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Welcome Letter

Dear colleagues,

It is a great pleasure to welcome you to the International Energy Workshop (IEW) 2013 held in the beautiful city of Paris. Around 370 papers were submitted to the programme committee for review, making it the most successful IEW in terms of submissions, and 120 papers were accepted for presentation. After hosting the IEW in 2008, the IEA is proud to do so for a second time in such a short time frame. Five years ago, the event took place within the IEA premises, but since then it has grown so much that we had to look for a larger venue this year to accommodate all participants. In the past, the development of our own modelling capacity for the World Energy Outlook (WEO) has benefited from close cooperation with the modelling community and by participating and hosting the IEW. In this context, I am happy to draw your attention to our special session on the modelling for the World Energy Outlook on Thursday afternoon, when we will share our modelling experience.

The selected papers are of outstanding quality, which allowed us to put together an attractive programme including six parallel sessions and three plenary sessions with excellent keynote speakers. The parallel and plenary sessions cover a wide range of topics, including the challenges related to a low-carbon transition, the growing energy needs in emerging economies and understanding current and future game changers in the energy sector. In addition, two side events are part of the IEW 2013: the OSeMOSYS workshop (during lunch on 19 June) and the IRENA workshop (evening of 20 June).

On Wednesday evening, I kindly invite you to participate in the cocktail reception in the Marriott hotel. On Thursday evening, we have organised a river cruise dinner to give you the opportunity to appreciate Paris during your stay.

This event would not have been possible without our sponsors: Electricité de France (EDF), the Electric Power Research Institute (EPRI), the International Renewable Energy Association (IRENA), the Energy Technology Systems Analysis Programme of the IEA (ETSAP) and the LIMITS project. I would like to thank all of them for their contribution. Thanks also go to the organising committee and the co-directors for their support during the organisation of the event.

Finally, I wish you a pleasant stay in Paris and enriching days at the International Energy Workshop 2013. It is your participation that is essential for the quality and relevance of this event.

Fatih BIROL
Chief Economist, International Energy Agency
About the IEW

The International Energy Workshop (IEW) is one of the leading conferences for the international energy modelling research community. In a world of environmental and economic constraints, energy modelling is an increasingly important tool for addressing the complexity of energy planning and policy making.

The IEW provides a venue for analysts to compare quantitative energy projections, to understand the reasons for diverging views of future energy developments and to observe new trends in global energy production and consumption.

The annual conference typically includes three plenary sessions and more than 100 presentations in parallel sessions focusing on a wide array of topics, including energy supply and price forecasts, energy savings and efficiency, renewable and innovative energy technologies, environmental and climate policy, and the intersection between energy analysis, economics and the natural sciences.

The first IEW was organized in Palo Alto in 1981 by Stanford University’s Alan S. Manne, one of the founding fathers of energy economics. With the cooperation of Leo Schrattenholzer, a leading energy technology systems specialist at the International Institute of Applied Systems Analysis (IIASA), the workshop became an annual conference, first alternating between IIASA and the United States, and more recently expanding to other locations in Europe, Asia and Africa.

Throughout the history of IEW, a number of organisations have contributed to the success of these annual conferences, including notably the Energy Modelling Forum (EMF), the Electric Power Research Institute (EPRI) and the International Energy Agency (IEA).

From 1981 to 1997 the IEW published annual editions of the IEW Poll, which became an important part of the Morita Database, compiled as basis for the IPCC Special Report on Emission Scenarios (SRES). From 2006 to 2008, the IEW was organised by co-directors Leo Schrattenholzer and Joseph E. Aldy.

In 2009, the current co-directors were elected by the IEW Steering Committee to run the International Energy Workshop

- Geoffrey Blanford, Electric Power Research Institute (EPRI), USA;
- Massimo Tavoni, Fondazione Eni Enrico Mattei (FEEM), Italy;
- Bob van der Zwaan, Energy Research Centre (ECN), The Netherlands.

IEA is the organiser of the IEW 2013 with the following local co-organiser

About the IEA

The International Energy Agency (IEA) is an autonomous organisation which works to ensure reliable, affordable and clean energy for its 28 member countries and beyond.

Founded in response to the 1973/4 oil crisis, the IEA’s initial role was to help countries co-ordinate a collective response to major disruptions in oil supply through the release of emergency oil stocks to the markets. While this continues to be a key aspect of its work, the IEA has evolved and expanded. Today, the IEA’s four main areas of focus are energy security, economic development, environmental awareness and engagement worldwide.

To be a member country of the IEA, a country must be a member country of the OECD. However, membership in the OECD does not automatically result in membership in the IEA. Chile, Estonia, Iceland, Israel, Mexico and Slovenia are member countries of the OECD but not of the IEA. Chile and Estonia are currently candidate countries of the IEA.

Since the 1980s, the IEA has continued to build good working relationships with countries beyond its membership, in particular major energy consuming, producing and transit countries. At the IEA’s Ministerial Meeting in 2011, bilateral work programmes were agreed with key economic players: Brazil, China, India, Indonesia, Mexico, Russia and South Africa.

The IEA also co-operates with the other international organisations and fora that work in the field of energy. It plays an active role in discussions with producer countries and with the Organization of the Petroleum Exporting Countries (OPEC), particularly within the International Energy Forum (IEF). On statistics, the IEA is a founding partner of the Joint Organisations Data Initiative (JODI). In addition, the IEA works closely with the International Renewable Energy Agency (IRENA). The IEA also supports energy-related work of the G20 and G8 at the Clean Energy Ministerial.

