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4th AIEE Energy Symposium



Current and Future Challenges to Energy Security

the just transition



Rome, 10-12 December, 2019 - LUMSA University

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Editorial Note

Dear Colleague,

The AIEE - Italian Association of Energy Economists (Italian affiliate of the IAEE - The International Association for Energy Economics) is organizing this international conference in cooperation with the LUMSA University of Rome to bring together energy experts engaged in academic, business, government, international organizations for an exchange of ideas and experiences on the present and future landscape of energy security.

The first three editions of the AIEE Symposium on Energy Security - Milan 2016, Rome 2017 and Milan 2018 were an opportunity to explore new energy trends, challenges and creative solutions for the energy security, the availability of new technologies, the emergence of new market conditions and of new market operators.

Following up on the success of the past editions we are delighted to announce this fourth AIEE Energy Symposium to provide a fresh look on the major forthcoming issues offering an excellent occasion to continue the dialogue and to share best practice and experience with delegates from all over the world.

The energy situation is evolving in Europe as well as in the rest of the world, where new actors, the emerging economies, are taking the leading role. Political developments in several areas of the globe (North Africa and Middle East, the Caspian region, ASEAN countries) are reshaping the geopolitical situation, generating some worries about the security of supply in the EU countries.

The concept of energy security is undergoing a rapid transformation. In the past, geopolitics and the supply of oil and gas were the dominant factors determining energy security. Today, a broader and more com-

plex spectrum of elements are interacting to both stabilize and threaten energy security. The availability of energy sources, when we consider both fossil fuels and renewables, is increasing. In particular, a major source of change is the strong growth in the production and integration of renewable and distributed energy, which offers opportunities to diversify the energy mix and thus improve energy security by reducing physical reliance and price exposure to only a few sources and countries. At the same time, this paradigm of a new energy system has strong implications both on petroleum-producing countries and companies, with knock-on effects on geo-economic balance of powers and energy markets and on the security and reliability of the transmission and distribution networks.

The new challenges of the digital revolution that on one hand offers opportunities to improve efficiency, to have lower costs but on the other hand raises a whole new set of challenges and creates vulnerabilities we have never seen before so that energy is being viewed as a key part of national security.

While in the past the supply side was the dominant factor in energy security, with the critical element being the possibility of sourcing the products to produce electricity and provide mobility, now the energy security balance is changing.

No better stage can be imagined for this debate than Rome "caput mundi", with its powerful evocations of a long and spectacular past, the crossroad of political, economic and cultural activity, one of the most beautiful cities in the world.

Carlo Di Primio, AIEE President

Organization

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Conference Secretariat

Anna Paola Calapaj, Antonino Bonfiglio, Antonietta Donia - AIEE - Italian Association of Energy Economists
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Conference agenda

Monday, December 10, 2019

- 16.00 - 18.00 **Registration**
- 16.30 - 17.30 **Opening Welcome Address** (*Aula Magna*)
- Carlo Di Primio**, AIEE President
Carlo Andrea Bollino, Conference General Chair, AIEE Honorary President
Gennaro Iasevoli, Deputy Rector for Research and internationalisation, LUMSA University
Claudio Giannotti, Director of the Department of Law, Economics, Politics and Modern languages, LUMSA University
Nicoletta Rangone, President of the Scientific Committee LUMSA University
Agime Gerbeti, President of the Programme Committee LUMSA University
- Keynote speakers*
Alberto Biancardi, ARERA, GSE
Gabriele Checchia, President of AWOS, former Italian Ambassador at OCSE, Permanent Representative of Italy to NATO
- 17.30 - 19.00 **Welcome Cocktail** (*room Aula Pia - LUMSA University - Building B*)

