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Editor: David L. Williams

President's Message

Dear Fellow Members:

This is an exciting year for IAEE since we are celebrating our 40th anniversary after a group of visionaries created this great organization in 1977 as a forum for communication and the exchange of ideas for all those interested in energy economics. We have just closed our 40th IAEE International Conference, which took place in Singapore, The Lion City, with the participation of about 500 members, and the theme "Meeting the Energy Demands of Emerging Economies: Implications for Energy and Environmental Markets". I'm convinced that the theme could not have been timelier and more challenging, as we expect that energy demand will grow in the next two decades by almost 30%, and by more than 50% in emerging economies. And most of this will take place in Asia. The conference was a big success and has been the largest IAEE conference in the region.

Some other recent IAEE events this year are:

- 6th Latin American Energy Economics Meeting "New Energy Landscape: Impacts for Latin America", April 2-5, 2017, Rio de Janeiro - Brazil.
- 10th International Conference of the Nigerian Association for Energy Economics (NAEE) "Energy, Economy & the Environment: The Interplay of Technology, Economics, and Public Policy", April 23 - 26, 2017, Abuja - Nigeria.
- 2nd International Conference of the Hellenic Association for Energy Economics (HAEE) "Energy The Landscape in the New Era of Energy Transition: Challenges, Investment Opportunities and Technological Innovations", May 18-20, 2017, Athens - Greece.

All of them garnered a large local and international audience with the participation of government officials, leaders from the parliament, business executives, academics, students, representatives of the media and energy analysts. Also, I can comment that each year IAEE is receiving an increasing number of requests to hold conferences, workshops, and seminars. And already we have flagged events in the calendar up to 2021. I invite you to note these exciting events on your agenda:

- 3rd IAEE Summer School in Beijing, China, "Energy Market: Models and Practice", July 6-15, 2017, IAEE - School of Humanities and Economic Management, China University of Geosciences, Beijing - China.
- 15th IAEE European Conference "Heading Towards Sustainability Energy Systems: by Evolution or Revolution?", September 3-6, 2017, AAEE/IAEE, Vienna - Austria.
- 2nd IAEE Eurasian Conference, "Energy in Eurasia: Economic Perspectives on Challenges, Risks and Opportunities", October 13-14, 2017, Croatia Association for Energy Economics CAEE, Zagreb - Croatia.
- 35th USAEE/IAEE North American Conference "Riding the Energy Cycles", November 12-16, 2017, USAEE, Houston - Texas - USA.
- 41st IAEE International Conference "Security of Supply, Sustainability and Affordability:

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President's Message (continued from page 1)

Assessing the Trade-offs of Energy Policy", June 10-13, 2018, BAEE/IAEE, Groningen - The Netherlands.

- 42nd IAEE International Conference "Local Energy, Global Markets", May 26-29, 2019, CAEE/IAEE, Montreal - Canada.
- 43rd IAEE International Conference "Energy Challenges at a Turning Point", June 21-24, 2020, FAEE/IAEE, Paris - France.
- 44th IAEE International Conference "Mapping the Global Energy Future: Voyage in Uncharted Territory", July 25-28, 2021, IAEE/The Institute of Energy Economics, Tokyo - Japan.

In IAEE we are also committed to the identification of opportunities to expand our footprint and enlarge our community in regions that are underrepresented, for example, Africa and Asia. And for that, we are in a permanent effort of identifying key local partners who can work with us in achieving our goals.

Lately there have been large fluctuations in the energy sector, and despite lower energy prices, our membership has remained strong. The number of members coming from new regions and developing countries is growing steadily, given the IAEE efforts in those areas. Currently, we have over 4,100 members; where 20% of them are students, almost twice the number that we had a decade ago.

The IAEE has three leading publications, *The Energy Journal*, *Economics of Energy & Environmental Policy*, and *The Energy Forum*. *The Energy Journal* is published 6 times a year and was founded in 1980 to promote the advancement and dissemination of new knowledge concerning energy and related topics. The editors strive to publish a blend of theoretical, empirical and policy related papers in energy economics. It has a five-year Impact Factor of 2.466. Our newest journal, *Economics of Energy & Environmental Policy* (EEEEP), established as an IAEE publication in 2012, is a policy oriented journal and published twice a year. It has a five-year impact factor is 1.582 and has become a leading journal in energy, the environment, and economic policy. *The Energy Forum*, our newsletter, is published quarterly and covers current energy matters such as renewable energy, smart grids, transportation and electromobility, regional energy issues, electricity, oil, natural gas, coal and nuclear matters, etc. As well, complementing our flagship publications, IAEE with USAEE provides all USAEE/IAEE members a chance to increase the visibility of their research, by submitting their research for publication in the USAEE/IAEE Working Paper Series, which is a part of the Social Science Research Network (SSRN) Research Paper Series. I invite you to consider IAEE publications as your first choice to submit innovative research, policy issues, case studies, and innovative applications in the areas within the scope of energy economics and energy policy.

