Annual Meeting of the

International Energy Workshop

jointly organized by EMF/IEA/ETSAP/IIASA
24-26 June 2003 at the Conference Center, Laxenburg, AUSTRIA

Program

Tuesday - 24 June 2003

08:15	Shuttle Bus from Parkhotel Schönbrunn / Hotel Prinz Eugen to IIASA Conference Center
08:00-08:45	*Registration* -- Entrance of the Conference Center in Laxenburg
09:00-09:10	*Opening and Welcome Address*: **Leen Hordijk** - IIASA Director
	Alan Manne, John Weyant, Fatih Birol, GianCarlo Tosato, and Leo Schrattenholzer – Coordinators

PLENARY SESSION I

CHAIRPERSON: Cesare Marchetti

09:10-09:30	**Leo Schrattenholzer**	Long-Term Energy-Economic-Environment Scenarios and Policy Making
09:30-10:00	**Hannes Jónsson**	Towards Hydrogen Economy in Iceland
10:00-10:30	**Phillip Tseng**, John Lee, and Paul Friley	Hydrogen Economy: Opportunities and Challenges
10:30-11:00	Coffee Break	
11:00-11:30	**Domenico Rossetti di Valdalbero**	The EU Models and the High-level Group on Hydrogen and Fuel Cells
11:30-12:00	**Naomoto Uesugi**	R&D Efforts for a Competitive Market
12:00-12:30	**Steve Xia**	General Electric's Hydrogen Research
12:30-14:00	Lunch	

14:00-17:40	Parallel Sessions (see next page)
18:00-20:30	Social Event: IIASA Schloss Restaurant Shuttle Bus to the Parkhotel Schönbrunn / Hotel Prinz Eugen at 20:30

Tuesday Afternoon - 24 June 2002 - 14:00-17:40

	Theater Hall #215 PARALLEL SESSION I: ALTERNATIVE FUELS **CHAIRPERSONS**: Ottmar Edenhofer and Peter Read	Marschall Room I #188 PARALLEL SESSION II: LEARNING AND TECHNOLOGICAL PROGRESS **CHAIRPERSONS**: Alan McDonald and Jürgen-Friedrich Hake	Marschall Room II #177 PARALLEL SESSION III: RENEWABLE ENERGY AND SUSTAINABLE DEVELOPMENT (1 of 2) **CHAIRPERSONS**: Claudia Kemfert and Kurt Kratena	Kamin Room #173 PARALLEL SESSION IV: METHODOLOGY **CHAIRPERSONS**: Ronald Sands and Amit Kanudia
14:00-14:20	Hydrogen Infrastructure Modeling in USEPA-MARKAL ***Ken Harrison***	Modeling Experience Curves in MERGE ***Socrates Kypreos***	Sustainable Energy Supply in Germany - Scenario Analysis with Different CO_2 Prices ***Markus Blesl***, Uwe Remme, and Ulrich Fahl	Possible Global Warming Futures, an Imprecise Probability Theory Approach ***Minh Ha Duong***
14:20-14:40	The Hydrogen Economy in the 21st Century: A Sustainable Development Scenario ***Leonardo Barreto***, Atsutoshi Makihira, and Keywan Riahi	Energy Infrustructures Modeling: Eurasia Gas Pipelines System Arkadii Kryazhimsky, Oleg Nikonov, ***Yaroslav Minullin***	Waste Recycling for Biomass Electricity: A Comparison between India and China ***Ashish Rana***, Hongwei Yang, and Toshihiko Masui	Emission Permit Allocation Schemes and Industrial Growth: An Analysis Using MARKAL ***Richard Loulou*** and Amit Kanudia
14:40-15:00	Pollution-Free Hydrogen from Nuclear Power ***Alistair I. Miller*** and Romney B. Duffey	Technical Change in Energy Related Methane Abatement Casey Delhotal, Francisco de la Chesnaye, ***Michael Gallaher*** and Marvin Branscome	Innovation Takes Off in Chinese Automobile Industry ***Cheng Chang***	Assessment of the Very Long Term Development of the Needs For Energy Services: The VLEEM Methodology ***Bertrand Chateau***, N. Quercia and the VLEEM consortium
15:00-15:20	Tax Exemption for Biofuels in Germany: Is Bio-ethanol Really an Option for Climate Policy? ***Jan Michael Henke***, Gernot Klepper and Norbert Schmitz	A Dynamic Programming Approach to Learning-by-Doing ***Charles Ng***	South Asian Energy and Emission Perspectives for 21st Century Jyoti Parikh and ***Kankar Bhattacharya***	Estimation of Real Emissions Reduction Caused by Wind Generators ***Olev Liik***, Rein Oidram and Matti Keel
15:20-15:40	Effective Utilization of By-product Oxygen at Hydrogen Production by PEM ***Takeyoshi Kato***, Mitsuhiro Kubota, Noriyuki Kobayashi and Yasuo Suzoki	Induced Technological Change Under Energy Taxes ***Reyer Gerlagh***, Wietze Lise, and Bob van der Zwaan	Multi-Gas Strategy in Committing to the Kyoto Protocol ***Marc Vielle*** and Alain L. Bernard	Energy Productivity Across OECD and Non-OECD Countries in 10 Manufacturing Sectors - Patterns of Growth and Convergence Asami Miketa and ***Peter Mulder***
15:40-16:00	Coffee Break			

