sub>Star label at Q1 filling stations in Germany.

Biodiesel was exempted from fuel taxes in Germany, but in August 2006 the German government introduced taxes for biodiesel which will be successively increased until the full fuel tax will be applied in 2012. Due to the increased taxation of B100 the sale of biodiesel decreased drastically from January to April 2008. Due to the high prices of fossil fuels in the last days, the gap between fossil diesel and biodiesel increased again and biodiesel becomes interesting again.

Q1 launched the CO<sub>2</sub>Star Label initiative in July 2007 in order to promote biodiesel at its filling stations. The promotion material included flyers, banners, T-shirts, posters, pump signs and stickers. Together with the Carbon Labelling Advisory Board and the Ifeu Institute, Germany, the CO<sub>2</sub> reduction potential of B100 was discussed. Based on the results of this discussion, Q1

promotes 60% CO<sub>2</sub> reduction for B100 (from rapeseed, produced in Germany) in comparison to fossil diesel.

In order to assess the impact of the CO<sub>2</sub>Star labelling initiative, Q1 implemented an on-site consumer survey at its filling stations. The following conclusions were presented:

- The price of fuels is of utmost importance for fuel clients (especially among biodiesel clients)
- There is a basic mindset pro climate protection
- The personal commitment for climate protection is limited by a lack of willingness to pay more for environmentally friendly fuels
- There is a great confusion about the pros and cons of bio fuels



#### 4. European Perspective - Current and Future EU Policy on Biofuels

##### *Rainer Janssen, WIP Renewable Energies, Germany*

Rainer Janssen, WIP Renewable Energies ([www.wip-munich.de](http://www.wip-munich.de)), Germany, gave a presentation on current and future European policies on biofuels.

The current energy policy in the European Union is based on three challenges: reducing climate change, ensuring security of supply and supporting a competitive EU economy. The following targets and objectives can be summarised:

- Reducing GHG emissions by 20% by 2020 compared to 1990
- Improving Energy Efficiency by 20% by 2020
- Raising the share of RE to 20% by 2020
- Increasing the level of Biofuels in transport to 10% by 2020
- National Action Plans (Energy mix decided by MS)

In order to achieve targets in the transport sector, the European Biofuels Directive was introduced in May 2003: “Directive on the promotion of the use of biofuels or other renewable fuels for transport (2003/30/EG)”. This constitutes the legislative framework for Member States to promote biofuels (e.g. tax exemption, biofuel obligations) and has included the indicative targets of 2% biofuels by 2005 and 5.75% biofuels by 2010. Thereby, the Directive allows Member States to set

their own indicative targets and to develop national policies and measures (technical, financial, social choices).

This Biofuels Directive is currently under review and a Draft Directive “on the promotion of the use of energy from renewable sources” was proposed by the European Commission. This Draft Directive is currently under discussion by the European Parliament and the Member States. The need to review the Biofuels Directive was also highlighted by the Biofuels Progress Report (Jan. 2007) which showed that the target of 2% biofuels by 2005 was failed and only 1% biofuels were achieved in the European Union.

The following summary about the European biofuels policy can be concluded:

- The new EU Energy Policy includes a target for biofuels in transport of 10% in 2020
- Based on the Biofuels Progress Report the Draft Directive “on the promotion of the use of energy from renewable sources” (January 2008) (a) sets a binding target of 10% by 2020 and (b) encourages biofuels with good environmental performance
- Carbon Labelling Initiatives may significantly contribute to achieving EU biofuel targets

## **5. Possibilities of decentralised pure plant oil production for biodiesel in Slovenia**

### ***Dr. Viktor Jejčič, Agricultural Institute of Slovenia***

Dr. Viktor Jejčič from the Agricultural Institute of Slovenia started his presentation with a overview about different opportunities for using pure plant oil (PPO) (using pure oil directly in engines, conversion to biodiesel and blending, mixing pure oil with fossil diesel). He also summarised general advantages of biodiesel and PPO, and described some of them in detail:

- Biodiesel reduces greenhouse gas emissions
- PPO is biodegradable – it reduces the risk of water pollution in the case of fuel spillage. This is an important advantage for agricultural vehicles which are used on the fields.
- PPO production improves supply of protein feeds. Animal production in Slovenia depends almost entirely on imported oilseed meals and cakes, mainly of soybean meal from America. Rapeseed cakes and meals may replace a part of imported protein fodder.
- PPO improves the quality of animal products if the animals are fed on rapeseed cake. Rapeseed cake in diets for domestic animals may alter fatty acid composition of animal products (increased level of polyunsaturated fatty acids) which is beneficial for human health (reducing coronary diseases).
- PPO improves security in fuel supply

Furthermore, PPO production improves crop rotation. Slovenia has the highest proportion of maize in crop rotation in Europe. Before 2003, the share of oil plants has been less than 2% in the field crop rotation in Slovenia.