The IEA – which operates at the heart of global dialogue on energy, providing authoritative and unbiased research, statistics, analysis and recommendations – works with a broad range of groups, committees and advisory bodies, some of which include private sector and IEA non-Member country representatives and the legal bases for which vary.
Dr. Geoffrey Blanford is Programme Manager for EPRI’s research on Global Climate Change Policy Costs and Benefits. The programme conducts analysis of the economic and environmental implications of domestic and international climate policy proposals, with emphasis on the principles of efficient policy design, the role of technology, and the value of R&D. His research activities include development of the MERGE model for integrated assessment and its application to issues such as technology policy and international climate agreements. He earned a BA degree in mathematics from Yale University and an MS degree in operations research from Columbia University. He received a PhD degree in management science and engineering from Stanford University.

Dr. Massimo Tavoni is research associate at the Princeton Environmental Institute, Princeton University and senior researcher at FEEM. His research is about energy and climate change economics. He focuses on the evaluation of international climate mitigation policies, with a focus on technological evolution and uncertainty, and the role of tropical deforestation. He is also interested in the consumption patterns of environmentally stressful goods, especially in countries in economic transition. Massimo holds a Laurea cum Laude in Engineering from the University of Bologna, an MSc in Mathematical Economics from the London School of Economics, and a PhD in Political Economics from the Catholic University of Milan.

Dr. Bob van der Zwaan is senior scientist at the Energy research Centre of the Netherlands (ECN, Amsterdam) and Columbia University’s Lenfest Center for Sustainable Energy (Earth Institute, New York). His current research interests cover the fields of energy policy and environmental economics, climate change, technological innovation, and science and world affairs. He is (co-)author of about 90 articles in a score of different international peer-reviewed scientific journals. He published two referred monographs, contributed chapters and several books, and is co-editor of two peer-reviewed volumes on energy and sustainable development. He is a member of the Council of the Pugwash Conferences on Science and World Affairs.

Laura Cozzi heads the Energy Modelling Unit of the Directorate of Global Energy Economics of the International Energy Agency. The Directorate is in charge of producing the Agency flagship publication, the World Energy Outlook. In her capacity she is in charge of scenario analysis, projections, and analysis related to energy efficiency and climate change. Before joining the IEA in 1999, she worked as an analyst for the Italian oil company Eni. Laura holds a Laurea cum Laude in Engineering from the Politecnico of Milan, an MSc with honours in Energy and environmental economics from the Eni Corporate University.
EDF group, one of the leaders in the European energy market, is an integrated energy company active in all areas of the business: generation, transmission, distribution, energy supply and trading. The Group is the leading electricity producer in Europe. In France, it has mainly nuclear and hydropower generation facilities where 95.9% of the electricity output is CO2-free. EDF’s transmission and distribution subsidiaries in France operate 1,285,000 km of low and medium voltage overhead and underground electricity lines and around 100,000 km of high and very high voltage networks. The Group is involved in supplying energy and services to approximately 28.6 million customers in France. The Group generated consolidated sales of €72.7 billion in 2012, of which 46.2% outside of France. EDF is listed on the Paris Stock Exchange and is a member of the CAC 40 index.

The Electric Power Research Institute, Inc. (EPRI, www.epri.com) conducts research and development relating to the generation, delivery and use of electricity for the benefit of the public. An independent, nonprofit organization, EPRI brings together its scientists and engineers as well as experts from academia and industry to help address challenges in electricity, including reliability, efficiency, affordability, health, safety and the environment. EPRI also provides technology, policy and economic analyses to drive long-range research and development planning, and supports research in emerging technologies. EPRI’s members represent approximately 90 percent of the electricity generated and delivered in the United States, and international participation extends to more than 30 countries. EPRI’s principal offices and laboratories are located in Palo Alto, Calif.; Charlotte, N.C.; Knoxville, Tenn.; and Lenox, Mass.

The Energy Technology Systems Analysis Program (ETSAP) is an Implementing Agreement of the International Energy Agency (IEA), first established in 1976. It functions as a consortium of member country teams and invited teams that actively cooperate to establish, maintain, and expand a consistent multi-country energy/economy/environment/engineering (4E) analytical capability. Its backbone consists of individual national teams in nearly 70 countries, and a common, comparable and combinable methodology, mainly based on the MARKAL/TIMES family of models, permitting the compilation of long term energy scenarios and in-depth national, multi-country, and global energy and environmental analyses.

The International Renewable Energy Agency (IRENA, www.irena.org) is an intergovernmental organisation that supports countries in their transition to a sustainable energy future, and serves as the principal platform for international cooperation, a centre of excellence, and a repository of policy, technology, resource and financial knowledge on renewable energy. IRENA promotes the widespread adoption and sustainable use of all forms of renewable energy, including bioenergy, geothermal, hydropower, ocean, solar and wind energy in the pursuit of sustainable development, energy access, energy security and low-carbon economic growth and prosperity.

LIMITS (Low climate IMpact scenarios and the Implications of required Tight emission control Strategies) is a 3-year research project (started in October 2011), funded by the European Community’s Seventh Framework Programme (FP7/2007-2013) under grant agreement n° 282846, with ten partners from Europe, China, India, and collaborators from the US and Japan. LIMITS aims at advancing the understanding of the implementation of climate policies consistent with 2 degree Celsius; its objective is to carry out a rigorous assessment of what a stringent climate policy entails, and what is needed to overcome major impediments. This information will allow policymakers to better assess the costs and benefits of aggressive climate targets, and on how to make them implementable. More in details, the main objective of LIMITS is to provide an assessment of the emissions reductions strategies at the level of the world and the major global economies, and to assess their implementation. LIMITS is coordinated by Fondazione Eni Enrico Mattei.
Registration and Information Desk
The Registration and Information Desk will be open at room Charlie Park:

- Wednesday, June 19: 08:30 am – 07:30 pm
- Thursday, June 20: 08:30 am – 07:30 pm
- Friday, June 21: 08:30 am – 06:30 pm

If you have any questions, please feel free to visit the Registration and Information Desk, or contact the workshop secretariat by e-mail:

IEA – Magdalena SANOCKA
iew2013@iea.org

Participant Identification
All participants are required to wear the IEW 2013 badge at all times. Attendees with the badge will have access to all plenary sessions, parallel sessions, cocktail reception on Wednesday night, River Cruise dinner on Thursday night, as well as the coffee breaks and lunches.