16:00-16:20	Quantitative Analysis of CO_2 Emission Reduction by Introducing Stationary Type PEFC Systems ***Yutaka Nagata***	Learning Curve Analysis for Energy Technologies: Theoretical and Econometric Issues ***Thomas Sundqvist*** and Patrik Söderholm	ADMIRE-REBUS: Modelling the European Market for Green Electricity B.W. Daniels and Martine A. Uyterlinde, and ***H.J. de Vries***	Analysis of Future Network Developments with the Help of the VLEEM Back-Casting Methodology Thomas Hamacher, M. Biberacher and the VLEEM consortium
16:20-16:40	The Role of Energyplexes in the 21st century: Coal Gasification for Co-producing Hydrogen, Electricity and Liquid Fuels ***Kei Yamashita*** and Leonardo Barreto	Technological Changes in Long Term Transition Scenarios ***Koen Smekens***	Linking Promotion Strategies for RES-E and CO_2 Reduction in a Liberalised Electricity Market: Is Harmonisation of Policy Necessary? ***Claus Huber*** and Poul Erik Morthorst	Impact Parameters on Electricity Prices in Liberalised Electricity Markets ***Reinhard Haas***
16:40-17:00	Economical CO_2, SOx and NOx Capture from Fossil Fuel Utilization with Combined Renewable Hydrogen Production and Large Scale Carbon Sequestration ***Danny Day***		Tying Europe Together - Long-Term Effects on Green Electricity Production in the Nordic Countries from Cross-Border Trade ***Anna Krook-Riekkola***, Erik O. Ahlgren, and Ingrid Nyström	An Energy Model for a Low Income Rural African Village Thomas Alfstad, Gary Goldstein, David Victor, Lindsey Jeftha and ***Mark Howells***
17:00-17:20				
17:20-17:40	Discussions/Conclusions	Discussions/Conclusions	Discussions/Conclusions	Discussions/Conclusions
18:00-20:30	Social Event: IIASA Schloss Restaurant Shuttle Bus to the Parkhotel Schönbrunn / Hotel Prinz Eugen at **20:30**			

Wednesday Morning - 25 June 2003 – 9:30-12:30

08:15	Shuttle Bus from Parkhotel Schönbrunn / Hotel Prinz Eugen to IIASA Conference Center	

PLENARY SESSION II: Energy Modeling Forum (EMF) Study

CHAIRPERSON: John Weyant

09:00-09:30	**Hillard G. Huntington**	EMF 20: Natural Gas, Fuel Diversity and North American Energy Markets
09:30-10:00	Francisco de la Chesnaye, **Casey Delhotal**, and John P. Weyant	EMF 21: Multi-Gas Mitigation and Climate Change
10:00-10:30	**John P. Weyant**	Technology and Climate Policy: EMF 19 and Global Climate and Energy Project (GCEP)
10:30-11:00	Coffee Break	
11:00-11:30	**Shunsuke Mori**	Outline of the Integrated Assessment of Global Warming and its Mitigation Technologies in the Changing World Economy and Industry Project and some extensions of MARIA
11:30-12:00	**William Nordhaus**	Climate Policy in a Unilateral World: Some Initial Thoughts
12:00-12:30	Discussions	
12:30-14:00	Lunch	