Dr. Viktor Jejčič defines “decentralised oil production” as pure plant oil production in decentralized smaller production units (on farm or close to farms) pressing up to 5 t of rapeseed per day. Decentralised production units can operate economically and environmental friendly, if their

technical equipment and working process are as simple as possible and they use as little energy as possible.

The picture on the right side shows an experimental press for decentralised production of rapeseed oil which was developed at the Department of Agricultural Engineering – Agricultural Institute of Slovenia. This Department is also testing PPO and biodiesel for tractors (e.g. Slovenian tractor Agromehanika AGT 835) in its laboratories.



Finally, Dr. Viktor Jejčič summarised the present situation for PPO and biodiesel production in Slovenia:

- In 2007 rape seed was growing on 5 208 ha (source of data SURS)
- Average rapeseed yield in 2007 was 3.2 t/ha (year before only 1,8 t/ha)
- The potential land available for growing rape seed in Slovenia is 15 000 – 20 000 ha
- The production of PPO in 2007 was approximately 8 000 t
- There exist only few micro pure plant oil producers
- There exists one small pilot plant for pure plant oil
- 5 to 10 mini and medium plants for pure plant oil on farms are in construction

## 6. Introduction of the EU Biofuel Directive – PETROL's Experience

### ***Marta Svoljšak, Petrol d.d., Slovenia***

Marta Svoljšak, Petrol d.d., Slovenia, gave a brief introduction on the activities of Petrol ([www.petrol.si](http://www.petrol.si)). Petrol is the leading Slovenian energy company and the principal strategic supplier of oil and other energy products to the Slovenian market. Through an extensive distribution network of proprietary service stations, Petrol offer a broad range of automotive goods and services and a wide selection of household and food products and other merchandise. The core area of operations of the Petrol Group is oil trading activities. Petrol's principal competitive advantage over potential competitors is its extensive network of 348 modern service stations in Slovenia and abroad. The principal development direction of the Petrol Group is the introduction of new energy activities, in particular the sale of gas, heat and electricity, but in the long run also renewable energy sources.

Furthermore, Marta Svoljšak gave an overview about current European policies on biofuels and summarised the EU Directive 2003/30/EC on the Promotion of the Use of Biofuels or Other Renewable Fuels for Transport.

In order to meet the European biofuel targets, Petrol decided to add 5% biodiesel to fossil diesel (B5), in accordance with the EN 590 standard for diesel. Thereby, biofuels are blended through in-line devices in Petrol's main storage depots (see picture). Furthermore, Petrol decided to add up to 5% bioethanol (E5) in accordance with the EN 228 standard for gasoline (petrol).

Petrol detected several difficulties for the introduction of blended fuels. The most important barriers are the expensive preparation of tanks and blending devices, demanding organisation of logistic routes, and difficulties to get suitable high quality biofuels. Thus, Petrol gradually introduced

regular blending procedures and sale of biodiesel (B5 blend) at storage depots and service stations in three phases:



- 1st phase: blending of B5 in the Zalog storage depot (2004/05)
- 2nd phase: blending of B5 in the Zalog and Rače storage depots (2005/06)
- 3rd phase: blending of B5 in all storage depots (2007/08) – Zalog, Rače and Sermin

Finally Marta Svoltjšak summarised the current situation of the Slovenian biodiesel market and Petrol's biofuel programme:

- A new Regulation on Biofuel will be adopted soon
- New production capacities are planned (Pinus, Nafta Lendava)
- Options are studied for the introduction of other alternative fuels (presently only at the initiative and consultation level)
  - Currently approximately 20% of all PETROL's service stations have included B5 pumps. They are under additional control and monitoring.
- No problems or complications noticed for B5 blending
- Gradual inclusion of additional service stations in the B5 system
- Currently one service station is selling B100
- Options are studied for the inclusion of additional service stations into the B100 system
- One major buyer of B100 is LPP (Ljubljana Public Transport) (20 buses)
- Activities for the promotion of B100 sales (particularly to major customers) are ongoing

