

## *Current and Future Challenges to Energy Security*

### **2<sup>nd</sup> AIEE Energy Symposium, 2-4 November, Rome**

Following the 1st AIEE Symposium on Energy Security organized in Milan in 2016, the second edition, organized this year in Rome with the LUMSA University, was an opportunity to continue the dialogue and to provide a fresh look at energy security issues concerning the availability of new technologies, the emergence of new market conditions and of new market operators; an opportunity for the delegates from all over the world to explore new and existing energy trends and to share best practice and experience.

A two days conference, where nearly 200 participants from 20 countries, experts, researchers, teachers, managers from major Italian and foreign energy companies met to discuss energy security topics addressing this key issue in an international context, with particular reference to the role of traditional and renewable sources and the effects on the energy markets. At the center of the debate was the economic and technological aspects and the security of global energy systems in the perspective of decarbonisation; a very broad concept ranging from the availability of fossil fuel supplies to the renewable energy sources and the energy storage.

The event was organized in 5 plenary sessions and 22 parallel sessions with 100 presentations.

The international conference opened on November 2, in the presence of the AIEE and LUMSA University representatives. A welcome greeting from the IAEE was expressed by Gurkan Kumbaroglu, former President of the International Association, who introduced the participants to the IAEE role and purpose as an international organization.

The first day on November 3, opened with group of parallel sessions discussing the theme of the European energy union, the market regulation and consumer protection, the overall assessment of energy security and efficiency and sustainability.

The debate continued in two parallel plenary sessions: "EU towards 2030" chaired by Agime Gerbeti (LUMSA University), with a panel represented by Luca Bragoli (ERG), Marco Falcone (ESSO) and Samuele Furfari (European Commission) who discussed the various aspects of European policies by 2030. During the discussion it emerged that European Union energy dependence from oil and gas imports, with the current market condition, does not present significant energy supply problems, especially as regards the natural gas that is imported from diversified suppliers. The ExxonMobil scenario to 2040, foresees a constant consumption of electricity in the industrial sector during this ongoing energy transition, but with a reduction of emissions due to renewable sources and the overall increase in energy efficiency. In achieving the goals by 2030, an important role will also be played by the repowering of wind power plants. The ETS, on the other hand, as the main emission reduction tool does not bring satisfactory solutions because of too low CO<sub>2</sub> prices. In order to raise prices, ESSO proposes extending the EU ETS scope to include road transport. Concern was also expressed regarding the reduction of the refining sector in Europe, favoring the development of refineries in non-EU countries which are not subject to emission limits, resulting in a global increase in overall emissions and loss of European jobs.

The parallel plenary session on "Regulation of energy markets", chaired by Alessandro Ortis (past President of the Italian Authority) with a panel represented by Giuseppe Gatti (Energia Concorrente), Jean-Michel Glachant (Florence School of Regulation) and Pippo Ranci (Catholic University of Milan) discussed the problems of the energy markets of various European countries in relation to the liberalization processes, highlighting the work still to be done in view of the complexity of the EU objectives to 2030. The function of the European Association of Regulatory Authorities has also been discussed hoping that its action may become more incisive assuming also a guiding role for national authorities.

Two other interesting plenary sessions followed in the afternoon: "Economic instruments and transition pathways to a low-carbon economy in the industrial sectors" chaired by Gurkan Kumbaroglu with a panel represented by Simone Mori (Future Electricity), Corrado Papa (Adriatic LNG), Salvatore Pinto (Axpo), Sandro Neri (Federmanager) and Claudio Spinaci (UP) and "Europe Roadmap and the Future Strategies of the Energy Industry" chaired by Giovanni Ferri (LUMSA University) with the participation of Kostas Andriosopoulos (RCEM), Leonardo D'Acquisto (Italgas), Dario Di Santo (FIRE) and Luigi Michi (Terna)

The speakers discussed the security aspects of the various traditional and renewable sources in the transition to a decarbonized economy. They highlighted that the acceleration of innovation and electrical penetration, while leading to major transformations in many sectors of consumption, did not reduce the fundamental role of oil and gas. In the rapid development of low-carbon energy infrastructures, particularly in developing and emerging economies, a vital issue is the financial sector, particularly the increase of institutional investment.

Subsequently, eight parallel sessions followed to discuss a number of topical issues related to energy security: the gas market, the electricity market, energy efficiency in the industrial and civil sectors, energy storage, the use and dissemination of renewable sources and environmental policies.

The second conference day was opened by a plenary session on "Sustainable mobility challenges for the transition goals" chaired by Carlo Andrea Bollino (AIEE) and a panel formed by the leaders of the main transportation associations that discussed how great the challenge is for public transport to reach the challenging international, and European objec-

tives. In the center of discussion the electric car, which however will not be able to completely replace traditional cars. Traditional fuels will continue to have an important role, taking into account their continued qualitative improvements for environmental sustainability.

The day proceeded with other parallel sessions debating issues related to risks and opportunities of the electricity market, cyber security in the energy sector, technological development and network management, scenarios and forecasting methodologies, climate policy and emissions trading, the multiple paths of electricity demand, integration of renewable energies in energy markets, security of supply and bioenergy.

A high scientific contribution was guaranteed by the presence of researchers belonging to most important national and international universities and organizations and experts representing energy companies.

The academic scenario of the LUMSA University, in the heart of Rome, between Castle St. Angelo and St. Peter's Church and the social events organized in the LUMSA 19th Century Chapel and on the Atlante luxuriant rooftop terrace with a panoramic view of the great City by night, offered an ideal platform to promote the exchange of ideas in a relaxed beautiful context.

The conference was an opportunity to discuss in depth the most up-to-date issues of energy security and it has become a recurrent meeting giving its next appointment in December 2018, with its third edition.

*The presentations can be downloaded on the conference website: [www.aieeconference2017rome.eu](http://www.aieeconference2017rome.eu)*

*The volume of the conference proceedings (the abstracts and a selection of papers) will also be online by December 30, 2017.*