Internet Access
Marriott premises are equipped with wireless Internet connection. This service is available for all registered participants during the IEW 2013. For that, you need to bring your own computer. No open computers for public use will be available at the conference premises.

Lunches and Coffee Breaks
Lunch will be served at the restaurant “Le Patio”, on the third floor (Les Jardins) of the Marriott River Gauche Hotel & Conference Centre. Please see the venue plan on the inside of the back cover for the restaurant location.

Coffee will be served inside the conference venue on level -1. Please, see the venue plan on the inside of the back cover for the exact location. There will be two coffee breaks in a day; one during the plenary session, the other between the parallel sessions. Nevertheless, drinks and pastry will be available throughout the day.

Cocktail Reception
The cocktail reception will be held at the restaurant “Le Patio”, on the third floor (Les Jardin) on Wednesday, June 19, from 7:00 pm to 9:00 pm.

River Cruise Dinner at La Compagnie des Bateaux a Roue
The river cruise dinner will take place on Thursday, June 20, from 8:00 pm to 12:00 pm at Rive Palace, La Compagnie des Bateaux a Roue. This includes a river cruise from 8:00 pm to 10:00 pm, which means that participants can leave the boat from 10:00 pm onwards. The address is Port de Javel Haut, 75015 Paris.

Getting to La Compagnie des Bateaux a Roue
There are several ways to get to La Compagnie des Bateaux a Roue from the Marriott Hotel. One of the easiest ways is to take the metro.

- At Glaciere, take Metro 6 towards Charles de Gaulle - Etoile
- At La Motte-Picquet-Grenelle, transit to Metro 10 towards Boulogne - Pont de Saint-Cloud
- At Javel - Andre Citroen, walk to River Seine to the River Palace.

For more information, please find the river cruise website at http://www.bateaux-a-roue.fr.

Important Websites and Telephone Numbers
Marriott Rive Gauche Hotel & Conference Centre
(01) 40 78 79 80

Public transport
http://www.ratp.fr/en/ratp/c_21879/tourists
http://www.aeroportsdeparis.fr

Paris Info
http://en.parisinfo.com

SOS Medicines
(01) 47 07 77 77

Police
17

SAMU (accidents)
15
IEA-ETSAP

Back to back with the IEW 2013, the IEA-ETSAP meetings will be held in Paris as follows.

- Wednesday to Friday, 12 - 14 June, the TIMES training
- Monday, 17 June, the regular ETSAP workshop
- Tuesday morning, 18 June, the ETSAP-TIAM model meeting
- Tuesday afternoon, 18 June, the Executive Committee meeting

More details can be found at www.iea-etsap.org. A separate registration to the IEA-ETSAP events is available on the ETSAP website.

OSeMOSYS Workshop

This side event will focus on the recent developments in the OSeMOSYS community during 2012-2013. Amongst others, it will showcase performance improvements of the core code, resulting in 90% less memory usage.

Further, the use of OSeMOSYS in different large scale applications will be presented, including:

a. an integrated global Climate, Land-use, Energy and Water Systems (CLEWS) model
b. the South African Power Pool (SAPP) model developed for the World Bank
c. the Ireland case study to demonstrate the modelling of operating reserve
d. an energy model for Sweden

The event will also throw some light on the development of a Semantic Media Wiki for Open energy tools and data which is an initiative of the World Bank’s Energy Sector Management Assistance Program (ESMAP) to develop a database for energy systems modelers from across the world to share and use data/tools for modelling purposes.

IRENA Workshop

This one hour session aims to inform the energy modelling community the IRENA’s latest activities on one hand and to get the feedback from the international energy experts on the other. Two main topics will be presented and discussed:

(1) collection and dissemination of renewable technology information
(2) the IRENA’s Global Renewable Roadmap 2030 (REMAP 2030) initiative

IRENA would like to get feedback on the data needs of the energy modelling community and to extend the engagement of international experts in the REMAP2030 initiative.

REMAP 2030 is a global renewable energy roadmap to double the share of renewable energy (RE) in the global energy mix by 2030 – one of the aspirational targets under the Sustainable Energy for All (SE4ALL) initiative. It is a bottom-up country-by-country assessment of potentials for renewable technology deployment options through 2030 and their associated costs, aimed at collectively assessing the gap between global targets of doubling of renewable share and the global share of renewables at given costs. The REMAP country-by-country assessment is a collaborative effort between IRENA’s secretariat and international experts.
Conference Format

**Background and Structure**

The annual meeting typically includes three plenary sessions and more than 100 presentations in parallel sessions focusing on a wide array of topics, including energy supply and price forecasts, energy savings and efficiency, renewable and innovative energy technologies, environmental and climate policy, and the intersection between energy analysis, economics and the natural sciences.

This year, the programme committee received almost 400 submissions for presentation. Of those, 120 papers are being presented. In addition, there are seven keynote speeches.

**Instructions to Chairpersons**

Each session has been assigned a chairperson who will lead the session. Each session has three to five papers and each paper has a time slot of 25 minutes. This includes a presentation of 20 minutes followed by 5 minutes for questions and discussion. We kindly ask the chairpersons to observe the start and closure time of each session, and to be strict on the time allocation as a way to give equal opportunity to all speakers.

