

European Biofuels Technology Platform: Fifth Stakeholder Plenary Meeting

Speakers: CVs & Abstracts

WELCOME

Lars Hansen

Chair of Steering Committee (SC), European Biofuels Technology Platform,
President of Novozymes Europe

Lars Hansen is President of Novozymes Europe, a position he has held since August 2009. Since March 2010 he has been a member of the board of Europa Bio (the European biotech business association) and since January 2011 has been Chair of the European Biofuel Technology Platform. He joined Novozymes in 1990. Following various staff functions in the Danish Headquarters, including as Executive Assistant to the CEO, he has 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. 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.



KEYNOTE ADDRESS

András Siegler

Director - Energy, DG RTD, European Commission

András Siegler is Director of the European Commission in charge of research and innovation policies and programmes in energy (non-nuclear and nuclear). Before joining the Commission in 2005, Dr. Siegler represented Hungary in the research policy bodies of the EU, NATO, OECD and CERN. Between 1996-2004, he held various senior management positions at the level of state undersecretary in the Hungarian state administration. During this period he was in charge of national policy, legislation and fund management of Research and Technological Innovation including innovation policy and national participation in European programmes, the use of structural funds for boosting innovation and international science and technology cooperation. Between 1991-1996 he was vice director of Computer and Automation Research Institute of the Hungarian Academy of Sciences, having started his career there as a research engineer in mechatronics and computer aided design. He graduated in control engineering from the Budapest Technical University. He holds a doctoral degree in mechanical engineering, a postgraduate degree in economics as well as an MBA from the US.



SESSION ONE: ACCESS TO SUSTAINABLE FEEDSTOCKS

Moderator: Calliope Panoutsou

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

Dr Calliope Panoutsou is a member of the Bioenergy Group within the Centre for Environmental Policy (Imperial College London) and is the Vice-chair for the EBTP Working Group on Biomass availability and supply within the European Biofuels Technology Platform. Her work assignments focus on supply, logistics & economic analyses of biomass value chains, market & policy analyses and assessment of sustainability for bioenergy systems. She has coordinated several EU projects involving multi-disciplinary research on bioenergy. She also acts as expert in EU bioenergy, biofuels and agriculture committees. She holds a PhD from Aston University..



Markus Holzer

Head of Unit, Bioenergy, Forest and Climatic Change, DG AGRI, European Commission

Agricultural policies to ensure feedstock mobilization

Hannes Lechner

Principal - Global Bioenergy Practice, Pöyry Management Consulting (UK) Ltd

Hannes Lechner leads Pöyry's Bioenergy Team in London. He holds a PhD in Forestry and has more than ten years of experience working in the bioenergy sector. Pöyry Management Consulting has more than 50-years heritage in advising leading global players in Forest Industry and Energy including market development, technology evolution, financial assessments and competitive value chain dynamics. Hannes and the Bioenergy Team in London specialize in the development and assessment of international sourcing strategies for large scale biomass consuming projects. Pöyry works with the full range of players along the biomass value chain, ranging from resource owners, processors and logistics companies to pump and furnace.



Non-technical challenges of a company intending to build a demonstration/flagship plant - biomass sourcing strategy

David Baldock

Executive Director, IEEP - Institute for European Environmental Policy

David Baldock is the Executive Director of IEEP. He studied Economics and Philosophy at Cambridge and has had a career in independent policy institutes, specialising in energy and agriculture/energy themes. He joined the Institute for European Environmental Policy (IEEP) in 1984 and has been Director since 1998, establishing the Brussels office two years later. He has been responsible for a wide range of studies on European environmental, agricultural, climate and related policies and is an experienced observer of EU affairs. As well as independent work he has led a large number of policy research studies for the European Commission, European Parliament, OECD, national governments, foundations and NGOs. He has been published widely and regularly gives evidence to parliamentary committees and government agencies. Recent work includes a range of papers and contributions to the EU Budget debate, the planning of the Seventh Environmental Action Programme, the Resource Efficiency Roadmap and the role of bioenergy in European supply chains. He is a member of the European Commission's High Level Group on Key Enabling Technologies.