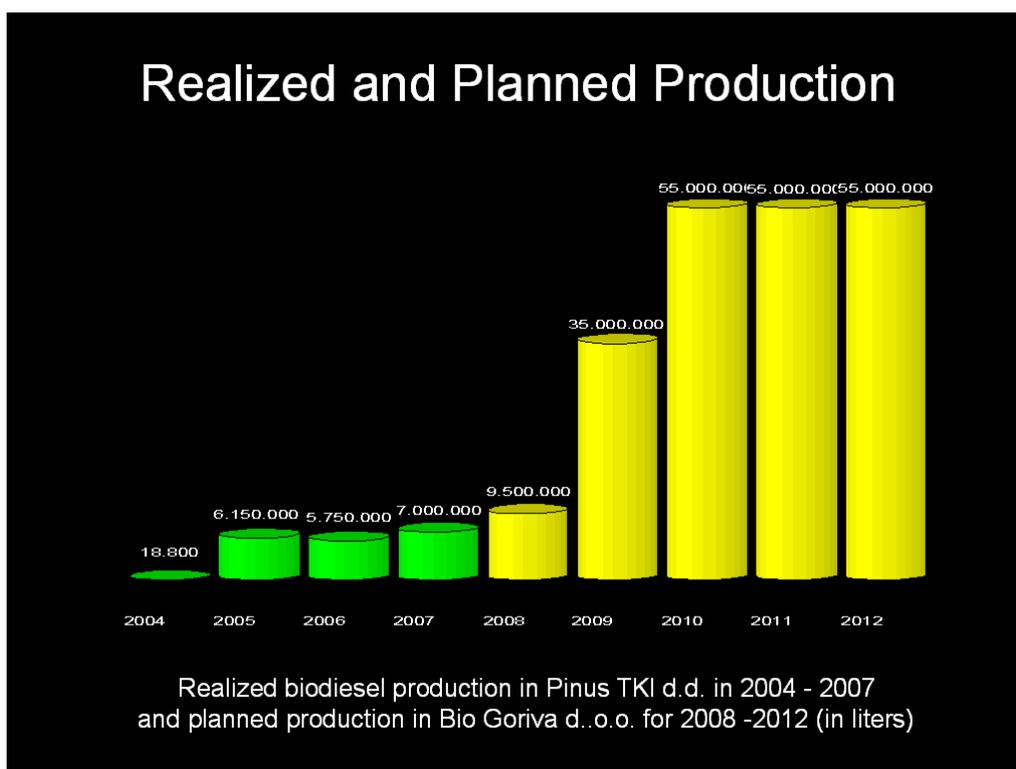


## 7. Production of biodiesel in PINUS TKI d.d. and BIO GORIVA d.o.o.

### *Damjana Mataž, Pinus TKI d.d. and Bio Goriva d.o.o., Slovenia*

Damjana Mataž from Bio Goriva d.o.o., Slovenia, gave a presentation about biodiesel production in Slovenia. Bio Goriva is a joint venture between Pinus TKI d.d. and PetroPinus started its biodiesel activity in 2004 with first lab-scale pilot plants. The process and the pilot plants were continuously upgraded and currently Pinus is using a batch production process. This process is suitable for smaller biodiesel production plants up to 30 000 t/y and has various advantages especially for research activities. Damjana Mataž presented the following characteristics of a batch process:

- Suitable when product variations are required for different markets
- Suitable for smaller biodiesel production plants up to ca. 30 000 t/y
- Good possibility to optimize process parameters of every batch
- Good flexibility to tune process to multifeedstock variations
- Possibility for quick process upgrade to optimized technical solutions
- Good overview and tracking of process parameters for each separate batch
- Optimizing mass balances, reaction temperatures, reaction times
- Optimizing usage of different catalysts, technological processes to decrease content of free fatty acids and water in vegetable oils
- Optimizing decreasing content of phosphorous in vegetable oils (degumming)
- Optimizing raw materials recycling, different separation processes and filtration processes
- Optimizing additives for biodiesel



Pinus will use continuous production processes for future biodiesel plants. This process has the following characteristics:

- Suitable where quality and quantity are important
- Multifeed stock possibilities
- Suitable for production plants with higher capacity

- Low parameter fluctuation in production process
- Good utilization of production equipment in real time
- Low maintenance costs
- High-volume separation systems which increase throughput
- Less labour required
- No production stops

Bio Goriva's biodiesel plants will be constructed by Desmet Ballestra Oleo S.p.a. which has realised over 50 plants worldwide. The first plant will be positioned in Rače.