14:00-17:40	Parallel Sessions (see next page)
18:00	Shuttle Bus to the Parkhotel Schönbrunn / Hotel Prinz Eugen

Wednesday Afternoon - 25 June 2002 - 14:00-17:40

	Theater Hall #215 PARALLEL SESSION V: CONTROLLING EMISSIONS: CARBON SEQUESTRATION AND CAPTURE **CHAIRPERSONS**: Hillard Huntington and Stefan Schleicher	Marschall Room I #188 PARALLEL SESSION VI: ENERGY TECHNOLOGY ASSESSMENT **CHAIRPERSONS**: Socrates Kypreos and Olev Liik	Marschall Room II #177 PARALLEL SESSION VII: RENEWABLE ENERGY AND SUSTAINABLE DEVELOPMENT (2 of 2) **CHAIRPERSONS**: Richard Loulou and Gunter Stephan	Kamin Room #173 PARALLEL SESSION VIII: ENERGY-ECONOMIC-ENVIRONMENT Scenarios **CHAIRPERSONS**: Leonardo Barreto and Bertrand Chateau
14:00-14:20	IEA Energy Technology Perspectives Project: Using a Global Energy Technology Model to Investigate Technology Policy Scenarios ***Fridtjof Unander***, Carmen Difiglio and Dolf Gielen	What Kinds of HVAC Technology Could Improve Energy Efficiency in Japan? Gas CHP or Advanced Heat Pump System? ***Masahito Takahashi*** and Hiroshi Asano	Global Climate Change and the Equity-Efficiency Puzzle ***Alan S. Manne*** and Gunter Stephan	Internalising Externalities in MARKAL - TIMES Models ***Denise Van Regemorter*** and GianCarlo Tosato
14:20-14:40	Internalisation of External Costs - Insights from Global Markal Model ***Peter Rafaj*** and Socrates Kypreos	Evaluations of R&D Strategy for Advanced Power Generation Technologies in Japan with a MIP Model Based on GERT ***Keigo Akimoto***, Ayami Hayashi, Takanobu Kosugi, Toshimasa Tomoda	Linking Developing Country's Cooperation on Climate Control With Industrialized Country's R&D and Technology Transfer ***Claudia Kemfert*** and ZhongXiang Zhang	White Certificates In MARKAL Models of Italy and Europe: Case Studies to Analyze Energy Efficiency Improvement Policies ***Federico Santi*** and GianCarlo Tosato
14:40-15:00	Long-term Perspectives for Carbon Capture in Power Plants: A Scenario for the 21st Century ***Keywan Riahi***, Leonardo Barreto, Shilpa Rao and Edward Rubin	A Study on Greenhouse Gas Emission Reduction Potential of Steel and Iron Industry in Korea ***Heesung Shin*** and Jongchul Hong	Integrated Climate Change Strategies of Industrialized Countries ***Katia Simeonova*** and Harald Diaz-Bone	Energy Scenarios for Italy Prepared by a General Equilibrium Model (MARKAL MACRO) Mario Contaldi and ***Francesco Gracceva***
15:00-15:20	The Impact of Carbon Sequestration on the Cost of Electricity and Hydrogen in Europe in the Medium Term ***Evangelos Tzimas*** and S.D. Peteves	Advanced Electric Generating Technologies in a CGE Model of Germany ***Ronald D. Sands*** and Katja Schumacher	Modeling Greenhouse Gases Abatement Scenarios with World-MARKAL: A Comparative Analysis of Permit Allocation Schemes Amit Kanudia, Richard Loulou and ***Kathleen Vaillancourt***	Security of Gas Supply in an Enlarged Europe ***Ruud G. Egging***, M.G. Boots and F. van Oostvoorn
15:20-15:40	Multipollutant Emissions Reduction and CO_2 Control: The Costs of Regulatory Uncertainty Tim Johnson and ***David Keith***	Supplier Strategies and Responses to Institutional Drivers for an Emerging Energy Technology ***Neil Strachan*** and Hadi Dowlatabadi	Carbon Cycle Impacts of Plantation Land-Owners as Joint Producers of Timber and Fuel: Towards Incentive-Compatible Modeling of Land Use Change Policy Impacts ***Peter Read*** and Jonathan Lermit	Roads to Carbon Reduction in Germany P. Markewitz, ***Dag Martinsen*** and S. Vögele
15:40-16:00	Coffee Break			