**NEWSLETTER
DISCLAIMER**

IAEE is a 501(c)(6) corporation and neither takes any position on any political issue nor endorses any candidates, parties, or public policy proposals. IAEE officers, staff, and members may not represent that any policy position is supported by the IAEE nor claim to represent the IAEE in advocating any political objective. However, issues involving energy policy inherently involve questions of energy economics. Economic analysis of energy topics provides critical input to energy policy decisions. IAEE encourages its members to consider and explore the policy implications of their work as a means of maximizing the value of their work. IAEE is therefore pleased to offer its members a neutral and wholly non-partisan forum in its conferences and web-sites for its members to analyze such policy implications and to engage in dialogue about them, including advocacy by members of certain policies or positions, provided that such members do so with full respect of IAEE's need to maintain its own strict political neutrality. Any policy endorsed or advocated in any IAEE conference, document, publication, or web-site posting should therefore be understood to be the position of its individual author or authors, and not that of the IAEE nor its members as a group. Authors are requested to include in an speech or writing advocating a policy position a statement that it represents the author's own views and not necessarily those of the IAEE or any other members. Any member who willfully violates IAEE's political neutrality may be censured or removed from membership.

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IAEE Mission Statement

The International Association for Energy Economics is an independent, non-profit, global membership organisation for business, government, academic and other professionals concerned with energy and related issues in the international community. We advance the knowledge, understanding and application of economics across all aspects of energy and foster communication amongst energy concerned professionals.

We facilitate:

- Worldwide information flow and exchange of ideas on energy issues
- High quality research
- Development and education of students and energy professionals

We accomplish this through:

- Providing leading edge publications and electronic media
- Organizing international and regional conferences
- Building networks of energy concerned professionals

Within this 40 years many things have changed, but what has not changed is the quest for energy security, an area where IAEE has been a front runner in dissemination and the exchange of ideas, experiences and best practices. Today, when energy security is changing its balance from the access to subsurface energy resources to the mastery of technologies, the need to exchange ideas and experiences is in high demand.

Creative destruction is a concept which gained popularity among the economics profession in the 1950s from the works of the Austrian-American economist, Joseph Schumpeter. The simple but powerful idea behind this concept is one that describes the “process of industrial mutation that incessantly revolutionizes the economic structure from within, incessantly destroying the old one, incessantly creating a new one.” Today, and in a context of a changing and powerful civil society, with new and giant environmental challenges, and increasing energy needs, the renewed path of the energy sector is innovation and disruption; where, new technologies which have enabled the access to new energy sources and higher efficiency levels in energy consumption, are reshaping the energy sector. The advancement of drilling and other energy technologies has allowed the access to new subsurface resources, of non-conventional energy sources, and the harnessing of energy from the wind, sun, and oceans, among others. All these innovations and new energy sources are biting the power that used to have the traditional energy producers, who sometimes also are in regions exposed to unstable conditions.

The industry is experiencing a deep change, from a centralized structure to a decentralized one. And, as in the electricity sector, distributed generation, the integration of a system with a large number of players, places new challenge which requires greater communications, smarter metering and the management of larger data, where demand side management and storage can become a key contributor on the systems levels of energy security. As new technologies come to the market, new concepts are as well enlarging our vocabulary as the idea of the prosumers and more recently the one of prosumage, referring to agents who participate in the network as producers, consumers, and providers of storage services (a term coined by Richard Green).

For investors, there is a need for clear leadership on where investments should go, and governments have a key role in signaling and promoting an enabling a business environment that does not distort markets conditions. No one, even the government, knows today the technologies that will be the winners of tomorrow, and policy should not decide who are the winners or the losers, where extensive subsidies, can send twisted signals and lead to investments which are not sustained on the advantages of the technologies being supported. Governments, research organizations and the scientific community have a key role in advancing the frontier of what is feasible and on the understanding of the most proper technologies and business models to manage the transition to a more decentralized system.

The levels of commitment of an economy to a low carbon economy need clarity and stable long-lasting rules from government authorities. The Paris agreement has been signed by the large majority of countries and ratified by countries that represent more than 80% of global CO₂ emissions. More than 160 parties have submitted their Intended Nationally Determined Contributions (INDCs) that indicate the steps that each party will take to address climate change, and for reducing emissions, considering its domestic circumstances and capabilities.

The transportation and electromobility (E-Mobility) revolution that's taking place, supported by innovations in storage technology, is closing the gap of these technologies to compete hand in hand with conventional combustion vehicles. As charging stations get deployed, we might expect deep changes in the transportation sector, with important impacts on the demand for oil, and other resources.