The preferred feedstock for the new plant will be rape seed. Pinus has long-term experience in production and logistics of oil seed production since it is an integral business part of Pinus. Pinus has long term experience in plant protection business, excellent relationships and partnerships with agricultural producers and farmers, highly trained field advisers (agronomists) for best field yields, wholly owned companies in Croatia, Bosnia and Serbia, partnerships in other oil seed rape producing countries, and finally established relationships with partners for seed processing (siloses, oil pressing plants). In 2007 Pinus managed approx. 85% of whole rape seed production in Slovenia. In 2008 rape seed production areas are expected to be reduced by 15% and the total production area will be around 4 500 ha. The maximum area for rape seed production in Slovenia are estimated 15 000 ha.

## 8. Integrated Promotion of the Biodiesel Chain

**Prof. Dr. Miran Lakota, Faculty of Agriculture, University of Maribor**

Prof. Dr. Miran Lakota, University of Maribor, Slovenia, gave a presentation about the PROBIO project ([www.probio-project.com](http://www.probio-project.com)) which is supported by the European Commission in the Intelligent Energy for Europe Programme. The main objective of PROBIO is to support the close linking of production and consumption in the biodiesel supply chain in EU countries. The main output of PROBIO which is coordinated by the Agencia Provincial de la Energía de Burgos, Spain is:



- understanding of the local, legal and market situation and the barriers,
- understanding of the main weaknesses of the current collection practices of waste cooking oil networks, analyzing the best practices to be implemented in other countries,
- knowledge about different cultivation ways and different plants to produce biodiesel,
- meeting the current training needs in the biodiesel market and showing the energy crops as an interesting alternative,
- establishment of a confident market and sufficient legal incentives
- increase in biodiesel consumption,

- rise of awareness level,
- to be a reference for the other European countries.

Furthermore, PROBIO tries to improve knowledge and information among farmers and to overcome the lack of awareness of the general public, local authorities and sectors related to transport about biodiesel use.

More specifically, PROBIO promotes new innovative market initiatives among local authorities, producers, distributors and consumers. Farmers are taught how to cultivate energy crops which are not very common in the participating regions yet. Finally, a strong awareness campaign to inform important stakeholders is planned.

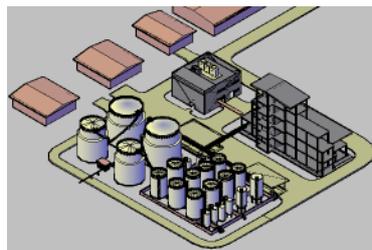
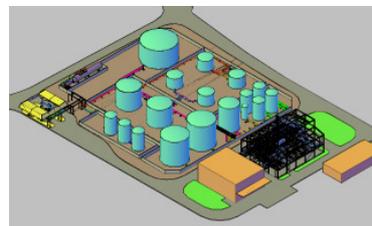
## 9. Role of local engineers in erection of biodiesel plants in Slovenia

### *Miha Novak Kač, Genera d.o.o.*

Miha Novak Kač presented Genera d.o.o, Slovenia, and the role of local engineers for the construction of new biodiesel plants in Slovenia.

Genera is specialised in engineering and equipment selling, and provides solutions in the fields of energy (heating, cooling, air-conditioning), process automation, and water and wastewater treatment. The vision of Genera ([www.genera.si](http://www.genera.si)) is to become the leading Slovenian and international enterprise for total technical solutions in the fields of energy and ecology and to make a successful market breakthrough for new technologies. Genera has a wide selection of experts from different fields and it provides solutions from start to finish of the project.

Currently, Genera has two on-going projects for biodiesel plants. For the implementation of these plants, Genera is faced by four major challenges. Firstly, Genera has to gain trust from suppliers of technology. Therefore Genera assures all partners total confidentiality. Secondly, Genera has to agree with the technology supplier on what is needed at each design phase according to Slovenian legislation. Especially the basic design and documentation for building permit are critical issues. Thirdly, a major challenge is also to adjust the time schedule with investors and suppliers of the technology. Finally, consent statements from authorities such as the Ministry of the Environment and Spatial Planning (water, environment and nature agency) have to be acquired.



In order to plan and implement the biodiesel plants, Genera employs an interdisciplinary team of leading engineers in the field of mechanical engineering, electrical engineering, civil constructions, architecture, and technology, as well as experts for environmental studies, underground water contamination, geomechanical research, fire protection, and hazardous risks.

In conclusion, Miha Novak Kač summarised that on the one side investors in Slovenia have chosen technology suppliers from abroad, who have modern technology and numerous references. On the other side, local partners and engineers are needed for designing auxiliary objects and equipment, local licenses, translation and notification, knowledge of local regulations and requirements, and for project coordination during the construction phase. It is vital to form an experienced team of engineers from various fields of expertise.

