European Biofuels Technology Platform: Fourth Stakeholder Plenary Meeting

Speakers: CVs & Abstracts

WELCOME & KEYNOTE ADDRESS

Lars Hansen

Chair of Steering Committee, European Biofuels Technology Platform, Novozymes

Lars is President of Novozymes Europe, since August 2009. From March 2010 he has been a member of the board of Europa Bio (the European biotech business association), and since January 2011 has been chairman of the European Biofuels Technology Platform. He holds a M.Sc. in Chemical Engineering from the Technical University of Denmark, a M.A. in Journalism from NYU, and a B.A. in Foreign Trade from Copenhagen Business School. Hansen joined Novozymes in 1990. After various positions in the Danish Headquarters, including Executive Assistant to the CEO, he has since gained 12+ years of international experience from leadership assignments as Sales and Marketing Director in China, Managing Director for Southeast Asia and India (based in Malaysia), President of Novozymes Japan, and President of Novozymes North America.

OVERVIEW ON CURRENT AND PREDICTED STATUS OF BIOFUELS

Moderator: Henrik Erämetsä

Member of Steering Committee, European Biofuels Technology Platform, Neste Oil

Henrik Erämetsä (M.Sc. in Mechanical Engineering) is Manager, Strategic Development, at Neste Oil. Neste Oil is a leading North European refiner with two oil refineries in Finland and a number of factories and operations in EU and abroad. The company is known for its innovative product development. Henrik has more than 30 years of experience from engineering, energy, service and oil industries, where he has worked in various positions in marketing, sales, development and strategy - both in Finland and abroad. Henrik is a member of the EBTP Steering Committee, EIBI Team, EIBI Coordination Group and EIBI Aviation WG.

Raffaele Liberali

European Commission, DG Research, Director of Directorate K – Energy

Raffaele Liberali was born and educated in Rome, where he obtained a Masters degree in Mechanical Engineering. After working in industry, he joined the European Commission in 1978, where he first worked as Scientific officer in Directorate-General Energy. He subsequently worked in Directorates-General Credit and Investments, Personnel and Administration, and, since 1996, Directorate-General Research. In October 2006, he was appointed Director for Energy within the Directorate-General Research, where he is in charge of the implementation of the Non-Nuclear Energy priority of the 7th Framework Programme. In January 2011 his responsibility was expanded to cover also Nuclear Energy under the Euratom 7th Framework Programme, including the ITER project. Mr Liberali is also in charge of the definition of political priorities and coordination with Member States and research/industrial stakeholders in the field of energy technologies, including the conception and implementation of the SET-Plan. This work is carried out in close cooperation with Directorate-General Energy.

From R&D to Innovation to boost the development of advanced biofuels

The Strategic Energy Technology Plan (SET-Plan) has been developed as the "technology pillar" of the climate and energy package, which embraces a number of complementary policy initiatives on market regulation, prices, standards etc. The objective of the SET-Plan is to accelerate the development and deployment of cost-effective low carbon technologies by 2020 and beyond, adopting a broad technology portfolio approach. Regarding biofuels, the SET Plan aims to overcome the well-known drawbacks of the first generation, in conformity with the Renewable Energy Directive. This is particularly challenging in terms of technology development, and also requires aligning technology with the other policy measures to achieve market penetration. Many barriers remain, especially for financing first-of-its-kind commercial plants and for ensuring an adequate and stable regulatory environment. This being said, what is true for biofuels is also true for many other low carbon technologies.

DG Research & Innovation aims at supporting technology development in line with EC regulations and other EU initiatives such as NER300. Bringing R&D and other policy areas closer together is clearly amongst the aims of its recently issued Innovation Union Flagship Initiative, and the forthcoming Horizon 2020 (2014-2020). It will provide support across the full innovation cycle and strengthen the support for activities closer to the market. Notably, the third block of Horizon 2020 activities named 'Creating industrial leadership and competitive frameworks' will cover activities facilitating access to risk finance. The SET Plan European Industrial Bioenergy Initiative (EIBI) is already working in that direction, making the best of the already available tools. In this context, EBTP is encouraged to continue interacting with all relevant EC services to defend the views of the sector regarding the direction to take in the development of the various relevant policy instruments.

