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IAEE Energy Forum

CONTENTS

7 Are Community Energy Systems the Solution for Growing Urban Energy Demand?

9 RGGI: Not a Proven Template for State Action Yet

11 The Future of World Energy

13 The Digital World Knocking at Electricity's Door: Six Building Blocks to Understand Why

17 OPEC Is an Important Energy Policy Tool to Keep Oil Markets Stable

23 Forget the Government: Promoting Renewables with Voluntary Action

27 The Role of Renewables in Nigeria's Energy Policy Mix

33 Renewable Integration Impact Assessment: The MISO Experience

37 Technological Change in Service of the Environment

41 Solar PV Electrification in New Regions: International Low-carbon Energy Transition

45 The Political Economy of Carbon Pricing After the U.S. Exit from the Paris Agreement

49 Enhancing Renewable Energy for Sustainable Development in Nigeria

51 Calender

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International Association for Energy Economics

PRESIDENT'S MESSAGE

Energy in all its dimensions!

Oil, nuclear, electricity networks, residential and industrial consumers, energy and environmental policies, technologies, marketing... All these disciplines are fields of researches and studies for IAEE members, but they are also the professions that I have had the opportunity to practice throughout my career that I started in Dhahran, the city where Saudi Arabia's first oil well was drilled. My first contact with IAEE took place at a conference in Washington DC more than thirty years ago. I never imagined then that I would be called upon to preside over it one day.

Dear members and friends, it is therefore an honor and an immense pleasure to ensure the leadership of this great international institution.

I thank the past presidents, and in particular the last one, David Knapp, as well as all IAEE officers such as our Executive Director David Williams and his team, the chief editors of our publications, for leading IAEE to this state of excellence and for making it a reference for energy economics.

In developing our institution's strategic action plan in 2018, I was able to identify high expectations from the community of energy experts, economists, policy makers, and more broadly from all stakeholders in the global energy system.

To date, our community includes 3900 members in 120 countries. Aware of the extent and diversity of expectations, I want 2019 to be a year of transformations in the services we will provide to the global economy.

- Because we are experiencing an awakening of global geopolitical tensions, new power relations are emerging that are affecting security of supply in the short and long term.
- Because we are aware of the two-way relationship between economic growth and access to affordable energy, all States on the planet must benefit from economic science applied to energy to build their public policies.
- Because new capital-intensive technologies, and in particular RES and perhaps CCUS, are needed in the energy mix, financing needs and market rules should be adapted.
- Because, as responsible energy economists, our duty requires us to look beyond the short term, we must together mobilize opinions and leaders on two priorities: the fight against climate change and the fight against fuel poverty.

Thus, for IAEE to strengthen its effectiveness in its competence areas, several projects will be launched or strengthened:

- Geographical extension: because *'one size does not fit all'*, we must adapt and fight against inequities, especially including Africa with appropriate academic research. After South Africa in 2018, we want to strengthen the community of economists elsewhere in Africa, in Central Asia, in India and in the Middle East,

continued on page 2

President's message (continued)

- The dissemination of our community's research work is necessary to support energy transition projects in different countries. We will strengthen the services provided by social networks that will value and enhance our conferences and publications,
- Close monitoring and enhanced exchanges with the world's leading research institutes will be set up to enhance the impact factor of our publications and our influence on public policies.
- One of our institution main strengths comes from the innovative visions brought to us by the many IAEE PhD students members. As they move to professional life, we want them to remain IAEE members and I will invite them to make it a priority.

Last year, I had the opportunity to meet many of you at our conferences in Pretoria, Athens, Groningen, Washington DC, Baku, Wuhan,...

This year, the IAEE agenda will be framed by several conferences, including:

- The 7th IAEE Latin American Conference in Buenos Aires (Argentina) from 10 to 13 March 2019
- The 16th IAEE European Conference in Ljubljana (Slovenia) from 25 to 28 August 2019
- The 1st IAEE / EVER Monaco Conference: local governance of electromobility in Monte Carlo (Monaco) on 8 May 2019
- The 4th Eurasian IAEE Conference in Astana (Kazakhstan) from 17 to 19 October 2019
- The 1st IAEE Energy Summit in Bangladesh on 21 October 2019
- The 37th IAEE North American Conference in Denver, November 3-6, 2019

IAEE's highlight will be the 42nd International Conference, held in Montreal from May 29 to June 1, on the theme "Local Energy, Global Markets".

All over the world, governance systems are changing and are getting closer to the end consumer. This is why I propose to our community an article based debate on the possible transformations of the energy system: **will the consumer become the master of the game?**

Centralized production and governance leave more room for local production and decision-making. Positive energy territories are being imagined all over the world. The deployment of renewable energies connected to local networks accelerates this decentralization process. What is the declared objective of this decentralization movement? To best meet the needs of each locality and, ultimately, each consumer.

Indeed, the consumer himself is gaining more and more weight in the energy system. It is impossible to think local without taking into consideration the individual, the consumer. Tomorrow's consumer will decide whether or not to install solar panels or acquire an electric vehicle, and manage his or her energy program. V2G" schemes could, for example, substantially modify the power distribution investment priorities. The paradigm shift is therefore great: the final consumer is no longer just a consumer; he produces, when he wants to. The energy board is thus on the verge of being overthrown: the pawn gradually becomes the master of the game.