### 10. Project Su:Gre Sustainable Green Fleets

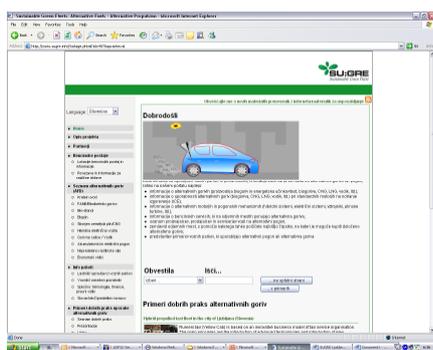
**Eva Stare, Alianta d.o.o., Slovenia**

Eva Stare from Alianta d.o.o., Slovenia, presented the Su:Gre project ([www.greenfleet.info](http://www.greenfleet.info)) which is supported by the European Commission in the Intelligent Energy for Europe Programme.



The Su:Gre involves 27 partners from 17 European countries and promotes alternative fuels and propulsion among fleet owners and managers. The main activities

are communication, training and know-how exchange. The consortium developed an information platform [www.greenfleet.info](http://www.greenfleet.info) which is translated into 17 languages. The platform provides information about alternative fuels and propulsion and includes a map of fuel stations for alternative fuels. Fleet owners have access to a decision support tool. All participants were kindly invited to visit the information platform.



Furthermore, Eva Stare presented some best practice examples of green fleets in Sweden, Spain, The Netherlands, Iceland, Greece, and Germany.

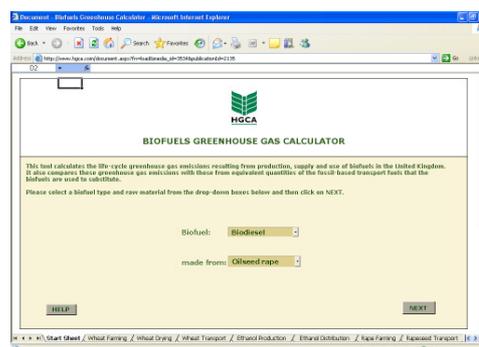
### 11. Biofuels in the UK: Policy, markets and sustainability

**Richard Safford, Home Grown Cereals Authority, UK**

Richard Safford, Home Grown Cereals Authority ([www.hgca.com](http://www.hgca.com)), UK, gave a presentation as a representative of farmers about policy, markets and sustainability of biofuels in the UK.

In the UK, the Renewable Transport Fuel Obligation (RTFO) aims to encourage supply of biofuels from sustainable sources to effectively contribute to reduce GHG emissions. Objective of this obligation is that 5% (volume) of all UK fuel sold on UK forecourts is renewable by 2010. Furthermore, the RTFO aims to reduce carbon emissions until 2010 by 0.75 million tonnes per year, which is equivalent to the removal of 750 000 cars from the road. Introducing biodiesel in the UK is very ambitious since currently only 0.70% of total road fuel (Oct 2007) are biofuels. However, production plants are planned and constructed and the estimated production capacity for biodiesel is 2 Mio t per year and 0.15 Mio t bioethanol in 2011. These targets are supported by the European Commission which confirmed 0% set-aside farmland rate for 2008 allowing farmers to grow more crops.

All fuel suppliers in the UK have to meet RTFO obligation targets. The RTFO was launched on 1 April 2008. From this date all biofuels are rewarded, but carbon and sustainability reporting is required in order to receive Renewable Transport Fuel Certificates (RTFCs). The challenge is to define sustainability criteria and to assess GHG savings since they vary significantly depending on the system of cultivation, processing and transportation of feedstock. Therefore, Imperial College and HGCA developed a GHG calculator for biofuels which was briefly presented. The plan after April 2010 is to reward only biofuels under the RTFO which guarantee minimum carbon savings. After April 2011 biofuels have to meet appropriate sustainability standards.

