



Biodiesel and Europe

How to recover EU diesel and protein deficit while producing biofuels from waste and residues

European Parliament: room JAN 6Q1

Wednesday June 19th, 18h45 - 20h30

INTRODUCTORY REMARKS:

Ms Amalia **SARTORI**

MEP, Chair of the Committee on Industry, Research and Energy

Mr Alejo **VIDAL-QUADRAS**

MEP, Rapporteur for the opinion on the Commission Legislative Proposal on Biofuels and ILUC

Speakers:

Mr Detlef **EVERS**

Board Member EBB, European Biodiesel Board

Mr Claudio **ROCCHIETTA**

Executive Vice-President Oxem

Mr Dickon **POSNETT**

Chair RBO Register on Biofuels Origination

(www.biofuelsregister.eu - *biofuels from waste and residues*)

Dr Martin **MITTELBACH**

Professor Technical University of Graz

Mr Roberto **TOMATIS**

President VCO Trasporti

(Municipality buses - City of Verbania -Italy)

Mr Raffaello **GAROFALO** (*Moderator*)

Secretary General EBB, European Biodiesel Board

A networking cocktail will follow

To confirm your attendance, please communicate your name, surname, ID number and company/organisation affiliation to:

ebb11@ebb-eu.org

EBB

European Biodiesel Board



Biodiesel and Europe

How to recover EU diesel and protein deficit
while producing biofuels from waste and residues

European Parliament: room JAN 6Q1

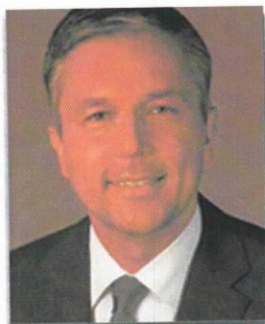
Speakers



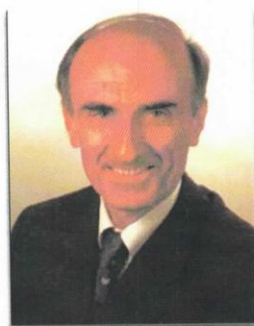
Amalia Sartori is Member of the European Parliament since 1999 and Chair of the Committee on Industry, Research and Energy since January 2012. She has been Member of the Regional Executive of Veneto with responsibility for roads and transport (1985-1990), chair of the international airport of Venice (1986-87), president of Veneto, Emilia Romagna and Piedmont inter-regional board for the management of the Po River - Veneto waterways system (1988-1989), deputy chair of the Regional Executive of Veneto (1990-1993), president of the Regional Council (1995-2000). She drew up the first Regional Transport Plan for Veneto, devised the 'Snow Plan' and the Plan for tourist ports. She launched the special Plan for 'black spots' and major safety campaigns. She has been responsible for major institutional initiatives upholding the interests of women in the institutional, family and social spheres.



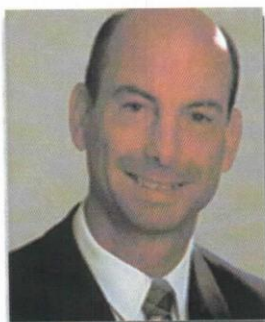
Alejo Vidal-Quadras is a physical scientist – professor at the Autonomous University of Barcelona, as well as politician and author of numerous publications. Engaged in Spanish politics since the eighties (member of Partido Popular), in 1999 he became a Member and Vice-President of the European Parliament. Mr Vidal-Quadras continues to hold numerous top-level positions in the world of academia, as well as regional (namely Catalan), national and European-level politics. Mr Vidal-Quadras is the Rapporteur for Opinion (ITRE) on the Commission Legislative Proposal on Biofuels and ILUC



Detlef Evers started his career with an apprenticeship at Oelmühle Hamburg AG (today ADM) in 1986. He has worked in recent years for the ADM group covering various positions in Germany and Switzerland. From 1995, the focus of his work was in the area of biofuels. Since March 2009, Mr Evers is a member of the board of ADM Hamburg Aktiengesellschaft. In 2008 he was elected Executive Board Member of the European Biodiesel Board. Currently, Mr Evers is Vice-president of VDB (German Association of Biodiesel Producers).