Civil society on the competition for biomass resources and sustainability parameters

SESSION TWO: OVERCOMING TECHNOLOGICAL-LOGISTICAL HURDLES

Moderator: Véronique Hervouet

Member of Steering Committee (SC), European Biofuels Technology Platform, Total Energy Ventures

Véronique Hervouet is Senior Vice President, Investments, Total Energy Ventures. She is board director of Elevance and NanoH2O, and former board director of Gevo. She is a member and former chair of the Steering Committee of the European Biofuels Technology Platform and a member of the Strategic Committee of the Bioenergy Program of the French National Research Agency. She is a graduate engineer from Ecole Centrale de Lyon (France), Master of Science in Materials Science & Engineering from Cornell University (USA). She has 26 years of experience in the oil & gas industry within Elf & Total (Exploration & Production, Refining & Marketing, Petrochemicals, Chemicals) with responsibilities in the areas of Research & Development, Business and Strategy.



Ingvar Landälv

Vice-chair EBTP Steering Committee and Vice-chair Working Group 2 - Conversion Processes, Lulea University of Technology and 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.



Frédéric Monot

Frédéric Monot, Head of Biotechnology Department, IFP Energies nouvelles

Frédéric Monot is Head of the Biotechnology Department at IFP Energies nouvelles. He holds a PhD in Biochemical Engineering from Institut National Polytechnique de Lorraine and has over 30 years of experience in white biotechnology. He is the author of more than 100 scientific publications including 50 peer-reviewed articles in international scientific journals, 14 chapters in books and 20 patents. He coordinated several French programmes on biofuels and bioproducts and the European Integrated Project NILE on second generation bioethanol (FP6).



Status updates of second generation biofuel demonstration plants

The presentation will be an overview of the main current and planned demonstration plants devoted to the production of lignocellulosic biofuels using a biological pathway, with a focus on European projects.

Jukka Heiskanen

Head of R&D, Fortum

Jukka Heiskanen is Head of R&D in Fortum, Heat Division, developing technologies for sustainable business growth and renewable fuels for Fortum's existing and future Combined Heat and Power plants. He has worked for over 10 years in Fortum Power and Heat and has 30 years of experience in the energy sector, having spent 25 years in the oil and gas industry with Fortum Oil, Gas Oy and Neste Oy, following 5 years in the HVAC industry. Most of his positions have been related to Product, Service and Business Development, and R&D. He holds a M.Sc. (Eng.) from Helsinki University of Technology and an eMBA from Helsinki School of Economics

From concept to demonstration: developing an advanced biofuel project

The presentation will cover Fortum and the role of CHP in the company's energy strategy. Fortum views of sustainability. A case study on pyrolysis from R&D initiative to investment, with a particular focus on the Joensuu demonstration plant for fast pyrolysis.

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.



Biofuels FlightPath in Aviation: Progress and Hurdles of getting biofuels in the air

The presentation will address the main aims and objectives of the Biofuels FlightPath in Aviation Public-Private Partnership and will summarise the various activities that have taken place since its inception in June 2011. The progress achieved in various aspects of the FlightPath will be presented as well as the key barriers to biofuel deployment in the aviation sector. Future workshops of the FlightPath will also be presented to stakeholders. Other related activities of DG ENER will be discussed and a preliminary analysis of the proposals received during the 2013 FP7 Call on the topic of demonstration plants for paraffinic biofuels will be presented.

SESSION THREE: FROM PILOT TO FLAGSHIP - FINANCING THE UPSCALE

Moderator: Birger Kerckow

Secretariat of the EBTP, Group Leader, FNR Agency for Renewable Resources, Germany

Dipl. Ing. Agr. Birger Kerckow is an agricultural engineer with a specialisation in agricultural economics (University of Göttingen). He has more than 20 years of experience in the field of renewable biological resources, both on national and international level and co-ordinates the international activities of FNR. He is currently Chair of the Executive Committee of IEA Bioenergy.