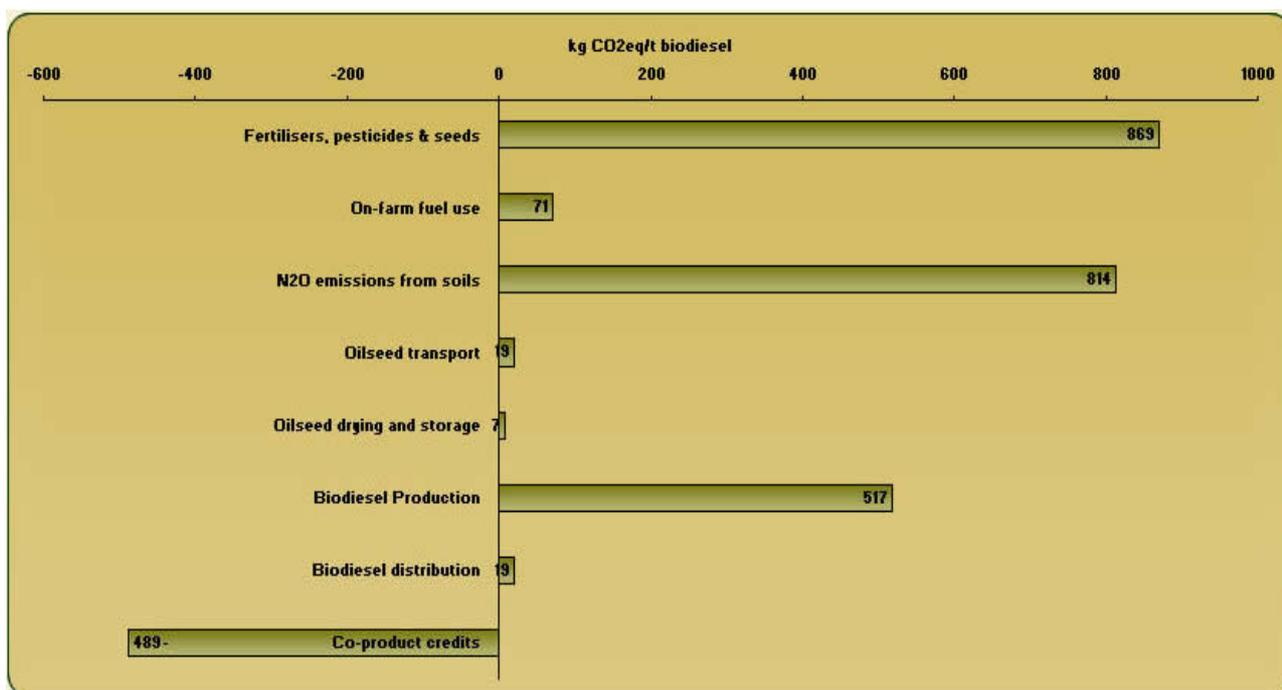


The RTFO proposes the following indicative targets for fuel suppliers for annual reduction of GHG emissions for biofuel supplied:

- 2008-2009 40%
- 2009-2010 50%
- 2010-2011 60%

Currently, the draft EU renewable energy directive set minimum GHG emission savings of 35%.

The main factors influencing GHG emissions during the whole life cycle of biofuels are fertilisers, pesticides and seeds, followed by N<sub>2</sub>O emissions from soils.



Finally, the following conclusions were given:

- Fuel security, fossil fuel prices and GHG savings are driving the global biofuels market
- Europe is the leader of global biodiesel production
- The UK biofuel targets were published in April 2008 (RTFO)
- There are currently many biofuel plants planned in the UK
- Zero set-aside allows farmers to increase crop yields and to reduce crop prices
- Domestic feedstock is preferred, but imported biofuels/feedstocks are required in the future
- The RTFO promotes carbon savings and sustainable biofuel production
- Farmers will have new market opportunities due to feedstock production

## 12. GHG calculation models and the Dutch Freight Labelling Initiative

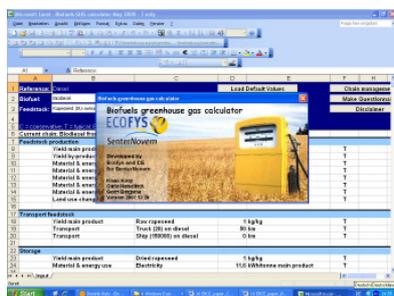
**Yvonne Boerakker, Senter Novem, The Netherlands**

Yvonne Boerakker, Senter Novem ([www.senternovem.nl](http://www.senternovem.nl)), The Netherlands, gave an overview about the pilot carbon labelling initiative for freight services in The Netherlands. Furthermore she presented the Dutch Greenhouse gas (GHG) calculation model.

The objective of the pilot labelling initiative in The Netherlands is to implement the CO<sub>2</sub>Star label on 40 trucks using B30 and thereby to promote freight services as low carbon services. This pilot programme is included in the project 'Green products, green transport' ('Schoon Vervoerd').



The 'Green products, green transport' project is an initiative of a powerful consortium with several leading Dutch parties in production, trade and distribution of horticultural products such as flowers, plants, vegetables, and fruits. The parties involved are: Innovation network, Trade organisation horticulture, the Dutch Agricultural Wholesale Board/ Flowers and Plants, leading freight companies transporting horticultural products, several Dutch auctions, and the Rabobank. This project aims to improve the green and sustainable image of the horticultural sector in the Netherlands through contributing to the reduction of CO<sub>2</sub> emissions and the start-up of the market for pure biofuels.