Claudio Rocchietta has more than 30 years of international operational/general management experience in agribusiness and specifically in biofuels in the last 15 years. He founded BFP in July 2005. Mr Rocchietta is shareholder and executive vicepresident of OXEM - the largest biodiesel plant in Italy as well as the CEO of Bim - a newco developing biofuel projects in Romania. He has been the founder and the first President of EBB (European Biodiesel Board), the European Association representing this sector vis à vis the EU Commission; he has been reconfirmed on the Board.



Dickon Posnett After an early career in flying with the Royal Navy, he focused on marketing and developing businesses, bringing public and private sector organisations together and working for regional development in the UK. In 2004 he joined Argent Energy, a 50,000t wastes and residues biodiesel plant in the UK. In 2006 he was seconded to New Zealand to develop biodiesel opportunities before returning to Scotland in 2008. Mr Posnett took over marketing for Argent Energy as well as responsibility for political/legal issues and management of Argent's involvement with regulatory authorities. Mr Posnett chairs the Double-Counting group of the EBB, and has been elected Chairman of the RBO (Register of Biofuels Origination).



Martin Mittelbach commenced his career in the academia in 1978 with a PhD in chemistry at the Karl-Franzens University in Graz. He advanced by combining research and teaching in his discipline with a focus on chemistry and technology in renewable resources and with numerous scientific papers in renowned international journals and publications. Complementing his professional path in the academia he is the owner of more than 10 patents on the field of synthetic organic chemistry and technology of fats and oils (production technology for biodiesel). This connubial relation between education and applied science has been the basis for Mr Mittelbach to extend his professional horizon and activities in different parts of the world, such as Europe, USA, Asia etc. Since 2009 he is the dean of the twin faculty for Natural Science from University Graz and University of Technology, in Graz.



Roberto Tomatis is now serving his second term as President of VCO Trasporti, a public transport company located in Verbania (Piemonte region). During his previous tenure, Mr Tomatis has put in place a procedure aiming at setting up a qualified laboratory destined to study the potential of recovering organic oil from organic urban waste produced within the local province. The study, supported by the Italian Ministry of University and Research, demonstrated the feasibility of this process obtaining high quality organic oil suitable for Greendiesel production.



Raffaello Garofalo was appointed Secretary General of the European Biodiesel Board (EBB) in May 2002. Previously, he worked for four years within FEDIOL, the European Federation of Vegetable Oils Producers, dealing among others, with non-food uses of vegetable oils, which include bio-lubricants, bio-solvents and of course, biodiesel. In 1998 he worked temporarily in the European Commission (DG Agriculture) as well as within the Research Directorate of the European Parliament. After graduating with distinction in Politics in the International Politics Department of the Institut d'Etudes Politiques (Sciences-Po), he obtained a Master's Degree on European Administrative Studies at the College of Europe in Bruges in 1998.

Green Diesel Project

from organic portion of urban waste

Verbania, June 2013



Project commissioned by:

VCOTrasporti - Verbania - Piemonte region - Italy

Project realized by:

Greenlab - Bolzano - Trentino Alto Adige region – Italy

Nanoireservice – Verbania – Piemonte region - Italy

With the technical support of:

Re.Cord - University of Florence - Italy

Object of the research

Understanding the technical and economical possibility of transforming organic waste, from urban waste collection in the province of Verbano Cusio Ossola in the Piemonte region, into Green diesel that could be potentially used as a fuel for VCO Trasporti buses.

This process is done through two stages:

1. From waste into organic oil
2. From organic oil into green diesel

The main focus of this research is on point 1, whereas the second part, from organic oil into green diesel, will be carried out by a traditional refinery production chain as decided by various evaluations.