Bruno Schmitz

Head of Unit, New and renewable energy sources, DG RTD, European Commission

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).



EC support for advanced biofuels in Europe, including EIBI, NER300, Private-Public Partnerships

Megan Cooper

Project Manager, DECC Innovation Delivery Team

Megan Cooper is a project manager within the Energy Innovation Delivery Team within the UK Government's Department of Energy and Climate Change. Alongside the UK's Technology Strategy Board, she is coordinating the current ERA-NET Plus Bioenergy Demonstrator Programme entitled Bioenergy Sustaining the Future (BESTF). She has a PhD in molecular microbiology and has managed various UK Government programmes for the last 11 years.



ERA-NET+ BESTF

A consortium of 8 EU member states has successfully gained European Commission support to launch a bioenergy demonstrator competition. The scheme is entitled Bioenergy Sustaining the Future (BESTF) and aims to encourage innovation across a number of EIBI bioenergy value chains. Support will be provided for projects that show collaboration across the EU and will progress bioenergy schemes to demonstration phase. This presentation will provide an overview of the scheme and provide information on eligibility and how to apply.

Joanna Dupont-Inglis

Director, Industrial Biotechnology, EuropaBio

Joanna Dupont-Inglis first joined EuropaBio, the European Association of Bioindustries, in February 2009 and in April 2011 was appointed Director of Industrial Biotechnology. Her work within EuropaBio focuses on helping to develop a stable, long-term, coherent regulatory framework for dynamic and innovative biobased industries as key enablers of the broader EU bioeconomy. In this context EuropaBio seeks a supportive and competitive EU Common Agricultural Policy, an Innovation-driven research programme with a focus on Public Private Partnerships and Industrial policy to help create market demand for smart and sustainable biobased products and processes. Improving understanding of the benefits and solutions provided by industrial biotech in tackling grand challenges such as resource efficiency, the need for food, feed and fuel, climate change mitigation and sustainable economic recovery are also a key focus. Joanna Dupont-Inglis has an academic background in Environmental Science from the Universities of Sussex, UK and Nantes, France. Between 2000 and 2009 Dupont-Inglis worked predominantly for two Brussels-based firms as a consultant in public affairs and strategic communications. Her work involved a broad range of industries, trade associations and NGOs in Brussels, working in the fields of environmental sustainability, energy efficiency, agriculture, health and development. Between 2002 and 2004 Dupont-Inglis worked for DG Environment at the European Commission.



The Private-Public Partnership on biobased industries BRIDGE

The Private-Public Partnership, Biobased and Renewable Industries for Development and Growth in Europe (BRIDGE), aims to accelerate innovation and to boost market uptake and public awareness of biobased products. Putting the European Commission's strategy "A Bioeconomy for Europe" into practice, the objectives of the PPP are to foster "radical innovation", from R&D and deployment to market pull, to deliver biobased products superior, or at least comparable to, non-biobased products in terms of price, performance, availability, and sustainability. This global paradigm shift from oil-based towards biobased materials represents a unique opportunity for Europe to kick-start a world-leading competitive bioeconomy with significant economic, environmental and societal benefits. It will build on existing EU strengths and resources, embracing technological and scientific excellence and creating new and novel partnerships between hitherto unconnected industries.

Stefania Pescarolo

M&G Chemtex

Since 2008, Stefania Pescarolo has been the R&D Europe Public Funding Project Assistant within Chemtex Italia (M&G) following the preparation of project proposal and coordinating the partnership in relation to funding procedures related to the biofuel and biochemical sectors. She graduated in Chemistry and Pharmaceutical Technology (CTF) from the University of Genoa. From 2000 to 2006 she worked for Federchimica (Industrial Association of Italian Chemical companies), Milan in the role of Regulatory Affairs, giving support to chemical companies in regulatory, technical, scientific and economic topics, liaising with national and international authorities, coordinating technical committees and round tables on key chemical issues. In parallel, she was General Secretary for Communication for the European Federation for Cosmetic Ingredients (EFFCI) in Brussels, dealing with European and international authorities, associations, opinion leaders, trade fair organizers and journalists in relation to the cosmetic sector.