All rooms are equipped with a projector and computer for PowerPoint presentations. Each room also has a host who will make sure that the presentations are loaded and ready to be run. We kindly recommend the chairperson to arrive a few minutes before the session start in order to get acquainted with the speakers and the host.

**Instructions to Speakers in Parallel Sessions**

We are delighted to present a rich programme with a total of 120 papers. We have reserved 20 minutes for presentation of each paper followed by 5 minutes of questions and discussion. We kindly ask all speakers to keep to their time allocation in consideration of the other speakers and the audience.

All conference rooms are equipped with a projector and computer for PowerPoint presentations. Each room has a host who can provide basic technical support. We kindly recommend the speakers to arrive a few minutes before the session starts and contact the host and the chair of the session.
## Programme Overview

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<tr>
<td>Opening Session</td>
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<td>Intervention by the co-director</td>
<td>9:45 am ~ 10:00 am</td>
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<td>Coffee break</td>
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<td>Lunch</td>
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<td>Parallel Session 1 (A/B/C/D/E)</td>
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<td>Cocktail reception</td>
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<tr>
<td>Plenary Session 1</td>
<td>9:00 am ~ 12:30 pm</td>
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<td>IRENA Workshop</td>
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<td>Parallel Session 5 (A/B/C/D/E)</td>
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Opening Session

Understanding game changers in energy market developments

9:30 am - 12:30 pm, Wednesday, Room Louis Armstrong

Chair: Bob van der Zwaan, Senior Scientist at ECN, Co-Director of the IEW

Opening Remarks: Maria van der Hoeven, Executive Director at the International Energy Agency

Maria van der Hoeven took over as Executive Director of the IEA on 1 September 2011. Previously, Ms. van der Hoeven served as Minister of Economic Affairs of the Netherlands from February 2007 to October 2010, during which time she demonstrated leadership on energy policy at the national, regional and global levels. As Executive Director of the IEA, Ms. van der Hoeven has steered the Agency during a period of exceptional change in the global energy economy. She led a strategic reorganisation of the IEA in 2012, part of an ongoing effort to reposition the agency and equip it to confront contemporary energy challenges.


David Hobbs is Head of Research for KAPSARC. Before moving to Riyadh, he had been both Chief Energy Strategist at IHS and Head of Research at IHS CERA. He is an expert in energy industry structure and strategies, and author of several studies and analyses on important energy issues ranging from the oil value chain and the problem of assessing oil and gas reserves to the impact of natural gas supplies on energy markets and technology and the effect on job creation and economic growth of energy industry investment activities. He also produced a report on the world economic crisis for the Ministerial meeting in London hosted by UK Prime Minister Gordon Brown. He has advised on several projects on topics including the Canadian oil sands, clean energy and national energy strategies. He is an adjunct professor at the University of Calgary and was on the management board of the Global Energy Executive MBA programme run jointly between the Haskayne School of Business and IHS CERA. He was also a member of the Scientific Advisory Board of the Fondazione Eni Enrico Mattei. He has nearly three decades of experience in the global energy business, and has directed projects in Asia, South America, North America, and the North Sea, as well as led major international investment and asset commercialization programmes. Mr. Hobbs holds a degree in Petroleum Engineering from Imperial College.

Keynote Speech: Fatih Birol, Chief Economist at the International Energy Agency

Fatih Birol is the IEA’s Chief Economist and responsible for the IEA’s flagship World Energy Outlook publication, which is recognised as the most authoritative source of strategic analysis of global energy markets. He is also the founder and chair of the IEA Energy Business Council, which provides a forum to enhance co-operation between the energy industry and energy policy makers. Dr. Birol has been named by Forbes Magazine among the most powerful people in terms of influence on the world’s energy scene. He is the Chairman of the World Economic Forum’s (Davos) Energy Advisory Board.
Plenary Session 1
Decarbonising the energy sector: the challenges ahead
9:00 am - 12:50 pm, Thursday, Room Louis Armstrong

Chair: Geoffrey Blanford, Programme Manager at EPRI, Co-Director of the IEW

Keynote Speech: “EU Climate and Energy Policy until 2020 and beyond”, Jos Delbeke, Director-General for Climate Action, European Commission

Jos Delbeke is the Director-General since its creation in 2010. He joined the European Commission in 1986. He was very involved in negotiations on the 2009 package on climate change and energy in the EU Council and Parliament. He has also been a key player in developing Europe’s International Climate Change strategy, its legislation on cars and fuels, the European Emissions Trading Scheme, and legislation on air quality, emissions from big industrial installations, and was very active on market-based instruments and on cost-benefit analysis, and on the chemicals legislation REACH. For several years he was the European Commission’s chief negotiator at the UNFCCC Conference of the Parties. He holds a PhD in economics and has lectured at the University of Louvain in Belgium. In 1985, he worked temporarily for the International Monetary Fund in Washington.

Keynote Speech: “Decarbonisation, electrifying times ahead”, Jorge Vasconcelos, Chairman of New Energy Solutions

Consultant to several international organizations and national authorities. Member of the Advisory Board of the Harvard Environmental Economics Program. Invited Professor at the Technical University of Lisbon (MIT-Portugal Programme). Member of the Administrative Board of ACER (Agency for the Cooperation of Energy Regulators) nominated by the European Parliament. First chairman of the Portuguese Energy Regulatory Authority (ERSE - July 1998 to December 2006). Co-founder and first chairman of the Council of European Energy Regulators (CEER – March 2000 to December 2005). First chairman of the European Regulators’ Group for Electricity and Gas (EREGE – October 2003 to December 2005). Co-founder of the Ibero- American Association of Energy Regulatory Authorities (ARIAE), Founder and member of the Executive Committee of the Florence School of Regulation (a joint venture between CEER, the European Commission and the European University Institute). Prior to the regulatory experience, he worked for the European electricity utilities (EURELECTRIC) in Brussels, for AEG in Frankfurt and at several universities in Portugal, Germany and Italy. Member of several national and international advisory committees on energy matters. Author and editor of several books and articles. He graduated in power systems from Porto University and got the Dr.-Ing. degree from the University of Erlangen-Nuremberg.