In the second part of the speech, Yvonne Boerakker presented the Dutch GHG calculation model. The GHG calculator allows to report CO<sub>2</sub> emissions as part of sustainability reporting within the biofuels obligation scheme. With this calculator well-to-wheel GHG emissions (CO<sub>2</sub>, CH<sub>4</sub>, N<sub>2</sub>O) can be calculated for e.g. biodiesel use from different feedstocks and origins. The CO<sub>2</sub> calculation tool, which was developed by Senter Novem and Ecofys, is a compromise between a scientifically correct and detailed life cycle analysis, and an easy-to-use policy instrument.

## 13. Biofuels in smaller EU member countries such as Malta

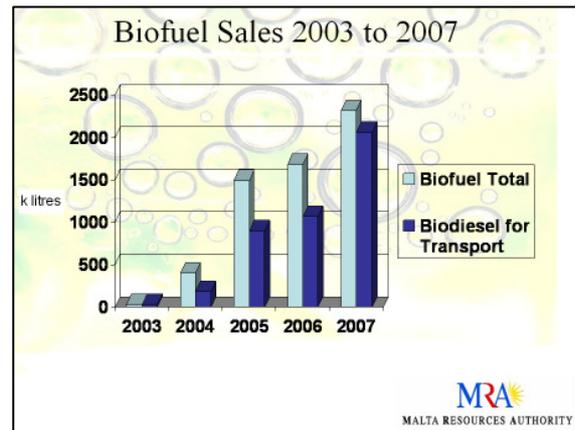
**Charles Buttigieg, Malta Resources Authority, Malta**

Charles Buttigieg, Malta Resources Authority ([www.mra.org.mt](http://www.mra.org.mt)), gave an overview about the biodiesel market in Malta.

The current legislation which is in force in Malta is based on the European Biofuels Directive "Directive 2003/30/EC on the promotion of the use of biofuels or other renewable fuels for transport". This Directive is implemented in Malta in L.N. 528 of 2004. The Maltese fuel market is currently liberalized which is a result of L.N. 278. of 2007 "Petroleum for the inland (wholesale) fuel market regulations". Regulation 33 allows authorised providers to blend any petroleum product which is wholesaled in the inland fuel market with biofuels. The percentage of biofuels shall not exceed specifications in any European directives. The target of Directive 2003/30/EC is a market share of 5.75% biofuels in 2010. This is a non-binding target and each country has to set its own indicative target. The target for 2020 is binding and includes 10% biofuels market share. After taking into consideration the amount of biodiesel produced during the last three years and after noting the annual increase in consumption, the national indicative target for Malta for 2010 is 1.25%.

Currently Malta's consumption of biofuel consists exclusively of biodiesel. In 2007 the biodiesel consumption in Malta was approximately 2 317 000 litres. 2 059 000 litres were consumed in the transport sector. Biodiesel accounted for 1.08% (based on energy content) of total Petrol and Diesel used for road transport in 2007. Biodiesel is retailed as pure biodiesel (B100) at about 50% of Malta's 84 petrol stations.

However, there are severe obstacles to be overcome. In Malta, there is limited availability of arable land and water resources for growing energy crops. Thus, feedstock or biofuels have to be either imported or processed from locally available waste materials. There are limitations in storage capacities which compete with oil storage infrastructures for petroleum products. Furthermore, in Malta economies of scale are limited and there exists a lack of knowledge about biofuels. Finally, in Malta biofuels are object of competing sectors since they are used for industrial use, heating, transport, and other purposes.