Case study - the first commercial advanced ethanol plant in the EU, how was it financed?

The world's first industrial-scale cellulosic ethanol plant, in Crescentino Italy, started commissioning in December 2012 and is now in the start-up phase. The M&G PROESA® process allows it to deliver superior economics in converting non-food biomass to sugars for the production of bio-ethanol or bio-chemicals. Proesa® technology opens the doors to the Green revolutions and M&G Group and Beta Renewables in particular are proud to be driving this change.

Society is still strongly dependent on fossil fuels. As developing economies continue to grow, concerns are increasing about climate change and the potential economic and political impact of peak oil. To address these issues and reduce its dependency on fossil fuels, the EU has adopted measures to encourage the production and use of renewable resources for next generation biofuels. M&G believes that the development of the biofuels industry is a strategic goal and a real opportunity for technological development in Italy and worldwide, providing a real solution to GHG reduction.

In this scenario, M&G since 2007 has invested over 200M€ in research and development of a sustainable, scalable and simplified technology for the transformation of virtually any kind of lignocellulosic feedstock into low-cost, fermentable sugars for the production of second generation bioethanol or biochemicals. This technology, known as the M&G Proesa® process, is based on four main steps: pre-treatment, hydrolysis, fermentation and distillation. It utilizes proprietary process and component design, a cocktail of novel enzymes and high efficiency

fermenting microorganisms, has been demonstrated on a continuous, 1 T/day pilot plant since June 2009, and is now being brought to full scale thanks to the construction of a 40,000 ton/y industrial facility in Crescentino that will be operational in 2013.

With the realization of this industrial plant, M&G will achieve a first milestone in its ambition to revolutionize the fuel and chemical sectors with green chemistry. This facility will be the largest in the world and will be used 180,000 tons of biomass, will generate 15MW of "green power" from lignin.

The main feedstock chosen for lignocellulosic ethanol production are dedicated energy crops (Giant reed) and agricultural residues (wheat straw). These feedstocks are generally characterised by high productivity and low input. The whole feedstock supply chains, including sowing/ planting, harvest mechanisation, as well as storage and logistics solutions have been demonstrated in the local area.

The second generation 40,000 ton/y bioethanol plant has established the following overall project goals:

- Demonstration at industrial scale of a new proprietary pretreatment technology (unique process producing high quality low cost sugars from lignocellulosic biomass) that is thought to by-pass the inhibitor formation drawback and guarantee biomass flexibility conversion
- Feedstock flexibility that allow a broader range of biomass in order to reduce competition
- High efficiency in viscosity reduction and enzymatic hydrolysis with unique patented process design
- Incorporation of innovative hydrolysis and fermentation steps (simultaneous co-fermentation of C5 and C6 sugars in a SSF set up)
- Incorporate all component designs into an integrated and techno-economic sustainable process package
- Prove the economic viability of the process design
- Ensure that environmental, safety, health and security requirements are fully incorporated and properly implemented into the project's design and execution.
- Production of the co-product Lignin free from sulfur, chlorine and ammonia that can constitute an unique base for producing chemical from biomass in addition to energy
- Competitive and attractive economics without subsidies: lower capital due to less handling of biomass, simplified flows and no special equipment;
- Cost-effective at modest scale; short supply chains
- Low operative costs: possibility to produce cost competitive bioethanol in almost any geographical area (conversion of renewable biomass into liquid transportation fuel at a cost competitive with petroleum); Cash cost of fermentable sugars at ~10 ¢/lb; Cash cost of ethanol of <\$ 1.50/USG (\$ 0.40/L)
- In accordance with recent EU directives on CO₂ and other greenhouse gases sequestration capacity, product from M&G Plant will exceed 70% sequestration capacity. The first advanced demonstration industrial cellulosic ethanol plant received support from FP7, NER300 and Italian grants.