Keynote Speech: “Aligning Energy Markets Dynamics and Climate Policy Targets in Europe”, Carlo Carraro, President of the Università Ca’ Foscari Venezia

Carlo Carraro is Professor of Environmental Economics and Econometrics of the Università Ca’ Foscari Venezia. He holds a Ph.D. from Princeton University. In 2008, he has been elected Vice-Chair of the Working Group III and Member of the Bureau of the Nobel Laureate Intergovernmental Panel on Climate Change (IPCC). He has been working as IPCC Lead Author since 1995. He is Director of the Climate Change and Sustainable Development Programme of the Fondazione Eni Enrico Mattei, Director of the Climate Impacts and Policy Division of the Euro Mediterranean Centre for Climate Change (CMCC), and Director of the International Centre for Climate Governance (ICCG). He is member of the Green Growth Knowledge Platform (GGKP) Advisory Committee and of the International Advisory Board of the Harvard Environmental Economics Program (HEEP). He is also member of the Scientific Committee of the International Human Dimensions Programme (IHDP) and of the Ifo Institute for Economic Research, Munich. He is research fellow of the CEPR (Center for Economic Policy Research), London, CESifo (Center of Economic Studies ), Munich, and Associate Research Fellow, CEPS (Center of Economic Policy Studies ), Bruxelles.
Plenary Session 2
Assessing emerging economies growing energy needs
9:30 am - 12:30 pm, Friday, Room Louis Armstrong

Chair: Jean-Paul Bouttes, Executive Vice President Strategy and Prospective for EDF Group

Jean-Paul Bouttes was appointed Executive Vice President Corporate Strategy and Prospective for EDF Group and Chief Economist, in 2010. He has been in charge of Industrial Strategy of Generation Division from 2002 to 2005, and was in charge of EDF Prospective and International Affairs since 2005. Mr. Bouttes is a member of the Study Committee of the World Energy Council. He was co-chair of Electricity Group of WBCSD (World Business Council for Sustainable Development), from 2002 to 2010. He is also Professor of Energy Economics at ENSAE (Paris) and Visiting Professor at North China Electric Power University. Jean-Paul Bouttes was Professor of Economics at the Ecole Polytechnique – Paris (1992 – 2004).

Keynote Speech: “India: Drivers of Energy Demand Growth and Sustainable Response Options”, Leena Srivastava, Executive Director at TERI

Leena Srivastava is currently the Vice Chancellor of the TERI University in addition to being the Executive Director (Operations) at TERI, New Delhi. The TERI University is a graduate institution only with nearly 700 students a hundred of whom are PhD students. TERI is an independent not-for-profit research institution, with a staff size of nearly a 1000 people, working in the areas of energy, environment and sustainable development. In her three decades of experience at TERI she has worked on a range of issues covering energy and environment policy/planning, energy economics and climate change. At the University, Dr. Srivastava was Dean, Faculty of Policy and Planning, TERI University from June 2000 – June 2008. She has a PhD. in Energy Economics from the Indian Institute of Science in Bangalore, India and has a number of publications to her credit. She is on the Editorial Boards of various international journals dealing with energy and environment issues. Dr. Srivastava is also a member of various committees and Boards both at the international and national levels including International Advisory Panel, Global Carbon Capture and Storage (CCS) Institute; Member, Scientific Advisory Panel of the Climate and Clean Air Coalition (CCAC) to reduce Short-Lived Climate Pollutants (SLCP), UNEP, etc.

Keynote Speech: “Energy Transition in China with Global Climate Change 2°C Target”, Kejun Jiang, Senior Researcher of ERI, National Development and Reform Commission

From 1993, Professor Kejun Jiang began the research on climate change relative to energy policy analysis, which focus on energy technology policy assessment, energy supply policy assessment, renewable energy development and energy conservation. Started from 1994, he has worked on Integrated Assessment Model (IAM) development for energy and GHG emission scenarios, policies, focusing on China and global analysis. At present, he is mainly working on policy assessment for energy and environment policy assessment by leading Integrated Policy Assessment Model for China (IPAC) team. Major focus includes energy and emission scenarios, energy policy, energy system, energy market analysis, and climate change, local environment policies and international negotiation. Started from 1997, he worked with IPCC for Special Report on Emission Scenario and Working Group III Third Assessment Report. He was leader author for IPCC WGIII AR4 Chapter 3, and for GEO-4 Chapter 2. Now he is CLA in IPCC AR5. His recent research projects include energy and emission scenarios for 2030, low carbon emission scenarios up to 2050, assessment on energy tax and fuel tax, potential for energy target in China, development of Integrated Policy Assessment model, etc. He got his Ph.D in Social Engineering Department of Tokyo Institute of Technology.
Parallel Session 1
1:45 pm - 3:30 pm, Wednesday

A1. Carbon Capture and Storage
Room: Miles Davis A
Chair: Martin Haigh
Presentations:
A Geologically Explicit Analysis of BECCS Potential in Indonesia
Florian Kraxner
Future Prospects of Carbon Capture Technologies: An Expert Elicitation
Elena Claire Ricci
Joining the CCS Club! Insights from a Northwest European CO2 Pipeline Project
Stéphane Tchung-Ming
Is Overshoot Optimal? Negative Emissions in a Cost-Benefit Setting
Geoffrey Blanford