This phenomenon is further exacerbated by severe environmental constraints. The latest IPCC report, published in October 2018, warns that in 15 years' time, not a single gram of CO2 can be emitted if the target of +1.5°C is to be achieved. These constraints imply not only the mobilization of States, but also of local authorities, companies and citizens. The maturation of CO2 capture and storage technologies, the massive deployment of renewable energy sources and/or the adoption of large-scale energy efficiency measures are also emerging as key technological solutions. Here, taking the consumer into consideration is again decisive. Environmental constraints will probably only increase the role of the consumer in the energy system.

At the same time, a centralized energy planning is probably still necessary. The legitimate aspirations of territories to contribute more to their own energy governance must be taken into account, without compromising solidarity and economic performance at the global level. A balance between the local and the centralized is not impossible.

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

NEWSLETTER DISCLAIMER

Moreover, traditional energy suppliers are gradually moving away from a vision in which supply creates demand. This movement may amplify. Utilities must always better understand the actual end-users' demand, without creating an artificial and non-existent demand. This begins with an evolution of the modelling tools they use, particularly demand foresight tools. These should be bottom-up... if the end-user consumer is put down.

If they are pushed to reform themselves, utilities will therefore retain a preponderant place in the energy system, thanks to their experience and expertise.

Dear members, I propose that you direct some of your research work on these issues so that we can draw up an assessment at the end of 2019!

Finally I could not conclude this first 2019 editorial without thanking the members who gave me their vote; I will try to return all the trust placed in me.

I also thank all Council members whose term in the Council ended last year for their commitment and in particular Gürkan Kumbaroğlu, past President.

The IAEE Council and I remain at your disposal to advance economic science applied to energy and make it useful to our societies.

Christophe Bonnery

Editor's Notes

In this issue we complete our coverage of renewables and begin a review of energy policy matters. Along the way we include a number of articles outside these areas. We call attention to the electronic version of this issue. The web version carries a number of articles covering recent conferences including the North American, Asian, and Eurasian. Summaries of this issue's articles follow below.

Sreekanth Venkataraman reports that since its inception in 2009 the Regional Greenhouse Gas Initiative (RGGI) has been very successful in reducing emissions at a faster pace and at a lower cost. However, reform measures are needed to make RGGI more effective in meeting the States' climate action goals.

Pallavi Roy and **Philip Walsh** discuss the potential for urban community energy systems as a solution to growing urban demand for electricity. Motivators for community involvement are identified and some examples of community energy projects highlight collaborative decision-making at various levels of active community participation.

Hisham Khatib outlines his vision of the Energy Future noting that in the future energy market, renewables are going to improve their contribution, mainly at the expense of nuclear, oil and coal. However, their future contribution will be slowed by the lack of foreseeable cheap and large storage facilities as well as the inertia of the existing energy system to slow change".

Jean-Michel Glachant and **Nicolò Rossetto** write that digitalisation revolutionized information and communications, then manufacturing, markets and trade of goods and services. It is now entering the energy world, its infrastructures, its markets structures and transaction rules. And more is to come with blockchains and Artificial Intelligence

Mamdouh Salameh argues that OPEC is an Important Energy Policy tool that helps keep the global oil market and prices stable. He also argues that OPEC is not a cartel and, therefore, the introduction of the bill called "No Oil Producing and Exporting Cartels Act," or NOPEC, is not justified.

Luciano de Castro states that for decades, renewables have been encouraged by government interventions: feed-in-tariffs, subsidies, regulation, taxes/cap-and-trade, etc. He argues that this route has achieved fading success, and now, efforts to promote renewables should increasingly focus on voluntary action, through platforms of collaboration and investment. This rarely pursued direction has yet many fruits to bear.

Emmanuel Falobi notes that Nigeria is well endowed with vast renewable energy resources that can augment the current dearth of energy (especially electricity) supply. He reviews the role of renewables in bridging the current energy demand gap in Nigeria in the face of economic growth demands.

Chen-Hao Tsai and eight other authors report on the Midcontinent Independent System Operator (MISO). MISO has developed a framework to examine renewable integration over a wide range of penetration levels, starting with the current physical infrastructure, operational practices, and regulations of the MISO bulk electric system. The maximum penetration of renewable energy is dependent on the types and distribution of renewable resources, the operational characteristics and locations of other existing assets, and the actions of neighboring regions.

Jonas Grafstrom provides an outline of how technological change in the renewable energy field can contribute to mitigate climate issues. Such knowledge enables policy makers (e.g., at the EU level) to make better and more informed decisions.

Hyun Jin Julie Yu writes that solar PV globalization has changed the nationwide PV innovation system. He provides the economic rationale of international energy transition mechanisms based on solar PV diffusion in new regions. The article demonstrates that a 'virtuous circle' in the PV sector can be produced on an international scale.

Tilak Doshi discusses the political economay since the U.S. exit from the Paris Acgreement and notes that making ends meet today is far more important to the average man on the street than speculative long-term scenarios of climate change which threaten a lower global GDP fifty or a hundred years from now.

Yabo Olanrele and **Pius Okeh** write that Nigeria has persistently remained at the bottom of the world's nations, with low electricity generation and consumption. Yet Nigeria is blessed with an array of renewable energy resources that when properly harnessed can be used to realize the country's power sector goals. To achieve this, major socio-cultural and technological changes are needed along with policies and regulations to ensure a sustained, efficient and effective use of renewable sources and technologies.