Tuesday, December 11, 2019

- 08.30 - 17.00 **Registration**
- 08.30 - 10.30 **Welcome coffee** (*Venue Hall*)
- 09.00 - 10.30 **Concurrent Sessions (1-4)**
- 01 Household energy efficiency** - (room dell'Olio)
Chair: Federico Santi, La Sapienza University of Rome, Italy
 - 02 Raising awareness on the decarbonization process** - (Aula Magna)
Chair: Carlo Di Primio, AIEE, Italy
 - 03 Modelling the volatility of the energy market** - (room Traglia)
Chair: Carlo Andrea Bollino, AIEE, Italy
 - 04 Renewable energy market** - (room Tincani)
Chair: Fereidoon Sioshansi, President Menlo Energy Economics, USA
- 10.35 - 11.35 **Dual Plenary Sessions**
- EU towards 2030 and the energy security concerns*** (*Aula Magna*)
Chair: Agime Gerbeti, Adjunct Professor, LUMSA University, Italy
- Regulatory challenges and market developments*** (*room Tincani*)
Chair: Alessandro Ortis, President State-General of Energy Efficiency
- 11.40 - 13.10 **Concurrent Sessions (5-8)**
- 05 Clean energy investments** - (room Traglia)
Chair: Andre Cieplinski, University of Siena, Italy
 - 06 Decarbonizing the gas and oil sectors: green perspectives** (*Aula Magna*)
Chair: Silvia Pariente-David, World Bank, France
 - 07 BCB : Bitcoin, Circular economy and Blockchain** - (room Tincani)
Chair: Agime Gerbeti, LUMSA University, Italy
 - 08 The Electricity market: risks and opportunities** - (room Dell'Olio)
Chair: Lucia Visconti Parisio, University of Milan Bicocca, Italy
- 13.10 - 14.10 **Lunch buffet** (*Room - Aula Pia*)
- 14.15 - 15.45 **Dual Plenary Sessions**
- Energy industry challenges to a low-carbon economy, the gas role in the transition*** (*Aula Magna*)
Chair: Carlo Di Primio, AIEE President, Italy
- Sustainable mobility challenges for the transition targets*** (*room Tincani*)
Chair: G.B. Zorzoli, President FREE

15.50 – 17.20 **Concurrent Sessions (9-12)**

- 09 Green revolution: biomethane & hydrogen** - (room Dell'Olio)
Chair: Davide Tabarelli, NE Nomisma Energia, Italy
- 10 Renewable energy: rich vs developing countries perspective** - (room Tincani)
Chair: Giovanni Ferri, LUMSA University, Italy
- 11 Climate Change and power systems** - (Aula Magna)
Chair: Ionut Purica, AOSR, Hyperion University, Romania
- 12 Energy security, efficiency and sustainability** - (room Traglia)
Chair: Cigdem Celik, Okan University, Turkey

18.00 - 20.00 **Gala Cocktail** (*Roof garden of Atlante Star Hotel*)

Wednesday, December 12, 2019

08.30 - 13.00 **Registration**

08.30 - 10.00 **Welcome coffee** (*Venue Hall*)

09.00 - 10.30 **Concurrent Sessions (13-16)**

- 13 Electromobility & the decarbonization of the transport sector** - (room Traglia)
Chair: Gracia Brückmann, ETH Zurich, Switzerland
- 14 Green fuels market and new methane strategies** - (room Dell'Olio)
Chair: Vittorio De Martino, AIEE, Italy
- 15 Energy security and geopolitics** - (room Tincani)
Chair: Mario Iannotti, A.T. Sogesid - Ministry of Environment Land and Sea, Italy
- 16 Challenges of renewable energy in the electricity market** - (Aula Magna)
Chair: Giancarlo Scorsoni, Energy Consultant, Italy

10.35 - 11.35 **Dual Plenary Sessions**

- Grid security and new technologies*** (room Tincani)
Chair: **Vittorio D'Ermo**, Vice President AIEE, Italy
- Europe Roadmap and the future strategies of the energy industry*** (Room N02)
Chair: **Gurkan Kumbarglu** - Professor University of Boğaziçi, President of TRAE-
the Turkish Association of Energy Economists, IAEE Past President, Turkey

11.40 - 13.10 **Concurrent Sessions (17-20)**

- 17 The multiple paths of electricity: new challenges** - (room Traglia)
Chair: Arturo Lorenzoni, University of Padua, Italy
- 18 100% Renewable transition: perspective for the 21st century** - (room Tincani)
Chair: Antonio Geracitano, Energy and Environmental Expert, Italy
- 19 Energy policies & the decarbonization process** - (Aula Magna)
Chair: Lise-Lotte Pade, Technical University of Denmark, Denmark
- 20 The battery energy storage system and the environmental impact** - (room Dell'Olio)
Chair: Nicola Sorrentino, University of Calabria, Italy

13.10 - 14.10 **Lunch buffet** (*Room - Aula Pia*)