Rob Vierhout

ePURE, Secretary General

A graduate in Political Science and European Law, Rob Vierhout was appointed the Secretary General of ePURE in 2010. Prior to joining the organisation, Rob had been the Secretary General of the European Bioethanol fuel Association (eBIO), a position he had held since 2005. Beginning his professional career as an academic researcher, he has previous professional experience in the European Parliament as a communications advisor, in public affairs at Deloitte & Touche and in the consulting firm European Affairs Management (EAM), which he founded. Rob has been providing EU political and strategic insight to the European ethanol sector for the past 10 years.

Policy frameworks and targets for commercial and advanced biofuels

- Summary of the state of the industry
- Highlight of policy challenges the industry faces
- Shortcomings of EU/US policy in promoting advanced biofuel
- Action plan on making advanced biofuel a reality

Anselm Eisentraut

International Energy Agency, Bioenergy Analyst

Anselm Eisentraut is Bioenergy Analyst in the Renewable Energy Division of the International Energy Agency (IEA). He is the lead author of the recently published Technology Roadmap – Biofuels for Transport, and is involved, among others, in the work on the forthcoming IEA roadmap on bioenergy heat and power. Prior to joining the IEA in 2008, he spent time in the service sector of BKN Biostrom AG in Berlin, working on quality assurance of biogas plants, as well as at NLU Projektgesellschaft in Münster, focusing on environmental impact assessment. Anselm holds a diploma in Landscape Ecology from University Münster.

IEA Technology Roadmap – Biofuels for Transport

The International Energy Agency's Technology Roadmap - *Biofuels for Transport* indicates that biofuels could contribute up to 27% of world transportation fuel by 2050 in an energy scenario that aims for 50% emission reductions between 2005-50. When produced sustainably, biofuels could provide 2.1 gigatonnes of CO_2 emission reductions in the transport sector, in addition to significant energy security benefits. Concerted action by all stakeholders will be required to provide 32 exajoule (750 Million tonnes oil equivalent) of biofuels globally in 2050, as envisioned in the roadmap. Governments must take a lead role in providing a stable, long-term policy framework for sustainable biofuel expansion, including adoption of internationally aligned sustainability certification schemes and specific support measures for commercialisation of advanced biofuels.

Zissis Samaras

ERTRAC & Aristotle University, Vice Chairman and Professor

Zissis Samaras is a Full Professor and the Director of the Lab of Applied Thermodynamics, Dept. of Mechanical Engineering, Aristotle University, Thessaloniki, Greece. His research work deals primarily with engine and vehicle emissions testing and modelling. He has provided expert advice to a number of organisations and private sector customers, including the European Commission, the European Environment Agency, the World Bank the Greek Ministry of Environment, ACEA, CONCAWE. He coordinated a number of European projects, including "Particulates, Characterisation of Exhaust Particulate Emissions from Road Vehicles". He is elected Academic Member and Vice Chairman of the European Road Transport Research Advisory Council (ERTRAC) on "Energy, Environment and Resources". He is the author of more than 250 scientific publications, among them more than 100 in peer-reviewed journals, which received more than 500 citations in peer reviewed articles, reviews and technical notes.

ERTRAC's research road map for the decarbonization of road transport

Over the coming decades, Europe will require reliable and sustainably-produced energy for road and non-road transport, as well as an energy infrastructure that efficiently utilizes and distributes this energy. Energy production must be combined with energy conservation in order to achieve ERTRAC's stated objectives for the 'decarbonisation of road transport'. In this paper, ERTRAC's research roadmap is presented for substantially improving the energy efficiency of road transport, while increasing the share of renewable sources used by road transport, with special focus on the fuels that will be needed in the future. Meeting aggressive targets in this area will require a clear understanding of increasingly diversified energy demand and supply and the necessary innovation, research, development, and deployment activities that will be needed to meet these targets.