## Agenda

- 08.45 – 09.00      **Registration**
- 09.00 – 09.10      **Opening Keynote**
- First Session**      **Chairperson Franko Nemac, ApE, Slovenia**
- 09.15 – 09.30      **Carbon Labelling - The Concept**  
*Dipl.-Ing. Dominik Rutz, WIP*
- 09.30 - 09.50      **Biodiesel Technology - Current Production Methods**  
*Prof. Martin Mittelbach, University of Graz*
- 09.50 – 10.10      **Labelling Initiatives and Results from Q1 in Germany**  
*Sven Bürkner, Q1*
- 10.10 – 10.30      **European Perspective - Current and Future EU Policy on Biofuels**  
*Dr. Rainer Janssen, WIP*
- 10.30 – 11.00      **Coffee break**
- Second Session**      **Chairperson, Dr. Rainer Janssen, WIP**
- 11.00 – 11.20      **Possibilities of decentralised pure plant oil production for biodiesel in Slovenia**  
*Dr. Viktor Ježič, Agricultural Institute of Slovenia*
- 11.20 – 11.40      **Introduction of the EU Biofuel Directive – PETROL's Experience**  
*Marta Svoljšak, Petrol d.d.*
- 11.40 – 12.00      **Production of biodiesel in PINUS TKI d.d. and BIO GORIVA d.o.o.**  
*Zlatko Partlič, Pinus TKI d.d. and Bio Goriva d.o.o.*
- 12.00 – 12.20      **Integrated Promotion of the Biodiesel Chain**  
*Prof. Dr. Miran Lakota, Faculty of Agriculture, University of Maribor*
- 12.20 – 12.40      **Role of local engineers in erection of biodiesel plants in Slovenia**  
*Miha Novak Kač, Genera d.o.o.*
- 12.40 – 13.00      **Project Su:Gre Sustainable Green Fleets**  
*Eva Stare, Alianta d.o.o.*
- 13.00 – 14.00**      **Refreshments**
- Third Session**      **Chairperson, Sven Bürkner, Q1 Tankstellenvertrieb**
- 14.00 – 14.20      **(Future of Biofuels, Other Biofuels and 2nd Generation Biofuels)**  
*(Bill Wason, Manzoil)*
- 14.20 – 14.40      **Biofuels in the UK: Policy, markets and sustainability**  
*Richard Safford, HGCA*
- 14.40 – 15.00      **GHG calculation models and the Dutch Freight Labelling Initiative**  
*Yvonne Boerakker, Senter Novem*
- 15.00 – 15.20      **Biofuels in smaller EU member countries such as Malta**  
*Ing. Charles Buttigieg, MRA*
- 15.20 – 16.00      **Question Time & Closing**

## Participant List

No	Title	Name	Organisation
1	Fouad	Al Mansouv	Kmetijski inštitut Slovenije
2	Mirko	Bizjak, PhD.	Agencija Republike Slovenije za okolje
3	Yvonne	Boerakker	Senter Novem
4	Ankica	Budan H.	OMV Slovenija, d.o.o.
5	Sven	Bürkner	Q1
6	Charles	Buttigieg	MRA
7	Simon	Čeh	Chemass d.o.o.
8	Marjan	Dolenšek	KGZS - Zavod NM
9	Mojca	Grižon	OMV Slovenija, d.o.o.
10	Aleks	Jan	Ventouria d.o.o.
11	Rainer	Janssen	WIP
12	Viktor	Jejčič	Agricultural institute of Slovenia
13	Toncka	Jesenko	KGZS - Zavod NM
14	Zdravko	Kozinc	Alianta d.o.o.
15	Danilo	Krapec	Regionalna razvojna agencija Mura d.o.o.
16	Tanez	Kurbus	
17	Miran	Lakota	Faculty of agriculture, University of Maribor
18	Nataša	Lambergar	ApE d.o.o.
19	Janez	Lebar	KGZS - Zavod NM
20	Jure	Likar	MOP, Sektor za CPVO
21	Lsavko	Lourečič	Sporting d.o.o.
22	Jernej	Lubej	Druzba Vrbov Log d.o.o., družba za trajnostni razvoj
23	Damjana	Matavž	Bio Goriva d.o.o.
24	Anton	Mihevc	Hocem d.o.o.
25	Martin	Mittelbach	University of Graz
26	Franko	Nemac	ApE d.o.o.
27	Nataša	Nikolić Matanović	Bio Goriva d.o.o.
28	Miha	Novak Kač	Genera d.o.o.
29	Alenka	Ott Saponia	Petrol d.d.
30	Zlatko	Partlič	Pinus TKI d.d. and Bio Goriva d.o.o.
31	Martin	Pavlovič	Inštitut za hmeljarstvo in pivovarstvo Slovenije
32	Vladimir Peter	Plavčak	HSE-PE Maribor
33	Tomaž	Poje	Kmetijski inštitut Slovenije
34	Barbara	Ropoša	Razvojna agencija Sinergija
35	Dominik	Rutz	WIP
36	Richard	Safford	HGCA
37	Eva	Stare	Alianta d.o.o.
38	Uroš	Štorgelj	NAFTNA DRUŽBA HORIZONT d.o.o.
39	Patrik	Šuligoj	
40	Marta	Svoljšak	Petrol d.d.
41	Tanja	Wondra	energetika.net
42	Boštjana	Žajdela	Regional Development Agency Mura, Ltd.
43	Aleš	Zver	