14.00 - 15.30 **Concurrent Sessions (20-22)**

- 21 Current energy market dynamics** - (room Dell'Olio)
Chair: Giuseppe Dell'Olio, GSE, Italy
- 22 Enhancing sustainable mobility** - (Aula Magna)
Chair: G.B. Zorzoli, AIEE/ FREE, Italy

Conference programme

Tuesday, December 11, 2019

09.00 - 10.30 Concurrent Sessions (1-4)

1 Household energy efficiency - (room dell'Olio) *Chair: Federico Santi, La Sapienza University of Rome, Italy*

Determinants of household energy expenditure in Austria: A case using EU SILC microdata

Presenter: Daniel R. Hill, Vienna University of Economics and Business, Austria
Author: Daniel R. Hill

Boosting solar rooftop in household by financial incentives – a comparison analysis. A case study in Vietnam
Presenter: Phuong Minh Khuong, Karlsruhe Institute of Technology, Germany
Author: Phuong Minh Khuong

Energy Efficiency in Italian Buildings: disruptive NZEB versus traditional constructions for decarbonization
Presenter: Mattia Luca, Professional Registry of Engineers at the Province of Rome, Italy
Authors: Mattia Luca, Tiziana Torelli

3 Modelling the volatility of the energy market - (room Traglia) *Chair: Carlo Andrea Bollino, AIEE, Italy*

Modelling the volatility of electricity spot price in Brazil
Presenter: André Luis Da Silva Leite, Federal University of Santa Catarina – UFSC, Brazil
Authors: André Luis Da Silva Leite, Nivalde de Castro, Nei Nunes

Energy efficiency and gamification: storytelling and individual behaviour in social dilemma situations
Presenter: Dominic Jung, University of Technology Clausthal, Germany
Authors: Roland Menges, Dominic Jung, Jens Müller, Stefan Traub, Jacob Wehrle

Is financialization of energy commodities still going on? Evidence from an entropy-based approach
Presenter: Pierluigi Vellucci, University Roma Tre, Italy
Authors: Francesco Benedetto, Loretta Mastroeni, Pierluigi Vellucci

2 Raising awareness on the decarbonization process - (Aula Magna) *Chair: Carlo Di Primio, AIEE, Italy*

What Motivates Us to Seek Information About Energy Policies?: Swiss Citizens' Information Seeking Behavior on Deep Geothermal Energy

Presenter: Rebecca Lordan-Perret, University of Basel, Switzerland
Authors: Lordan-Perret Rebecca, Aya Kachi

Quantification of social costs considering the reduction in the risk perception with public opinion on Japanese nuclear power generations
Presenter: Mari Ito, Tokyo University of Science, Japan
Authors: Mari Ito, Naoya Kihara, Ryuta Takashima, Noriaki Sakai, Natsuki Nagata, Yumiko Kawasaki, Takeshi Iimoto

Fundamental Analysis of Consumer Preference for Renewable and Nuclear Energy and Formation of Public Opinion
Presenter: Masaaki Suzuki, Tokyo University of Science, Japan
Authors: Masaaki Suzuki, Mari Ito, Ryuta Takashima

Promoting energy efficiency in car transportation through user experience or information?
Presenter: Gracia M. Brückmann, ETH Zurich, Switzerland
Authors: Gracia M. Brückmann

4 Renewable energy market - (room Tincani) *Chair: Fereidoon Sioshansi, President Menlo Energy Economics, USA*

Renewable energy deployment and energy storage: empirical evidence
Presenter: Dina Azhgaliyeva, Asian development Bank Institute, Japan
Authors: Azhgaliyeva Dina

Spatial Optimization of Renewable Energy Integration for Decarbonizing Power Sector in Japan
Presenter: Ryoichi Komiya, The University of Tokyo, Japan
Authors: Yasumasa Fujii, Ryoichi Komiya

Dynamics towards the new world – energy security as shaping force for regional cooperation in Europe
Presenter: Diyun Huang, University of Leuven, Belgium
Authors: Diyun Huang

10.35- 11.35 Dual Plenary Sessions

EU towards 2030 and the energy security concerns *(Aula Magna)*

Chair: Agime Gerbeti, Adjunct Professor, LUMSA University, Italy

Paolo D'Ermo, Secretary General WEC Italia, Italy

Marco Falcone, Government Relations and Issues Manager, Esso Italiana, Exxon Mobil Group, Italy