FINANCING AND UPSCALING OF ADVANCED TECHNOLOGIES

Moderator: Véronique Hervouet

Member of Steering Committee, European Biofuels Technology Platform, Total

With more than 20 years of experience in the oil & gas industry for Elf and Total, with responsibilities in the areas of business (petrochemicals and technical polymers), strategy (chemicals) and R&D (exploration & production, refining & marketing), Véronique has been actively shaping the corporate venturing activity of Total, initiated in 2008. She serves on the board of Elevance, on the Steering Committee of the European Biofuels Technology Platform (which she chaired from January 2008 until January 2011), on the Steering Committee of the Bioenergy Program of the French National Research Agency and on the Advisory Board of Demeter, a European Cleantech Fund. She was a board member of Gevo from June 2009 until June 2011.Véronique Hervouet is a graduate Engineer of Ecole Centrale de Lyon (France) and holds a Master of Science in Materials Science & Engineering from Cornell University.

Bruno Schmitz

European Commission, DG Research, Head of Unit Research and Innovation

Bruno Schmitz is Head of Unit in the Directorate General for Research and Innovation of the European Commission. Since October 2006, he is responsible for the "New and Renewable Energy Sources" Unit, which aims at supporting research, technological development and innovation in renewable energy technologies. He holds a MS degree in bioengineering from the Free University of Brussels and started his career as researcher in the Belgian national programme on energy. He joined the European Commission in 1984. He started as project officer in the area of forecasting and assessment in the field of natural resources management. In 1989, he established the SAST (Strategic Analysis in Science and Technology) Unit. He then held various positions in DG Research. Notably, between 1996 and 1999, he was advisor to the Director General, whilst being also Deputy Director of the "Environment-Water" Task Force and Secretary of the European Science and Technology Assembly (ESTA).

EU support to the EIBI Implementation Plan

The objective of the European Industrial Bioenergy Initiative (EIBI) is to bring advanced bioenergy to the market on a large scale by 2020, with biofuels covering up to 4 % of EU transportation energy needs. An Implementation Plan has been defined, focusing on the building and operating of industrial demonstration and flagship (i.e. first-of-its kind, commercial-size) plants. A Call for Expression of Interest, published on 15 July 2011, will help to further identify the technologies that are currently mature enough for such developments at EU level. Around 250 M€ have already been earmarked for bioenergy projects in the EU 7th Framework Programme (FP7) in the period 2007-2012, corresponding to 14.5% of the total Energy Theme investment so far. A number of these ongoing and foreseen FP7 collaborative projects can be considered as already contributing to the EIBI implementation. But the investment needed to achieve the ambitious objective is much higher.

Discussions have taken place to find additional ways of matching EU and national public funds with private funds. Amongst the readily available additional tools, the EIBI Team has supported the launch of an FP7 ERA-NET Plus action, which should mobilise an additional amount of at least 90 M€ public and private funds for the support of demonstration projects, directly under the EIBI framework. The financing of flagship projects proves to be more problematic, due to the level of investment needed, in conjunction with a remaining high level of technological and market risks, regulatory and other constraints. The Commission will continue working with the concerned stakeholders to develop the most appropriate instruments. Also, from 2014 onwards, the Commission's proposal for Horizon 2020, the successor of FP7, should provide further opportunities for EU intervention towards the deployment of innovative technologies.

Beatrice Coda

European Commission, DG Climate Action, Policy Officer

Ms. Beatrice Coda is Policy Officer in the Low Carbon Technology Unit at Directorate General for Climate Action of the European Commission. Her field of responsibility encompass the NER300 Programme and the CCS Directive. Before joining DG Climate Action, she worked 6 years in the Directorate General for Research & Innovation as a research programme officer for the Energy Programme. Ms. Coda holds a PhD in energy technologies from the University of Stuttgart and a degree in economics at the London School of Economics.