New business models will emerge as well as new technologies, where exist a greater need for collaboration among players. This will need improvements in the countries institutional frameworks, where natural tensions will come up as newcomers pressure for a space in the market, while incumbents get exposed to new forms of competition. How the government authorities manage the transition, will be key in speeding up or slowing innovation, and technological change, where the support for research, development, and pilot projects, as global public goods, is essential.

The countries that become the front-runners in this technological revolution, will take the industrial lead and will become the partner of choice for many others that are looking to serve their energy needs in a more sustainable and secure manner. Major global players who take a leadership role in the transition to advanced energy, by stepping up research and development in technologies such as non-conventional, renewables, nuclear power, energy efficiency and electricity storage, and who move aggressively and strategically, will gain hegemony in this new energy landscape.

The process of rapid technology change, innovation, and disruption we are experiencing is one where IAEE has played an important role as a forum to gather and exchange ideas, and to underscore the leading trends in supply, demand, technology, institutional, business and financial models, environmental challenges, social preferences and geopolitical issues which affect the energy sector.

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Editor's Notes

In this issue we conclude our coverage of *Energy Policy in the New U.S. Administration* and begin our coverage of *Renewables and Conventional Energy Resources: Challenges, Opportunities, Complementarities, Rivalries and Game Changers*. Readers have a lot to say on this subject and so we'll continue it in the forth quarter issue. Also included in this issue are summaries of three very interesting conferences, one in Greece, another in Rio and finally one in Britain.

Marilu Hastings writes that climate advocates and funders are dismayed by the Trump Administration's pledge to halt progress on clean energy. Conservatives can find a model with proven results by looking to the accidental clean energy story in Texas. The state already beats the Clean Power Plan through smart policies, timely investments and market forces.

Thomas N. Russo reports that failure of the U.S. and Mexico to renegotiate NAFTA will severely impact Mexico's efforts reduce costs and green its electric power and natural gas sectors. U.S. natural gas pipeline investments to flow gas to Mexican markets would depend largely on LNG exports to maintain profitability.

Stephen Poletti analyses the long-run effects of a shift to real-time pricing (RTP) of electricity when there is market power in electricity generation. He finds that an increase in customers on RTP contracts decreases peak prices and increases off-peak prices. Consumer surplus and welfare increase while the generators' profit decreases.

Julie Carey and Maggie Shober investigate the influence of shifting federal energy policies away from the Obama Administration's clean energy policy agenda toward a pro-fossil fuel policy focus under the Trump Administration on the U.S. and global energy industry. Federal, state and international energy policies are evaluated along with recent energy market dynamics from oil, gas and renewables to evaluate the full impact of a Federal policy shift. The article also provides guidance on a path forward to achieve collective goals surrounding the economy, the energy industry, and the environment, recognizing the substantial economic benefits from a diversified energy portfolio, inclusive of oil, gas, and renewables.

Roy Boyd, Alejandra Elizondo and Maria Eugenia Ibararán note that the current Mexican Energy Reform relies on FDI to boost oil and gas E&P in the next decade, and on close trade with the U.S. Recent political developments bring uncertainty on this future partnership. Fossil fuels could be subject to tariffs, and other economic and political factors may also conspire to negatively impact FDI.

Tim Nelson examines an 'energy-only' market in a high penetration renewables system, with a particular focus on the vertically and horizontally restructured Australian National Energy Market (NEM). He finds the 'energy-only' market can indeed work within a decarbonised energy system but extreme pricing volatility within spot markets is likely to be required to ensure system reliability. 'Unintended consequences' of adjacent climate change policies will need to be corrected for to ensure: successful retail competition; appropriate new investment is forthcoming; and pricing outcomes are acceptable given real-world political economy constraints.

Maximilian Eissler, Clemens Gerbaulet, Ralf Ott, Charlotte Rochell and Philipp Zorn analyze distributed solar PV and recent trends in energy generation in California and other jurisdictions. Households invest in PV and batteries to generate and store electricity for self-consumption. They focus on the costs and business opportunities in California and compare the costs of residential PV in international context.

Chen-Hao Tsai and Gürcan Gülen note that Increasing penetration of wind generation in the ERCOT market has brought new operational challenges to the grid operator, as well as downward pressure on the financial viability of conventional thermal generators. Nonetheless, spatio-temporal wind penetration changes significantly and results in very different impacts to market prices.

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President's Message (continued from page 3)

Our main objective in IAEE is to be your focal point for the exchange of ideas in energy and the economy, where our members are the heart of the association. And thus, your word and opinion are key for us to serve you in a better way. For any suggestion you might have, please do not hesitate to reach out to us.

Finally, I like to express my gratitude to all who collaborate and contribute with their time, effort, and resources for the success of IAEE. And, also want to thank all you for engaging in our activities, for committing your research in our conferences and publications, and for being part of this great Association.

Ricardo Raineri Bernain