Luca Bragoli, Head of International and Institutional Affairs ERG, Italy

Marco Peruzzi, Vice President Eletticità Futura, the Italian Association of Electricity Companies, Italy

Silvia Pariente-David, Senior advisor and consultant on energy and climate change - Center for Mediterranean Integration, World Bank, France

Regulatory challenges and market developments *(Room Tincani)*

Chair: Alessandro Ortis, President State-General of Energy Efficiency, Past President of the Italian Authority - ARERA, Italy

Derek Bunn, Professor of Decision Sciences at London Business School, UK

Giordano Colarullo, General Manager, Federation of the Italian Utilities - Utilitalia, Italy

Michele Governatori, Head of Public and Regulatory Affairs Axpo Italia, Italy

Alessandro Ortis, President Stati Generali dell'Efficienza Energetica, Past President of ARERA, Italy

11.40 - 13.10 Concurrent Sessions (5-8)

5 Clean energy investments - (room Traglia) Chair: Andre Cieplinski, University of Siena, Italy

How realistic are energy investment models? Reflecting on German power plant investment decisions between 2005 and 2014

Presenter: Christopher Ball, Forschungszentrum Jülich, IEK-STE, Germany

Authors: Christopher Ball, Stefan Vögele, Kristina Govorukha

Electricity Consumption and its Determinants In Nigeria

Presenter: Onisanwa Idowu, Federal University of Kashere, Nigeria

Authors: Onisanwa Idowu, Mercy Ojochegebe Adaji

Clean energy investment and credit rationing

Presenter: Christian Haas, Justus-Liebig University Giessen, Germany

Authors: Karol Kempa, Christian Haas

The main results of the 2nd Catalogue of Environmentally Harmful and Friendly Subsidies

Presenter: Mario Iannotti, A.T. Sogesid - Ministry of Environment Land and Sea, Italy

Authors: Mario Iannotti

7 BCB: Bitcoin, Circular economy and Blockchain - (room Tincani)

Chair: Agime Gerbeti, LUMSA University, Italy

Irreversible Thermodynamics view of the need for a circular economy

Presenter: Ionut Purica, IPE - Romanian Academy, Romania

Author: Ionut Purica

Bitcoin mining to reduce renewable curtailment: a case study of Caiso

Presenter: Sylvain Audette, HEC Montreal, Canada

Authors: Rui Shan, Yaojin Sun, Sylvain Audette

Turning Rome into a Zero Waste capital: towards a circular Economy System

Presenter: Gianluca Carrino, AIEE, Italy

Authors: Gianluca Carrino

Blockchain technologies for electricity trading regulation

Presenter: Tamara Favaro, University of Pisa, Italy

Authors: Tamara Favaro

6 Decarbonizing the gas and oil sectors: green perspectives (Aula Magna)

Chair: Silvia Pariente-David, Center for Mediterranean Integration, World Bank

Green perspectives to reuse oil & gas wells in Italy

Presenter: Claudio Alimonti, La Sapienza University of Rome, Italy

Authors: Claudio Alimonti, Davide Scrocca, Elena Soldo

Are we heading towards gas OPEC? Gas market integration, LNG and impact on the EU

Presenter: Milan Hudak, Faculty of Economics, University of

Economics in Prague, Czech Republic

Author: Milan Hudak

The Energy Union Governance

Presenter: Francesco Scalia, University of Camerino, Italy

Author: Francesco Scalia

8 The Electricity market: risks and opportunities (room Dell'Olio)

Chair: Lucia Visconti Parisio, University of Milan Bicocca, Italy

Preferences and Willingness to Pay for regional and green electricity - A stated choice experiment in Germany

Presenter: Larissa Fait, University of Kassel, Germany

Authors: Larissa Fait, Elke D. Groh, Heike Wetzel

Dynamic electricity tariffs – Designing reasonable pricing schemes for private households in Germany

Presenter: Victor von Loessl, University of Kassel, Germany

Authors: Victor von Loessl, Julia Freier and Heike Wetzel

Application fields of artificial intelligence in the electricity sector - a systematic overview

Presenter: Sabine Pelka, Fraunhofer Institute for Systems and

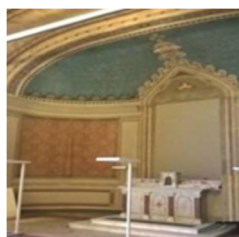
Innovation Research ISI, Germany

Authors: Sabine Pelka, Marian Klobasa

Understanding the future of the electricity distribution system operator: An examination of the largest national firms