EU NER300

Paul Grabowski

Department of Energy (DOE), USA

Paul Grabowski has been with the Department of Energy (DOE) for over 15 years and has held various positions within the Energy Efficiency and Renewable Energy division (EERE). He is currently the thermochemical conversion technology manager for the Office of the Biomass program at DOE and serves as Vice Chair of IEA's Bioenergy Executive Committee. He is from Syracuse, New York and attended Clarkson University, where he got a B.S. in electrical engineering.

DoE bioenergy programme peer review

The Biomass Program is one of nine technology development programs within the Office of Energy Efficiency and Renewable Energy (EERE) at the U.S. Department of Energy (DOE). The Program's mission is to develop and transform our renewable biomass resources into cost-competitive, high-performance biofuels, bioproducts, and biopower through target research, development, demonstration, and deployment (RDD&D) supported through public and private partnerships. The Program manages a diverse portfolio of technologies across the supply chain as well as across the spectrum of applied RDD&D, with the goals of enabling nationwide biofuels production for meeting the EISA goal of 36 bgy of renewable transportation fuels by 2022 and increasing biopower's contribution to national renewable energy goals. This presentation provides an overview of the technology platforms, within the Biomass Program, working to meet these goals within the dynamic context of changing budgets and administrative priorities.

Ingvar Landälv

EBTP – Vice Chair of Working Group 2 - Conversion Processes, Chemrec AB

Since 1997, Ingvar Landälv has been engaged in the development and commercialization of the Chemrec black liquor gasification technology, serving as Chief Technology Officer. In this capacity he has taken the initiative to convert the pulp mills to biorefineries thus making them producers of syngas-based fuels / chemicals in addition to the base product, paper pulp. He graduated in 1975 with a MSc in Physics & Chemistry. He has more than 30 years experience of process R&D, design, engineering, construction and operation of gasification based process plants based on oil, coal and biomass as feedstock. He holds a number of patents in the area of energy integration in gasification based processes.

Pierre Porot

EBTP – Vice Chair of Working Group 2 - Conversion Processes, IFP energies nouvelles

As Associate Director of the IFPEN Process Business Unit in charge of the Biofuels program, he works on the IFP Biomass conversion strategy and projects follow-up: vegetable oils conversion to fuels, algae potential, lignocellulose conversion to fuels through different paths (biological, thermochemical), resource availability, co-products management, etc.. In 2008, he became vice-chair of WG2 of the European Biofuels Technology Platform. He is also member of the Steering Committee of the ANR Bioenergy Program. From 2001 until 2004, he worked as a Process Engineer and dealt with petroleum heavy ends conversion processes. He also managed a project to build linear programming refinery models. His career started at IFPEN in 1989 in the Engine R&D Department, which deals with Fuels/Engine Matching, Engine Development, Engine Testing and Emission Control.

Status updates of selected demonstration plants

Roberto Rodriguez Labastida

Bloomberg New Energy Finance, Bioenergy modeller

Roberto has been working in the energy finance sector for the last 6 years. Currently he is the lead bioenergy modeller at Bloomberg New Energy Finance, a specialist provider of information and research to investors in renewable energy, biofuels and low carbon technologies. His latest research includes the impact of biofuels in food prices, a model for global supply and demand and biofuels pricing and is currently developing a feedstock availability and pricing and a next generation technology pathways model to understand the economics of the different technologies available in the sector along the value chain. He holds an Engineering bachelor and an MSc in Business.

Financing conditions for innovative projects

Next-generation biofuel development has progressed at a fair pace in the last few years. However, the pace of investment has slowed somewhat in the last two years as the recession took its toll and as large-scale projects struggled to move from planning to manufacturing. Legislative uncertainty, risk exposure and complex supply chain dynamics have effectively put the industry in limbo. The central purpose of this research was therefore to investigate why some next-generation biofuel projects remain on the back burner despite strong political support and recent advances improvements in the costs of conversion. Bloomberg New Energy Finance brought different stakeholders in the value chain together to see whether and how the industry can now move forward and proposes ways to overcome them.