B1. Fossil Fuels
Room: Miles Davis B
Chair: Marketa Halova
Presentations:
Gas Does Affect Oil: Evidence from Inventory Announcements and Intraday Volatility
Marketa Halova
A Bottom Up Assessment of Oil Field Production Potential in the Medium Term: An Introduction to the BUEGO Model
Christophe McGlade
Rational Habits and Uncertain Prices: Simulating Gasoline Consumption Behavior
Rebecca Scott

C1. Emission Trading Scheme 1
Room: Miles Davis C
Chair: Jurate Jaraite
Presentations:
Jurate Jaraite
Is the EU ETS Relevant? The Impact of Allowance Over-Allocation on Share Prices
Thijs Jong
The EU Emission Trading Scheme Sectoral Allocation Patterns and Factors Determining Emission Changes
Claudia Kettner
Medium-Term Impacts of Efficiency and RES Policies on EU ETS
Nikolaos Tasios

D1. Energy and Climate Modelling 1
Room: Louis Armstrong
Chair: Vatsal Bhatt
Presentations:
Energy and Climate Modeling in U.S. Northeast Corridor Regional Earth System Model
Vatsal Bhatt
Why CLEWS Matter - A Focus on the Energy System of Mauritius
Manuel Welsch
Caspian Energy Systems: Multiregional Model and Analyses of the Interregional Trades
Rocco De Miglio
Application of RU TIMES Model for Climate Policy Evaluation under Uncertainty
Dmitry Gordeev

E1. Renewables and Electricity 1
Room: Auditorium
Chair: Asami Miketa
Presentations:
EU Energy Roadmap: Learning and Intermittency
Johannes Bollen
Optimum Capacity Installation of Renewable Energy for Electricity Generation in Kuwait by 2035
Osamah Alsayegh
Estimating the Long-Run Effects of Environmental Policies on the Electricity Grid: Prices, Investment, Demand Response and Resulting Carbon Dioxide Emissions
Daniel Shawhan
Will Wind Kill Energy-Only Electricity Markets
Stephen Poletti
A2. Energy Efficiency
Room: Miles Davis A
Chair: Jean Chateau
Presentations:
Jean Chateau
Price Effects of Energy-Efficiency Labels in Spanish Automobiles
Ibon Galarraga
Energy Efficiency Policies and Climate Change Mitigation Costs: A General Equilibrium Assessment
Aurelie Mejean
Peak Exergy and the Exergy Multiplier Effect: Results and Implications of 1900-2010 Exergy Conversion Efficiency Studies for the UK, US and Japan
Paul Brockway

B2. Bioenergy
Room: Miles Davis B
Chair: Ruud Kempener
Presentations:
Optimizing Biomass Contribution to Global Energy Balance
Francois Cattier
Climate, Land, Energy and Water (CLEW) Interlinkages in Burkina Faso: An Analysis of Agricultural Intensification and Bioenergy Production
Mark Howells
The Role of the Forest in an Integrated Assessment Model of the Climate and the Economy
Mathilda Eriksson

C2. Emissions Trading Scheme 2
Room: Miles Davis C
Chair: Ruben Lubowski
Presentations:
Incomplete Dynamic Greenhouse Gas Mitigation Policy: Taxes versus Cap-and-Trade
Jon Strand
Modeling Spot and Options Markets for Avoided Deforestation Credits: The Role of Multiple Market Instruments under Climate Policy Uncertainty
Ruben Lubowski
Accounting for Market Realities: Greenhouse Gas Offset Supply Incentives
Steve Rose

Experimental Tests of Mechanism Design for the California Cap and Trade Program
William Shobe
Evidence of a Nonlinear Effect of the EU ETS on the Electricity Generation Sector
Kirat Djamel

D2. Energy and Climate Modelling 2
Room: Louis Armstrong
Chair: Jan Duerinck
Presentations:
Global Energy Scenarios 2050 of the World Energy Council
Martin Densing
A 100% Renewable Energy System In Belgium by 2050: Assessment of Different Long Term Trajectories to Transform the Current Belgian Energy System into a 100% Renewable Energy Mix
Jan Duerinck
German Energy Concept versus Grid Development Plan 2012: A Discrepancy?
Thiemo Pesch
Olivia Ricci

E2. Economics of Renewable Energy Technologies
Room: Auditorium
Chair: Jose M Chamorro
Presentations:
Valuation of Wind Energy Projects: A Real Options Approach
Jose M Chamorro
Economic Analysis on the Profitability of Wind in Portugal between 1992-2010
Ivonne Pena
Are We There Yet? Improving Solar PV Economics and Power Planning in Developing Countries: The Case of Kenya
Janosch Ondraczek
Economic Loss in Czech Photovoltaic Power Plants
Jan Prusa

4:00 pm - 6:00 pm, Wednesday
Parallel Session 3
1:45 pm - 3:30 pm, Thursday

A3. Industry
Room: Miles Davis A
Chair: Osmel Manzano
Presentations:
Productivity Spillover of Resource Exploitation: Evidence from Venezuelan Industrial Surveys
Osmel Manzano
Bottom-Up Assessment of Chinese Manufacturing Growth and Energy Use up to 2020
Ali Hasanbeigi
The Future of Global Steel Production - An Energy and Climate Modelling Exercise Using ETSAP-TIAM and SAAM
Johannes Morfeldt