Presenter: Karim Anaya, University of Cambridge, UK

Authors: Michael G. Pollitt, Karim Anaya



13.10 - 14.10 - Lunch buffet (room Aula Pia - LUMSA University - Building B)

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14.15 - 15.45 Dual Plenary Sessions

Energy industry challenges to a low-carbon economy, the gas role in the transition (Aula Magna)

Chair: Carlo Di Primio, AIEE President, Italy

Kostas Andriopoulos, Vice President at the DEPA Public Gas Corporation, Greece

Davide Bovio, Industry Marketing Business Advisor, Shell Italia E&P

Sebastien Bumbolo, General Counsel, Adriatic LNG, Italy

Camilla Palladino, EVP Corporate Strategy and Investor Relations, Snam, Italy

Pierre Vergerio, Head of Gas Midstream, Energy Management & Optimization Edison, Italy

Sustainable mobility challenges for the transition targets (Room Tincani)

Chair: G.B. Zorzoli, President FREE

Amela Ajanovic, Associate Professor & Senior Research Scientist, Energy Economics Group, Vienna University of Technology, Austria

Franco Del Manso, International Environment Affairs manager, Unione Petrolifera, Italy

Dino Marcozzi, General Secretary MOTUS-E member of the European Platform for Mobility, Italy

Gianni Murano, President, Esso Italiana, ExxonMobil Group, Italy

Emanuele Proia, General Manager ASSTRA (Italian Association of Public Transport Operators), Italy

15.50 - 17.20 Concurrent Sessions (9-12)

9 Green revolution: biomethane & hydrogen

(room Dell'Olio)

Chair: Davide Tabarelli, NE Nomisma Energia, Italy

Electrolytic oxygen, only a by-product?

Presenter: Gaetano Maggio, Institute of Advanced Energy

Technologies "Nicola Giordano" - CNR, Italy

Authors: Agatino Nicita, Gaetano Maggio, Antonio Pietro Francesco Andaloro,

The history could repeat itself: hydrogen-oxygen fuel cell is the 'game changer'

Presenter: Mario Valentino Romeri, Energy Consultant, Italy

Authors: Mario Valentino Romeri

A P2X system for liquid methane and liquid oxygen production coupled to a geothermal plant

Presenters: Gianluca Pasini and Davide Fioriti, University of Pisa, Italy

Authors: Gianluca Pasini, Davide Fioriti

10 Renewable energy: rich vs developing countries perspective - (room Tincani)

chair: Giovanni Ferri, LUMSA University, Italy

Technology transfer from rich countries as a limiting factor in developing countries renewables

Presenter: Giovanni Ferri, LUMSA University, Italy

Author: Giovanni Ferri

Iliceto Shield Wire Scheme (ISWS): A LeapFrog technique for low-cost rural electrification, micro-grids connection and RES promotion in developing countries. A precious legacy from Professor Francesco Iliceto

Presenter: Maria Carmen Falvo, La Sapienza University of Rome, Italy

Authors: Federico Santi, Maria Carmen Falvo, Sara Maccario

Renewable Energy Sources And Capacity Building For Sustainable Development.

Presenter: Peris Wambui Francis, LUMSA University, Italy

Author: Peris Wambui Francis

11 Climate Change and power systems - (Aula Magna)

Chair: Ionut Purica, AOSR, Hyperion University, Romania

How does climate change affect the transition of power systems already now: the case of Germany

Presenter: Kristina Govorukha, Technische Universität Bergakademie Freiberg, Germany

Authors: Kristina Govorukha, Alexander Golub, Philip Mayer, Dirk Rübbecke

Migration related to climate change

Presenter: Alexia Ponziani, LUMSA University, Italy

Author: Alexia Ponziani

A note on flexible hydropower and security of supply: Spain beyond 2020

Presenter: José Manuel Chamorro, University of the Basque Country UPV/EHU, Spain

Authors: Abadie Luis Maria, Chamorro José Manuel, Sébastien Huclin, Dirk-Jan van de Ven