Michael Persson

Dong Energy

Michael Michael Persson is general manager of regulatory affairs in DONG Energy Power New Bio Solutions, including the biomass conversion technology companies in DONG Energy, such as Inbicon, Renescience and Pyroneer. Before that Michael spent 3 years in Inbicon as vice president, finance and corporate affairs. Michael also has 12 years experience with business development in Danisco Sugar (now Nordic Sugar), most recently as vice president, with responsibility for sugar activities in Lithuania and development of a first generation bio-ethanol factories. He also worked with medical instrumentation and cleaning equipment for the processing industry. He has a M.Sc. from the Technical University of Denmark and an MBA from INSEAD, France.

Challenges in financing of new sustainable biofuels technology projects

Financing of projects in demonstration and commercial scale is a major hurdle for deploying new technologies. This is true even for technologies that have proven their technical feasibility in pilot scale. There are a number of reasons for this:

- Inevitably such projects do retain some technological risk associated with up-scaling
- Plants based on the early versions of the technology risk being obsolete shortly after erection, as the technology is further refined and the processes improve - not least based on the experience from exactly such first plants!
- There is an expectation that new biofuels are able to compete on equal terms with mature fossil based fuels, that have been developed over more than 100 years and are based on raw materials that are still cheap, and the prices of which do not include the full cost of damage to the environment and climate

Based on experience from funding and building DONG Energy's demonstration facility, the challenges of making new projects economically viable will be discussed, including possible recommendations to improve attractiveness and funding possibilities.

FEEDSTOCKS

Moderator: Calliope Panoutsou

EBTP Vice Chair of Working Group 1 - Biomass Availability and Supply, Imperial College London

Dr Calliope Panoutsou is the Vice Chair for the Working Group on biomass availability and supply within the EU Biofuels Technology Platform. She is a Research Fellow in the Centre for Environmental Policy of Imperial College London. She holds a PhD from Aston University and her research work focuses on biomass resources, methodologies for resource assessment, economic appraisal of bioenergy chains, biorefinery, and bioenergy market issues. She has long term research work experience with a variety of energy crops (annuals and perennials) as alternative land uses and with biomass resource assessments with special focus on agriculture. She has coordinated several EU projects involving multi-disciplinary research on bioenergy. She also acts as expert in EU bioenergy, biofuels and agriculture committees.

Feedstocks introduction

Jean-Marc Jossart

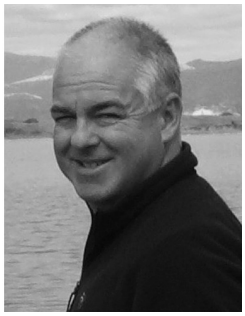
General Secretary, AEBIOM

Jean-Marc Jossart is General Secretary of the European Biomass Association – AEBIOM (www.aebiom.org). AEBIOM follows up EU legislation and its implementation, communicates on bioenergy, helps its members and manages several European projects. Jean-Marc is an agronomist and started his career in the field of bioenergy in 1992 at the University of Louvain, Belgium. He worked as researcher on energy crops, particularly short rotation willow coppice.

Will perennial crops take off in Europe?

Iain Sutherland

Senior Manager UK, UPM Wood & Biomass Business



Iain Sutherland is the Senior Manager for UPM Wood and Biomass Business in the UK. Iain has responsibility for developing and promoting the UPM- Kymmene wood and biomass footprint in the UK energy market. From 2006 to 2009 he was regional timber harvesting manager for UPM Tilhill responsible for sourcing and trading one million m^3 of wood and biomass within the forest industry in the UK.