B3. Uncertainty
Room: Miles Davis B
Chair: Joe DeCarolis
Presentations:
Modelling Primary Energy Consumption under Model Uncertainty
Zsuzsanna Csereklyei
How Much Should We Value Uncertainty in Energy System Planning?
Joe DeCarolis
Contribution of CCS, Nuclear Power and Biomass under Uncertainty - Decision Making on Min-Max Regret and Max Expected Utility Strategies
Shunsuke Mori
Geoengineering and Abatement: A 'Flat' Relationship under Uncertainty
Johannes Emmerling

C3. Carbon Tariff
Room: Miles Davis C
Chair: Thomas Rutherford
Presentations:
The Integrated Energy Taxation for Green Fiscal Reform: A Dynamic Three-Part Tariff Approach
Huichen Chien
The Strategic Value of Embodied Carbon Tariffs
Thomas Rutherford
The Relevance of Carbon Free Production Processes for Carbon Leakage and Carbon Border Adjustment
Karl Steininger

D3. LIMITS Special Session 1
Room: Louis Armstrong
Chair: Emanuele Campiglio
Presentations:
A Macroeconomic Perspective on Climate Change Mitigation: Meeting the Financing Challenge
Emanuele Campiglio
Energy Security of China, India, the EU and the US under Long-Term Scenarios: Results from Six IAMs
Jessica Jewell
Regional Burden Sharing Regimes for Reaching a Global Long-term Climate Change Control Target
Tom Kober
Bridging the Clean Energy R&D Gap to 2 °C
Giacomo Marangoni

E3. WEO Special Session
Room: Auditorium
Chair: Christian Besson
Presentations:
Modelling the Power Sector and Electricity Prices in IEA’s World Energy Outlook
Marco Baroni
Modelling the Surge in Light Tight Oil Production in IEA’s World Energy Outlook
Christian Besson
Modelling the Potential for Industrial Energy Efficiency in IEA’s World Energy Outlook
Fabian Kesicki
Modelling Oil Demand from Road Freight Transport in IEA’s World Energy Outlook
Timur Gül

OSeMOSYS Workshop
12:30 pm - 1:30 pm, Thursday, Room Louis Armstrong
A4. Transport
Room: Miles Davis A
Chair:
Presentations:
Promoting Alternative, Environment Friendly Passenger Transport: Directed Technological Change in a Bottom-Up/Top-Down CGE Model
Veronika Kulmer
Long-Term Transport Energy Demand and Climate Policy: Alternative Visions on Transport Decarbonization in Energy-Economy Models
Robert Pietzcker
Incorporation of Consumer Vehicle Demand in Energy Systems Models and the Implication for Climate Policy Analysis
Kalai Ramea
Global Transportation Demand and Fuel Uses in a Carbon Constrained World
Jacob Teter

B4. Challenges in Energy Modelling
Room: Miles Davis B
Chair: Antti Lehtila
Presentations:
The Comparative Impact of Modeling Structures on Climate Policies
Perrissin Fabert Baptiste
Enhancing the Policy Relevance of Scenario Studies through a Dynamic Analytical Approach Using a Large Number of Scenarios
Céline Guivarch
Challenges in Top-Down and Bottom-Up Soft Linking: The Case of EMEC and TIMES-Sweden
Anna Krook Riekkola
Decomposing the Global TIAM-MACRO Model to Assess Climatic Change Mitigation
Antti Lehtila

C4. Climate Impact
Room: Miles Davis C
Chair: Maryse Labriet
Presentations:
Climate Change Impacts on the Electricity Sector in Continental Europe: A Linked Modeling Approach
Birgit Bednar-Friedl
Impacts of Climate Change on Heating and Cooling: A Worldwide Estimate from Energy and Macro-Economic Perspective
Maryse Labriet
The Impact of Climate Change on the Renewable Energy Production in Norway National and Regional Analyses
Arne Lind

D4. LIMITS Special Session 2
Room: Louis Armstrong
Chair: Bob van der Zwaan
Presentations:
Investments, Offsets, and Incentives: An Analysis of the 2°C Target and What It Takes to Achieve It
David McCollum
The Distribution of the Major Economies’ Effort in the Durban Platform Scenarios
Massimo Tavoni
A Cross-Model Comparison of Global Long-term Technology Diffusion under a Climate Change Control Target
Bob van der Zwaan
CO2 Emission Mitigation and Fossil Fuel Markets: Dynamic and International Aspects of Climate Policies
Nico Bauer

E4. Renewables and Electricity 2
Room: Auditorium
Chair: George Giannakidis
Presentations:
System LCOE: What are the Costs of Variable Renewables?
Falko Ueckerdt
Incorporating Grid Expansion Calculation Algorithms in the TIMES Model, for Improved Operation under Wide-Scale RES Penetration
George Giannakidis
Managing Temporary Oversupply from Renewables Efficiently: Electricity Storage Versus Energy Sector Coupling in Germany
Katrin Schaber
Economic Value of Intermittent Generation in the Nordic Power Markets
Maria Kopsakangas-Savolainen

IRENA Workshop
6:00 pm - 7:00 pm, Thursday, Room Louis Armstrong
Parallel Session 5
1:45 pm - 3:30 pm, Friday

A5. Energy-Economy
Room: Miles Davis A
Chair: Miguel Rodriguez
Presentations:
- Forward-Looking Energy Elasticity Parameters for Nested CES Production Function
  Oleg Lugovoy
- The Welfare Cost of Energy Security
  Baltasar Manzano
- Rethinking the Environmental Kuznets Curve for CO2. New Evidence and Conclusions.
  Miguel Rodriguez