12 Energy security, efficiency and sustainability - (room Traglia)

Chair: Cigdem Celik, Okan University, Turkey

What drives or hinders autonomous energy efficiency improvement

Presenter: Akira Maeda, The University of Tokyo, Japan

Authors: Akira Maeda, Makiko Nagaya

Assessing energy efficiency: econometric evidence and implications for Italian energy policy

Presenter: Pierpaolo Perna, Oxera Consulting, Italy

Authors: Armando Castro, Pierpaolo Perna

Low-carbon Iron and steel production: a techno-economic method to evaluate transition pathways to a renewable-based direct reduction process in a brownfield plant

Presenter: Hirzel Simon, Fraunhofer Institute for Systems and Innovation Research ISI

Authors: Hirzel Simon, Michael Haendel, Nils Müller

18.00 - 20.00 Gala cocktail



December 11, h 18.00-20.00

Roof garden of Atlante Star Hotel

a luxuriant rooftop terrace with a panoramic view of the great city and the hills in the background. We warmly invite you to experience this unforgettable sensation

(participants will be accompanied from the Conference venue to the cocktail venue, in Via Giovanni Vitelleschi, 34)

Enjoy Christmas in Rome!

The shops and the streets are decorated, the city is all lit up, there are wonderful things to eat and it's a great time to see Rome in an entirely different light



Wednesday, December 12, 2019

09.00 - 10.30 Concurrent Sessions (13-16)

13 Electromobility & the decarbonization of the transport sector - (room Traglia)

Chair: Gracia Brückmann, ETH Zurich, Switzerland

Does demand response make it worse? impacts of avalanche effects of price-optimized electric vehicle charging on system load and electricity generation

Presenter: Matthias Kühnbach, Fraunhofer Institute for Systems and Innovation Research ISI, Germany

Authors: Matthias Kühnbach, Marian Klobasa

Explorative evidence of adoption of multimodal mobility packages from a choice-based conjoint study in Austria

Presenter: Paula Brezovec, Alpen-Adria-University Klagenfurt, Austria

Authors: Paula Brezovec, Nina Hampl

The EU automotive industry and the electric vehicle revolution: impacts on the value chain and industrial policy options

Presenter: Ernesto Cassetta, University of Udine, Italy

Authors: Ernesto Cassetta, Cesare Pozzi, Umberto Monarca

Assessment for economic impact of structural changes in automobile industry by dynamic multisector energy economic model

Presenter: Naoyuki Otani, The University of Tokyo, Japan

Authors: Ryoichi Komiyama, Yasumasa Fujii, Naoyuki Otani,

14 Green fuels market and new methane strategies

(room Dell'Olio)

Chair: Vittorio De Martino, AIEE, Italy

Fuels for future maritime transportation

Presenter: Franco Del Manso, Unione Petrolifera, Italy

Author: Franco Del Manso

Green gas retail products only partially meet consumer preferences: a comparative study of four markets in Europe

Presenter: Carsten Herbes, Nuertingen-Geislingen University, Germany

Authors: Carsten Herbes, Benedikt Rilling

How relevant is the natural gas distribution grid in comparison to the electricity distribution grid and heating grids?

Presenter: Stella Oberle, Fraunhofer Institute for Systems and Innovation Research ISI, Germany

Authors: Stella Oberle, Till Gnann, Martin Wietschel

15 Energy security and geopolitics - (room Tincani)

Chair: Mario Iannotti, A.T. Sogesid - Ministry of Environment Land and Sea, Italy

The challenges and prospects of Japan's energy security in East Asia since 1990s

Presenter: Hideaki Fujii, Faculty of Economics, Kyoto Sangyo University, Japan

Authors: Hideaki Fujii

Utilizing applied behavioral research to execute subsidy reform in Kuwait

Presenter: Hessah Hamad Al-Ojayan, Kuwait University, Kuwait

Authors: Hessah Hamad Al-Ojayan

Energy security in the era of hybrid warfare: a view from NATO

Presenter: Daniel Nussbaum, Naval Postgraduate School, USA

Authors: Arnold Dupuy, Daniel Nussbaum, Stefan Pickl, Paul Michael Wibbey

16 Challenges of renewable energy in the electricity market - (Aula Magna)

Chair: Giancarlo Scorsoni, Energy Consultant, Italy

Large scale renewable integration in the French energy system: costs and energy security versus environmental ambitions?