*Authors: Stefania Pescaroloa, Alessandra Frattinia, Luis Oriania, Simone Ferreroa, Arianna Giovanninia, David Chiaramontib
a Chemtex/Mossi & Ghisolfi Group, Tortona (AL), Italy
b CREAR and RE-CORD, University of Florence, Italy*

SESSION FOUR: LONG-TERM STABLE POLICY SUPPORT TO ADVANCED BIOFUELS DEMAND IN THE EU

Moderator: Lars Hansen

Chair of Steering Committee (SC), European Biofuels Technology Platform,
President of Novozymes Europe

See 'Welcome and Opening Address' section for C.V. .

Øyvind Vessia

Policy Officer, Renewables and CCS policy, DG ENER, European Commission

Øyvind Vessia has worked on the implementation of the Renewable Energy Directive at the Commission the last 4 years. Before that on renewable energy related topics at regulator and TSO in Norway, as well as for the IAEA, a Research organisation and a NGO. He has degrees in electrical and mechanical engineering as well as economics.



EC existing policy framework framework and proposal to review RED and FQD to take into account ILUC of biofuels

Jos Dings

Director, Policy Team, Transport and Environment

NGO viewpoint on long-term policy support to advanced biofuels demand in the EU

Marc Gillmann

Chair of EBTP Working Group 4 - Policy and Sustainability,
Stratégie biocarburants et développement agricole, Total Supply & Marketing



Marc Gillmann is in charge of Bioenergy and rural development in the strategy, research and development Directorate since January 2010. Mr Gillmann is member of the European biofuels technology platform and chairs its working group dedicated to biofuels regulations and markets. He played an active role in Concawe's and in the European standardization Committee for biofuels dedicated to the "sustainability of biofuels". Mr Gillmann is a member of the biofuels task force of IPIECA. Marc Gillmann worked four years in the French Ministry of agriculture on bioenergy policies. He began his career in 2000, as technical adviser on rural development and food security (Cuba, Chad). From 2004 to 2006 he joined the European Commission and spent two years as program manager in infrastructures and social sectors in the EC's delegation to Haiti. Marc Gillmann has a master from AgroParistech (France) and a master of Science & environmental management from Ecole nationale du génie rural, des eaux et forêts (France).

EBTP view on the RED FQD review

Presentation of the EBTP's recommendations on the iLUC directive. How to design a policy more suitable for advanced biofuels industrialization. Views expressed by the EBTP platform reflect a consensus following an extensive consultation with members of EBTP Working Group 4 on Policy and Sustainability.

SESSION FIVE: GLOBAL APPROACHES TO SUPPORT FOR ADVANCED BIOFUELS - HOW THE NEED FOR A COMPREHENSIVE POLICY FRAMEWORK IS BEING ADDRESSED

Moderator: Sandrine Dixon-Declève

Vice-chair EBTP Steering Committee, University of Cambridge Programme for Sustainability Leadership



Sandrine Dixon-Declève is the Director of the EU Corporate Leaders Group on Climate Change (EU CLG) and the Director of the Brussels Office for the University of Cambridge Programme for Sustainability Leadership. The EU CLG was set up in 2007 and brings together business leaders from a cross section of EU and international businesses to develop policies for tackling climate change. Previously, she ran Hart Energy Consulting's new International Sustainable Energy Exchange (ISEE), and was the Executive Director, Europe & Africa for HART Energy Consulting from 1998 to 2009, running the International Fuel Quality Center (IFQC), the Global Biofuels Center (GBC), and the World Refining & Fuels Service (WRFS). She has been a personal advisor to several Members of the European Parliament, and advised the European Commission, Governments in Asia, Africa and the Middle East, international organizations including the Organization of Petroleum Exporting Countries (OPEC), the Asian Development Bank (ADB), the Organization of Economic Cooperation & Development (OECD), the United Nations Environment Programme (UNEP), the US Agency for International Development (USAID) and energy and transportation business leaders. She sits on the Advisory Board of a major African oil company and on the Steering Committee of the European Biofuels Technology Platform and has published numerous articles/presentations on sustainable energy, climate change and transport, conventional and alternative fuel quality legislation as well as on trade & environment. She holds an M.Sc. in Environmental Sciences from l'Université Libre de Bruxelles and a B.A. in International Relations and French from University California Davis.