Traditional feedstocks, current state and path to improvement: Forestry

- UPM presence
- current forest biomass harvesting systems and technologies
- Current incentives for promoting biomass energy and impact on Landowners - Europe
- Environmental and sustainability issues relating to wood based biomass recovery.

Christine von Buttlar

IGLU & Leibniz Center for Agricultural Landscape Research

Since 1994, Dr. Christine von Buttlar has been Managing Director at IGLU, a private consulting firm for energy crops, bioenergy, groundwater and environmental protection. The wide range of clients include authorities, municipalities and private organizations. In 2010 she co-authored a study on "Potential Climate Impacts of the Cultivation of Biomass Crops for Biofuels and other Environmental Effects" on behalf of the Agency for Renewable Resources (FNR-Fachagentur für Nachwachsende Rohstoffe) and the Leibniz Center for Agricultural Landscape Research (ZALF-Leibniz-Zentrum für Agrarlandschaftsforschung). Christine studied Agriculture at the University of Göttingen in Germany and at the Institut National d´Agronomie de Paris-Grignon (INA-PG), leading her to write her doctorate on energy crop plantation at the University of Kassel. She was a scientific researcher in energy and fuel crop production at the University of Kassel, as well as focusing on the management of climatic effects on agriculture at the University of Göttingen.

Traditional feedstocks, current state and path to improvement: Agriculture

Political funding targets: In Germany, 17% of fuels shall be generated from renewable resources by the year 2020. The production of biodiesel and ethanol from biogenic sources takes a high precedence.

Agricultural feedstocks used: The generation of biodiesel in Germany is mainly obtained from rapeseed. In 2007, 6 mtoe (Million Tons of Oil Equivalent) were produced. An increase to 19 mtoe is expected by 2020. The special cultivation of wheat, rye, maize and sugar beet is used for the production of bioethanol. In 2007, 1.5 mtoe were produced and by the year 2020, an increase of over 15% is expected (European Commission 2007).

Climate and energy balance: If biofuel crops are produced without prior land use changes, the climatic and environmental effects are similar to those for food and feed production. The release of carbon dioxide (CO_2) from the cultivation of crops and nitrous oxide (N_20) as net emissions from soil are the main sources of greenhouse gas emissions. Methane (CH_4) emissions from the cultivation of energy crops are almost insignificant in comparison. The cultivation of energy crops for fuel production WITHOUT land use changes in Germany abide by the current guideline values (default values) set by the Biomass Sustainability Regulation (BioNachVo). But when the extensive cultivation is converted to intensive land use, default values can be exceeded. This is especially the case in Germany with the transition of extensive grassland to intensive arable land.

Increase of sustainability: Life cycle assessments show that the largest proportion of environmental degradation in the production of biofuels is attributed to agricultural cultivation. To reduce environmental impacts in comparison to fossil fuel burning, certain requirements need to be established, including: compliance with legal requirements such as fertilizer regulation, Cross Compliance, maintenance of diverse crop rotations (biodiversity, humus build-up), reduced nitrogen surplus (water protection), erosion prevention methods, optimum manure management (prevention of ammonia emissions and water pollution), proper use of pesticides and abandonment of land use changes (emissions, water protection, biodiversity).

Required innovation: To obtain an emission assessment, the current rigid emission factors need to be replaced by variable factors that take locations (climate and soil) and nitrogen efficiencies into consideration. Implementation and funding strategies for biofuels should in future not only focus on the reduction of greenhouse gases, but also regard other harmful environmental effects. There is still considerable need for research in this area.

Jukka Pekka Nieminen
Neste Oil

Jukka-Pekka Nieminen is R&D Manager at Neste Oil. His responsibilities include coordination of renewable fuels related R&D. This covers, among other topics, research on new feedstocks, such as algae and microbes, as well as new renewable fuel products, such as BioJet. Previously he was Environmental Manager of oil refinery, and prior to that he headed a number of renewable energy related R&D projects at Neste Oil, since 1980. He graduated from Helsinki University of Technology with a degree in Technical Physics.