B5. Discounting
Room: Miles Davis B
Chair: Masayuki Otaki
Presentations:
- Consuming More and Polluting Less, Today: Efficient Climate Policies and Intergenerational Equity
  Niko Jaakkola
- Endogenous Social Discount Rate, Proportional Carbon Tax, and Sustainability: Do We Have the Right to Discount Future Generations’ Utility?
  Masayuki Otaki
- Intergenerational Discounting and Market Rate of Return in OLG version of RICE Model
  Andrey Polbin

C5. Electricity Market
Room: Miles Davis C
Chair: Beat Hintermann
Presentations:
- Assessing the Long-Term Impacts of Demand-Side Integration
  Stéphanie Bouckaert
- Estimation of Carbon Cost Pass-Through in Electricity Markets
  Beat Hintermann
- A Coupled FTR and Electricity Market Model to Test Strategic Hypotheses in Restructured Electricity Markets
  Sertac Oruc

The Impact of Plausible Changes in the Load Pattern on Capacity Investments and Carbon Emissions: The Case of the Netherlands
Gönenç Yücel

D5. Climate Change Mitigation
Room: Louis Armstrong
Chair: Paul David
Presentations:
- Carbon Lock-In and Path Dependency Associated with Weak Near-Term Climate Policies
  Christoph Bertram
- Designing an Optimal Path to Global Climate Stability: R&D in a Multi-Phase Climate Policy Framework
  Paul David
- Optimal Climate Policies under the 2°C Constraint Using a Probabilistic Climate Model
  Laurent Drouet

E5. Climate Agreement
Room: Auditorium
Chair: Massimo Tavoni
Presentations:
- Perfectly Coalition-Proof Overlapping Environmental Agreements
  Emilson Silva
- Endogenous Participation to a Partial Climate Agreement with Open Entry: A Numerical Assessment
  Massimo Tavoni
- The Costs of a Global Climate Agreement in China: A Tale of Carbon Price, "When Flexibility" and Quota Allocation
  Meriem Hamdi-Cherif
- Regional IAM: Analysis of Risk-Adjusted Costs and Benefits of Climate Policies
  Alexander Golub
A6. Buildings
Room: Miles Davis A
Chair: Carsten Schroeder
Presentations:
On the Role of the Residential Heating Sector in the Energy Transition in Germany an Optimising Energy System Model Approach in TIMES
Daniel Fehrenbach
Energy Demand Scenarios for Heating in the EU Residential Sector
Eoin Ó Broin
Household Formation and Residential Energy Demand: Evidence from Japan
Carsten Schroeder
Fuel and Stove Diversification in the Light of Energy Transition and Technology Adoption Theory
Michael Treiber
In-Home Production and Consumption of Electricity: The Case of Photovoltaic Systems in Italian Households
Vito Frontuto

B6. Green Paradox
Room: Miles Davis B
Chair: Robert Cairns
Presentations:
The Green Paradox of the Economics of Exhaustible Resources
Robert Cairns
The Climate Rent Curse: New Challenges for Burden Sharing
Ulrike Kornek
Keep High-Value Carbon Underground to Prevent the Strong Green Paradox?
Mark Schopf
Should We Be Worried about the Green Paradox?
Eduard van der Werf

C6. Policies in Electricity Generation
Room: Miles Davis C
Chair: Carolyn Fischer
Presentations:
Energy Market Impacts of Nuclear Power Phase-Out Policies
Taoyuan Wei
Environmental and Technology Policy Options in the Electricity Sector: Interactions and Outcomes
Carolyn Fischer
Cost-Effectiveness and Economic Incidence of a Clean Energy Standard
Bryan Mignone
Electric Power Planning under Uncertainty: Climate Policy and Shale Gas in the US
John Bistline
Nearly Perfect and Poles Apart: Investment Strategies into the UK Power System until 2050
Evelina Truneyte

D6. Energy Use and Technology Change
Room: Louis Armstrong
Chair: Joris Morbee
Presentations:
A Consumer-Producer Model for Induced Technological Progress
Francesco Ferioli
A Stock Price Model for Technology Learning in Energy Systems Modelling
Joris Morbee
Endogenous Technological Change in Energy System Modeling: Implementing and Understanding the Experience Curve
Delavane Turner
Innovation Benefits from Nuclear Phase-Out: Can They Compensate the Costs?
Samuel Carrara
Representing International Technology Spillovers in a Computable General Equilibrium Energy-Economic Model
Benjamin Leibowicz

E6. Renewable Policies
Room: Auditorium
Chair: Gireesh Shrimali
Presentations:
Bridging Renewable Electricity Subsidy with Carbon Offset Scheme: What Evidence from Wind Technology Diffusion in China?
Liu Yang
Are Renewable Portfolio Standards Effective to Reduce CO2 Emissions?
Cristian Hernandez
Employment in Renewables: A Literature Review and Case Study
Lachlan Cameron
Financing Renewable Deployment in India: Implications for Policy
Gireesh Shrimali
Inducing Private Finance for Renewable Energy Projects: Evidence from Micro-Data
Miguel Cardenas-Rodriguez
Maps

Workshop venue, River Cruise dinner and IEA; for the details, click the link.

International Energy Agency
9, rue de la Fédération, 75739, Paris

Compagnie des Bateaux a Roue
Port de Javel Haut, 75015 Paris

Marriott Rive Gauche Hotel & Conference Centre
17 Boulevard Saint-Jacques, 75014 Paris
Plan of Venue

LES CLUBS DE JAZZ
(Level -1)

Charlie Park
Louis Armstrong
Auditorium
Miles Davis

LES JARDINS
3rd Floor

LE PATIO

EXTENSION PATIO
SALON DE COIFFURE HAIRDRESSER
EXECUTIVE LOUNGE
LE PARC MONTSOURIS
JARDIN DU LUXEMBOURG
BOULEVARD SAINT JACQUES