Presenter: Pierre Cayet, IFPEN, IFP-School, France

Authors: Pierre Cayet, Arash Farnoosh, Lionel Ragot

Assessing the renewable energy policy paradox: a scenario analysis for the Italian electricity market

Presenter: Andre Cieplinski, University of Siena, Italy

Authors: Francesco Marghella, Andre Cieplinski, Simone D'Alessandro

Assessing the effectiveness of promotion systems for electricity generation from renewable energy sources in the European Union

Presenter: Blanca Moreno, University of Oviedo, Spain

Authors: Maria Teresa Garcia-Alvarez, Blanca Moreno, Laura Cabeza-Garcia and Isabel Soares

North sea offshore grid integration - barriers and solutions

Presenter: Lise-Lotte Pade, technical University of Denmark, Denmark

Authors: Lise-Lotte Pade, Lauge Truels Larsen, Claire Bergaentzle

10.35 - 11.35 Dual Plenary Sessions

Grid security and new technologies (Aula Magna)

Chair: Vittorio D'Ermo, Vice President AIEE, Italy

Alessandro Bertani, Head of Networks Automation & Smart Grids CESI, Italy

Luciano Martini, Director of the "Transmission and Distribution Technologies - RSE, Italy

Fereidoon Sioshansi, President Menlo Energy Economics, USA

Giovanni Valtorta, Manager Enel Distribution, Italy

Energy Efficiency and the future strategies of the energy industry (Room Tincani)

Chair: **Gurkan Kumbaroglu** - Professor University of Boğaziçi, President of TRAEE- The Turkish Association of Energy Economists, IAEE Past

Dario Di Santo, Head Manager, Italian Federation for energy efficiency – FIRE, Italy

Felice Egidi, Federmanager - Federation of Italian Managers, Italy

Massimo Orlandi, CEO VEOS, Italy

11.40 - 13.10 Concurrent Sessions (17-20)

17 The multiple paths of electricity: new challenges (room Traglia)

Chair: Arturo Lorenzoni, University of Padua, Italy

True or not true: carbon-free electricity generation is possible

Presenter: Rolf Golombek, Frisch Centre, Norway
Authors: Rolf Golombek, Simen Gaure

Eco-efficiency assessment of the electricity sector: evidence from 28 EU countries

Presenter: Carla Henriques, Polytechnic Institute of Coimbra – CBS-ISCAC, Portugal
Authors: Carla Henriques, Marcos Tenente, Patrícia Pereira da Silva

The determinants of Environmental and Energy Efficiency of EU electricity industry using a Bayesian Shrinkage Dynamic Estimator

Presenter: Maria Chiara D'Errico, University of Perugia, Italy
Authors: Simona Bigerna, Carlo Andrea Bollino, Maria Chiara D'Errico, Paolo Polinori

Cost benefit analysis of HELE and subcritical coal fired electricity generation technologies in Southeast Asia

Presenter: Hassan Ali, The University of Newcastle, Australia
Authors: Hassan Ali, Han Phoumin, Steven R. Weller, and Beni Suryadi

18 100% Renewable transition: perspective for the 21st century - (room Tincani)

Chair: Antonio Geracitano, Energy and Environmental Expert, Italy

Energy Transition: Challenges and Opportunities in Providing Green Energy

Presenter: Alessandro Mattacchini, Enel Green Power, Rome, Italy.
Authors: Enel Green Power CEO Office team, Alessandro Mattacchini

Blueprint for 100% Renewables

Presenter: Richard Perez, New York State University at Albany, NY, USA.
Authors: Richard Perez, Marc Perez, Karl Rabago, Morgan Putnam, Marco Pierro, Cristina Cornaro, Matteo Giacomo Prina, David Moser.

Italian protocol for massive solar penetration: from imbalance regulation to firm PV generation

Presenter: Cristina Cornaro, University of Rome "Tor Vergata", Italy.
Authors: Marco Pierro, Cristina Cornaro, Richard Perez, Marc Perez, Matteo Giacomo Prina, David Moser

Decarbonization of the Italian energy system: critical issues and opportunities

Presenter: Matteo Giacomo Prina, EURAC Research, Bolzano, Italy.
Authors: Matteo Giacomo Prina, Giampaolo Manzolini, David Moser, Roberto Vaccaro, Wolfram Sparber