Low land input feedstocks: Algae, predictions on technology

Microalgae have a huge potential as oil producers. They have several potential advantages over more conventional plants: larger yield per land area, no requirements for fertility of the land and less need for fresh water. Microalgal oil is suitable for fuel production e.g. HVO or FAME. But microalgae have still a long way to go before algae oil for fuel production is commercially available. Major factors are still open for development and improvement in order to reach cost-efficient, large-scale, industrial oil production: optimization of growth conditions tailored for each individual microalgal species, technology for cultivation of algae, how to maximize the oil content and oil productivity, how to minimize the use of water, energy and nutrients, how to harvest algae, how to recover the oil from algae, how to utilize best the residual biomass and how to purify the oil. These questions are addressed in numerous research projects globally, which promise to serve new industrial needs and applications.

SUSTAINABILITY OF ADVANCED BIOFUELS

Moderator: Marc Londo
EBTP Chair of Working Group 4 "Sustainability", ECN

Marc Londo is manager of the Energy Innovation and Society group, in which the transition towards a sustainable energy economy is analysed by both techno-economic approaches and methods from the social sciences. Apart from studies related to energy innovations, his main expertise is in biomass energy and biofuels. He is an experienced coordinator of EU projects on techno-economic and resource perspectives of biofuels, including their sustainability issues. He holds a PhD in biomass and land use issues and graduated in environmental chemistry.

Kyriakos Maniatis

European Commission, DG ENER, Principal Administrator

Dr Maniatis is Principal Administrator in Unit C2 - Directorate General for Energy, European Commission. He is responsible for technical issues related to biofuels and manages the DG ENER demonstration component on advanced biofuels in the Commission's 7th Framework Programme. He contributes, accordingly, to the legislative actions of the EC and to the European Industrial Bioenergy Initiative of the SET Plan. He also initiated the CEN standardisation work for solid biomass fuels, solid recovered fuels, bioethanol, biodiesel and biomethane standards. He led the EU team in the tripartite work on International Compatible Biofuels Standards with the US and Brazil that issued the White Paper on this subject in 2008. Recently he led the team that launched in June 2011 the Biofuels FlightPath for Aviation in close coordination with the aviation and biofuels sectors. He has represented the European Commission in the Executive Committee of the International Energy Agency Bioenergy Implementing Agreement for the past 15 years, and served as the ExCo Chairman in 2002, 2005, 2006 and 2007. He regularly organizes workshops and conferences on the basis of the demonstration contracts and related issues he manages in DG ENER.

State of play of RED sustainability criteria implementation and reflection on advanced biofuels

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Imke Lübbeke

WWF, Bioenergy Policy Officer

Since 2007, Imke Luebbeke has been EU Bioenergy Policy Officer at the WWF European Policy Office in Brussels. She focuses on the implementation of sustainability criteria for bioenergy. Before she came to Brussels, Imke was with WWF Germany in Frankfurt and Berlin, working on EU agriculture policy and rural development. From 2005, she focused on bioenergy and sustainability and built up WWF Germany's competence on sustainable bioenergy. She also founded and led an NGO platform on sustainable biomass with German development and environmental organisations. From 1999 to 2001 she worked with the German Farmers Union in Bonn and Berlin. Imke Luebbeke studied agricultural science in Göttingen, Germany, specialising in issues of agriculture and environment.

Sustainability criteria for advanced biofuels

Using agriculture residues to produce advanced biofuels might deliver a more sustainable option than using food crops. But until now, the environmental impacts of the use of agricultural residues has not been investigated in great detail. WWF has carried out a short study, exploring the relevance of the different environmental aspects when residues are used for the production of biofuels and assessing the aspects that need to be addressed in order to ensure sustainability.