Daniel Nibarger

International Economist, Biofuels Group, Global Policy Analysis Division, FAS-Office of Global Analysis (OGA)



Daniel Nibarger is an International Economist with the USDA-Foreign Agricultural Service. His current focus is on the trade and sustainability certification programs for U.S. biofuels and biofuel feedstocks. He previously served as an economist with the USDA-Agricultural Marketing Service, with responsibility for analyzing world transportation systems for biofuels and other agricultural commodities. Prior to his government service, Mr. Nibarger was a commodity trader for Archer Daniels Midland Co. (ADM), specializing in specialty oilseeds like sunflower, canola, and linseed. He has lived and worked in Washington, D.C., Wuhan, China, Kingston, Jamaica, and his current home in Belgrade, Serbia. Mr. Nibarger has published articles on understanding commodity basis trading, the need for a strong U.S. transportation system, and the sustainability of U.S. agricultural production. He earned undergraduate and graduate degrees in International Economics from Kansas State University in Manhattan, KS.

Support for advanced biofuels in the United States

Géraldine Kutas

Head of International Affairs, Unica

At UNICA since 2007, Géraldine Kutas is responsible for defining and leading the entity's international activities. A seasoned professional specializing in international trade policy, Kutas leverages over a decade of experience to strengthen UNICA's activities across the European Union, the United States and Asia. She has a deep expertise in biofuels and agricultural policies, coupled with extensive exposure to multilateral and regional trade negotiations in agriculture. Ms. Kutas has a Ph.D. in International Economics from the Institut d'Etudes Politiques de Paris.



Support for advanced biofuels in Brazil

- The Brazilian vision on advanced biofuels
- Policy framework and support measures
- State of play of advanced biofuels projects in Brazil

Giorgio Rosso Cicogna

CEI Acting Secretary General

Giorgio Rosso Cicogna was appointed CEI Acting Secretary General in January 2013. Previously he served as CEI Alternate Secretary General since June 2010. He joined the Italian Foreign Ministry in 1971 for a diplomatic career of over twenty years. Among his assignments: Assistant to the Diplomatic Advisor to the Prime Minister, Head of the Secretariat of the Foreign Minister, Advisor for International and European Affairs to the Ministers for Science/Technology and for Public Holdings. He also served as Consul in Vienna, Counsellor and Chargé d' Affairs in New Delhi and Alternate Head of the Italian Delegation to the CSCE again in Vienna, and held several positions at the Economic Department of the Italian Foreign Ministry. In 1991 Mr. Rosso Cicogna retired from government service and started a new career in the private sector as Director General of the Italian Federation of Industries for the Trieste region. In 1998 he joined TELIT (the only producer of cellular and satellite phones in Italy) as Executive Vice-president for corporate planning and for international, institutional and public affairs; later he was a consultant to the top management of several companies. In 2008 he was appointed Managing Director of the International Centre for Science and High Technology (ICS) of the United Nations Industrial Development Organization (UNIDO).



Support for advanced biofuels in countries of Central, Eastern and South-Eastern Europe

Countries of Central, Eastern and South-Eastern Europe represent a perspective driver for future full-scale development of a bio-based economy and advanced biofuels in Europe. Adequate support from the EU and, at least initially, from other Donors would allow strengthening the potential of agriculture and forestry, as well as the technical capabilities and human capital that are ready to be mobilized. The Central European Initiative supports its Member Countries in developing their capacities and attractiveness in order to create a pole of attention for International Financial Institutions and private investors.