Summary of the research

The waste collection in the province of Verbano Cusio Ossola is very good: over 65%, from which one part of the waste consists of organic waste (over 12.000 tonnes a year).

The portion of organic urban waste is collected in the Verbano Cusio Ossola via door to door collection. It is then sieved, ground and homogenised so as to make it uniform. From observations and analysis of the organic waste, we have found that it is good quality and there is little presence of contamination substances in it.

Once the organic waste is homogenised, partially dessicated up to 75% of humidity, the treatment of pyrolysis flash begins at a variable temperature between 430 and 500 °C (there have been tests at different temperatures).

From the organic oil obtained from the pyrolysis treatment (with the return of around 30% from the initial weight of the waste) its chemical and energetical components were analysed. The Char obtained from the pyrolysis was also analysed whereas the singas was lost.

The results of the analysis were very interesting, especially the discovery of the quantity of calories it had.

Parallel to the physical and chemical analysis, we evaluated the cost -benefits of the whole process, taking into account the necessity of the green diesel for VCO Trasporti (around 800.000 litres a year) working on two scenarios:

- A. the construction of own treatment system
- B. pre-treatment in loco and provision of a third party system of the pyrolysis

The results from the cost-benefits analysis are certainly very interesting for scenario A. (7 years of return) whereas for scenario B., the economic returns are more long term.

Project development

From the moment the results turned out to be interesting we decided to proceed with the project of the production of organic oil looking into different directions at the same time:

1. Look for an industrial or financial partner

2. Refine the technical aspects

The technical aspects concern the perfection of the characteristics of the organic oil produced through laboratory tests onto a semi industrial scale of experimental machines used abroad.

We can then evaluate the grade of hydrogenation of the organic oil so we can understand if, once it is produced via pyrolysis, it needs to be hydrogenated again before refining.

This way, it will be possible to optimize the whole process of the collection of organic urban waste to organic oil, giving particular attention to the pyrolysis to understand if it would be possible to further increase the return from the already positive data discovered from the 2012 study.

It will be also interesting to understand the possibility to use as additive of the organic waste the organic oil coming from crops of oily plants growing in marginal soil always in Verbano Cusio Ossola and from coffee waste or vegetable used oil.

Lastly this part of the study includes the refining of some quantity of the organic oil so that Green diesel can be produced and tested on VCO Trasporti buses and compared it to traditional diesel.

3. Aspects of the system

Once the size of the system is defined (made to treat between 12 and 15.000 tonnes a year of organic urban waste) this will be evaluated in terms of engineering and technically all the components necessary for its functioning and arrange a project to maximize the system: from the pre-treatment to the pyrolysis to the stock of the organic oil

4. Economic aspects

In order to complete the study of feasibility it is necessary to evaluate the economic aspects.

In particular:

- A new cost-benefit analysis based on a correct size of the system.
- Economic assessment of the investment business plan.
- Evaluation of aspects linked to the value of the organic oil derived from organic urban waste, in relation to the one derived from crops. It is important to emphasize this point as today, in terms of carbon dioxide, the EU values double the organic oil produced from waste than the one derived from vegetables.

5. Authorization aspects

Agreed with local institutions, there is already a study in place which is looking at the possibility of starting a procedure of authorization for the system, taking into account the innovative process and the lack of benchmark at a national level. We count on having next year a temporary road map for the realization of this system.

6. From organic oil to green diesel

In the next few months the contacts with some national and international players of oil refining located nearest to the system in order to have a minimal footprint for transportation of the organic oil. This will intensify in order to define the technical and contractual modalities of the sale and refining of the organic oil.

Contacts

VCO TRASPORTI srl

via Olanda n. 55 –

Verbania - Italy

Phone +39.0323.518711 -

segreteria@vcotrasporti.it

roberto.tomatis@vcotrasporti.it

emilio.conti@emilioconti.it