Dina Bacovsky

Bioenergy 2020+

Dina Bacovsky is Unit Head Biofuels at BIOENERGY 2020+ in Austria. The activities of her group include research, consulting and information exchange on production processes for biofuels. Dina Bacovsky is active in international research networks such as IEA Bioenergy Task 39 and the IEA Advanced Motor Fuels Agreement (AMF). She deals with the sustainability of biofuels in the BioGrace project, where she is responsible for communication on the harmonisation of GHG calculations for biofuels in the EU. Other current tasks include assessment of the linkage between feedstock cultivation methods and oil quality for Jatropha, assessment of the suitability of microalgae for bioenergy production in Austria, and monitoring of the development of advanced biofuels. Her worldwide overview on advanced biofuels demonstration facilities has received much interest in the biofuels community.

BioGrace – Harmonising biofuel sustainability calculations

In 2009 the European Union set sustainability criteria for biofuels with the legislation of the Renewable Energy Directive and the Fuel Quality Directive. The EU funded project **BioGrace** aims to harmonise calculations of biofuel greenhouse gas emissions and thus supports the implementation of these two directives.

RED Annex V defines default values for greenhouse gas emission saving of 22 biofuel production pathways. However, the directive neither specifies the "standard values" (also called conversion factors) nor the "input numbers" that were used to obtain the default values. Thus economic operators are free to choose the most beneficial values and in that way upgrade the greenhouse gas performance of their biofuels without actually improving anything in the production chain.

Defining key parameters unambiguously enhances the level playing field on the European biofuels market; and enables stakeholders to perform biofuel greenhouse gas calculations according to the RED Annex V methodology as well as auditors to easily verify calculations.

The BioGrace consortium has recalculated the 22 default values and made every calculation step transparent. The list of standard values contains the conversion factors that were used for calculating the default values in the RED Annex V. The calculation tool enables economic operators and other users to insert their actual input numbers and thus calculate their actual values of biofuel greenhouse gas emissions.

The BioGrace consortium has been **contacting policy makers** in all EU 27 member countries with a request to make reference to the BioGrace calculation tool in their national legislations or guidelines. In mid 2011, BioGrace has applied as a so-called **voluntary scheme** to be approved by the European Commission.

Norbert Schmitz

Meo Carbon Solutions

Norbert Schmitz has studied business administration at the University of Cologne where he also acquired his PhD. He worked for several years for a leading international management consultancy before joining the Meo consulting group. Since 2010, he is Managing Director of Meo Carbon Solutions, a Cologne based consultancy with a strategic focus on sustainability, renewable energy and water. Norbert is also Managing Director of ISCC System GmbH. ISCC is the first recognized international certification system for sustainability and greenhouse gas emissions. Norbert has been heavily involved in the development of the scheme. He has an in-depth knowledge of the practical implications of sustainability requirements for companies along the supply chain. The regional focus of his work is Europe, Latin America and South East Asia.

Implementation of sustainability regulations in the EU

Norbert will provide an insight into the development and practical operation of the International Sustainability and Carbon Certification (ISCC) scheme. More than 250 stakeholders from Europe, the Americas and South East Asia contributed to the development of the certification system. ISCC started practical operations immediately after recognition by the German Government in January 2010. In July 2011, ISCC has been recognized by the European Commission. Today, more than 700 companies in 45 countries use ISCC as a reliable scheme to proof sustainability. It can be used to fulfil the legal requirements in the biofuels sector or as voluntary scheme for chemical, food and feed markets.

Marcos Savini

Mission of Brazil to the European Union, Head of Energy and Sustainable Development

Marcos Savini is the head of Energy and Sustainable Development Sectors at the Mission of Brazil to the European Union, where he has worked since 2007. Previously he worked with trade negotiations at the Brazilian Ministry of External Relations, including those between MERCOSUR and the European Union. He has a MA in International Relations from the University of Brasilia and a graduate degree in Social Sciences and Economics. Before joining the Brazilian external service, he followed a career in journalism in economics and political issues in Brazil and was an international correspondent, in Bonn and Paris.

Sustainability issues of biofuels in Brazil