19 Energy policies & the decarbonization process - (Aula Magna)

Chair: Lise-Lotte Pade, Technical University of Denmark, Denmark

Energy Systems Integration: Implications for Public Policy

Presenter: Raffaele Congiu, Politecnico di Torino, Italy
Authors: Cambini Carlo, Raffaele Congiu, Tooraj Jamasb, Manuel Llorca, Golnoush Soroush

Envisioning the future for European power markets in 2050:

Integrating social, economic and technological drivers
Presenter: Philip Mayer, TU Bergakademie Freiberg, Germany
Authors: Philip Mayer, Kristina Govorukha, Wolfgang Habla, Paul Kunz, Mathias Mier, Sebastian Voigt, Christoph Weissbart

Decarbonization process pay off: study cases and perspectives

Presenter: Ilaria Colasanto, Energy consultant, Italy
Authors: Ilaria Colasanto, Antonino Bonfiglio

New scenarios for long-term green electricity contracts and the role of guarantees of origin

Presenter: Agime Gerbeti, LUMSA University
Authors: Agime Gerbeti

20 The battery energy storage system and the environmental impact - (room Dell'Olio)

Chair: Nicola Sorrentino, University of Calabria, Italy

Criticality of rare earth elements and their environmental impacts: exploring deeper into the energy transition

Presenter: Fernanda Guedes, IFP Energies nouvelles, France
Authors: Fernanda Guedes, Emmanuel Hache, Gondia Sokhna Seck

Assessing Battery management for energy communities: economic evaluation of an Artificial Intelligence (AI) led system

Presenter: Alessandro Rubino, University of Bari, Italy
Authors: Alessandro Rubino, Saman Korjani, Angelo Facchini, Mario Mureddu, Alfonso Damiano

Techno-Economic Benefits Evaluation for Battery Energy Storage Systems

Presenter: Patrick Balducci and Vanshika Fotedar, Pacific Northwest National Laboratory (PNNL), USA
Authors: Vanshika Fotedar, Patrick Balducci, Bishnu Bhattarai, Xu Ma, Di Wu, Md Jan Alam, Bilal Bhatti, Tom McDermott, Alasdair Crawford, and Kendall Mongird

Sharing energy storage systems in renewable energy community

Presenter: Nicola Sorrentino, University of Calabria, Italy
Authors: Nicola Sorrentino, D. Menniti, A. Pinnarelli

13.10 - 14.10 Lunch buffet (room Aula Pia - LUMSA University - Building B)

14.15 - 15.45 Concurrent Sessions (20-22)

21 Current energy market dynamics - (room Dell'Olio)

Chair: Giuseppe Dell'Olio, GSE S.p.A., Italy

Oil and the dollar comovements: Is shale oil a game changer?

Presenter: Benhmad François, Université de Montpellier, France
Authors: Benhmad François

Productivity effects of hydraulic fracturing

Presenter: Charles Mason, Department of Economics, University of Wyoming, USA
Authors: Timothy Fitzgerald, Charles Mason

Analyzing Global Petroleum Market Disruptions

Presenter: Barden Justine, U.S. Energy Information Administration, USA
Authors: Emily Sandys, Erik Kreil, Justine Barden

Heat leakage through masonry: a distributed parameters method

Presenter: Giuseppe Dell'Olio, GSE S.p.A., Italy
Authors: Giuseppe Dell'Olio

22 Enhancing sustainable mobility - (Aula Magna)

Chair: G.B. Zorzoli, AIEE/ FREE, Italy

Link-based pricing for autonomous vehicle (Avs) performance improvement

Presenter: Qixing Wang, University of Connecticut and Chongqing University, USA/China
Authors: Qixing Wang, Yuan Niu, Jie Wu, Chengliang Wang

Social Norms: Jeopardizing the Transition of Energy Systems towards Sustainability? – The Example of Private Car Purchasers in Germany

Presenter: Lisa Hanna Broska, Forschungszentrum Jülich GmbH, Institute of Energy and Climate Research, Germany
Authors: Stefan Vögele, Lisa Hanna Broska, Sebastian Otte, Dirk Rübhelke

Sustainable solutions for the transport sector

Presenter: Andrea Ciommi, Institutional Relations Europe, Africa, Middle East and Asia Pacific CNH Industrial, Italy
Author: Andrea Ciommi

Development of electromobility in Poland from perspective of young logistics

Presenter: Wojciech Drożdż, Enea Operator, Poland
Authors: Wojciech Drożdż

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