16:00-16:20	Long-Term Multigas Mitigation Strategies using MESSAGE ***Shilpa Rao*** and Keywan Riahi	A Systematic Approach for Energy Technology Assessment ***Getachew Assefa*** and Björn Frostell	Sustainable Energy Use and Energy Supply - A Challenge for the Future ***Jürgen-Friedrich Hake*** and Regina Eich	An Econometric Analysis of the Interdependence among Economy, Energy, and Environment in China ***Mitsuo Yamada***
16:20-16:40	Is Carbon Sequestration in Geological Formations an Option to Buy Time? ***Ottmar Edenhofer*** and Nico Bauer	The Role of Technology Development in Greenhouse Gas Emission Reductions - Case of Finland Sanna Syri, ***Antti Lehtilä***, and Ilkka Savolainen	Sustainable Development in Energy: Comparative Assessment of Energy Options ***Alfred Voß*** and Ulrich Fahl	An Introduction to the EnFore System: A Computerized Decision Support System 3-E Model for Taiwan Yunchang Jeffrey Bor and ***Cheng Yee Chiu***
16:40-17:00	Timescales for CO_2 Storage: How Long is Long Enough? ***David Keith***	Wind Power in Finland until the Year 2025 ***Vilja Varho*** and Petri Tapio	CDM, FDI and Climate Change: Where Foreign Direct Investment Flows and Where They Should Flow ***Enzo Di Giulio***, Stefania Migliavacca and Alessandro Vaglio	Burden-sharing Rules for Stabilizing Greenhouse Gas Concentrations: A First Assessment of Their Equity and Cost Implications ***Asami Miketa*** Ger Klaassen, Leo Schrattenholzer and Bing Zhu
17:00-17:20	Mocking at MACs Ton Manders and ***Johannes Bollen***	The Role of Technology in Inter-Fuel Substitution: A Combined Cross-Section and Time Series Approach ***Kurt Kratena*** and Michael Wueger	Approaching the Kyoto Targets: Key strategies for Local Communities ***Monica Salvia***, F. Pietrapertosa, C. Cosmi, M. Macchiato, G. Marmo	
17:20-17:40	Discussions/Conclusions	Discussions/Conclusions	Discussions/Conclusions	Discussions/Conclusions
18:00	Shuttle Bus to the Parkhotel Schönbrunn / Hotel Prinz Eugen			

Thursday Morning - 26 June 2003 – 9:30-12:30

08:15	Shuttle Bus from Parkhotel Schönbrunn/Hotel Prinz Eugen to IIASA Conference Center	

PLENARY SESSION III

CHAIRPERSON: Alan Manne

09:00-09:30	**Fatih Birol**	Global Energy Investment Challenges
09:30-10:00	**Priyadarshi R. Shukla**	Climate Change Mitigation in Developing Countries
10:00-10:30	**Nebojša Nakićenović**	The Methane Age and Beyond: The Emergence of New Energy Technologies
10:30-11:00	Coffee Break	
11:00-11:30	**Robert Ayres**	The Economy as a Materials Processing System: A New Evolutionary Paradigm
11:30-12:00	**GianCarlo Tosato**	ETSAP and Standardized Tools for Long Term Economic Modeling of Energy Systems
12:00-12:30	Discussions	
12:30-14:00	Lunch	

14:00 Shuttle Bus to the Parkhotel Schönbrunn / Hotel Prinz Eugen

The organizers wish to thank EPRI, Palo Alto, California for their financial support of the meeting.