

IAEE ENERGY FORUM

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PRESIDENT'S MESSAGE

Before all else, fellow IAEE members, let me welcome you to the springtime edition of the IAEE Energy Forum. And let me say how much I hope you have all managed to stay safe and healthy, but also busy and occupied, as we wait for the pandemic to subside. Hopefully, that time is just around the corner now that a variety of vaccines are being dispensed. Of course, many of us have long since been overly occupied; having to balance regular work responsibilities (often performed in a less than ideal environment) with home schooling, self-provided daycare, and the variety of increased householding chores that come with all that activity.

I begin by reminding all of you to mark your calendars for the upcoming first IAEE International Virtual Conference, scheduled for June 7-9. The conference theme is Energy, COVID, and Climate Change, and this event will offer the usual mix of plenary sessions, roundtable discussions, and concurrent sessions that has made previous IAEE conferences so successful. Please join us for this event in June. You will find details of the call for papers and other registration information elsewhere in this newsletter and, of course, on the IAEE website: IAEE.ORG.

As I mentioned, previously the pandemic has made it more difficult for most of us to do our jobs, whether in academia, industry, or government. But it has not made our jobs any less important. By way of example, let me say a few words about my own situation here in Texas, where we recently suffered through a nearly unprecedented energy catastrophe. In mid-February, a bitterly cold and frigid winter storm descended on us—covering the entire state—with temperatures dipping below -14C and remaining there for six days. At the outset, many of our wind turbines froze up and went off the grid. Texas leads the US in power generation from wind, so this was a significant loss of capacity. At the same time, demand for power rose to unprecedented levels as people desperately sought to heat their homes and businesses. To fill the developing gap between load and generation, many standby natural gas-fueled generating power plants fired up and came online to offset the loss of wind power and to address the extra demand. Within a day, however, many of these plants (and coal and even a nuclear plant, as well) went offline. In the case of gas-fueled plants, the cause was related to the lack of supply of natural gas from Texas wells, which had frozen up.

At its worst, 40% of Texas' total power generating capacity dropped off the grid, at the worst possible time. To maintain balance, the system operator had to institute rolling blackouts. For most people, blackouts lasted for at least 24 hours, for many others the blackouts persisted for 3-4 days. It was cold, inside



(continued on page 2)

President’s Message (continued)

and outside. Water pipes in the walls and ceilings of homes and businesses froze and burst, flooding everything. At the same time, the loss of so much water through leaks dropped water pressure throughout the system and forced many water utilities to reduce or stop service.

I am not telling this story to win your sympathy. We will somehow get by. The point of the story, however, is that the energy systems that we rely on in the modern world are complex, with many potential vulnerabilities that sometimes lead to disaster. When this happens, a common reaction is to immediately cast blame on those whom we believe to have been at fault.

Indeed, at the outset of emergency hearings that were opened by the State Legislature, elected officials began the affair by informing witnesses that the primary objective of the proceedings was to find out who was to blame. The legislators, it was said, “didn’t want to hear anything vague about systems, but who’s at fault.” And it was announced that this question would be put to each and every witness. Of course, as the press reported at the time, a common theme in the day’s testimony was that the person to blame was someone other than the person testifying. We always tend to blame our adversaries, never ourselves. And this does nothing to solve the problem or reduce the likelihood of future repetitions.

That is why the role of the energy economist is so important. Our job is not to lay blame, but to understand through careful and objective analysis the technological and market systems required to maintain our energy economy, the investment incentives that are required to build and operate appropriate infrastructure, and the regulatory framework that is needed to govern the multi-dimensional aspects of this complicated system. I am afraid that we cannot look to politicians to perform this service—it is a job for energy economists. And as I said previously, the job has never been more important than it is today.

So, again, I encourage all of you to continue with the important work that is required to promote and realize IAEE’s mission and goals. We need your ideas, your participation, and your feedback. I close with my wish to see you soon (virtually) at the June IAEE International Conference. And, as always, stay safe.

James L. Smith

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.

IAEE MISSION STATEMENT

IAEE’s mission is to enhance and disseminate knowledge that furthers understanding of energy economics and informs best policies and practices in the utilization of energy sources.

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

- **Leading edge publications and electronic media**
- **International and regional conferences**
- **Networking among energy-concerned professionals**

Editor's Notes

We wrap up our focus on world's electricity systems from the first quarter 2021 issue. Our next issue will focus on operational vulnerabilities and market outcomes within the utility industry and how risk exposure may be mitigated.

Aldren Vernersbach discusses how the specificities of the Brazilian electrical system were decisive for raising the energy tariff, which reveals the urgency of diversifying renewable sources, in a context of electrification of the economy and energy transition.

Andy Van Horn reports on August's heat wave and prior decisions' contributions to rotating outages in California. Future shortfalls can be avoided by modifying regulatory, market, and grid processes and by adding reliable, carbon-free geothermal power plants.

Amina Talipova writes that Uzbekistan's turbulent history has impacted electricity generation in the country due to corruption and authoritarian policies. Recent developments aim to attract investors and privatize and deregulate the industry. Uzbekistan must start consistently, without shocks for the population, increasing the potential of existing power units and increasing electricity generation in general. At the same time, it is necessary to develop a legislative framework for renewable energy and carry out privatization and deregulation of the market.

Geoff Betram provides some comments on the New Zealand electricity market reform experience. The 30-year radical reformation of the electricity system has sufficient data to support evaluation of outcomes. Three key areas are considered in this paper: economic efficiency, social equity, and physical reliability of supply.

Robert Diels, Martin Lienert, and Felix Müsgens analyze market design in Germany since liberalization, discuss theory and empirics of flexibilization in the electricity system and give insights into the empirics of security of supply indices and market induced load-shedding.

Oluwapelumi Egunjobi and Alvaro Gomes write that smart and innovative solutions are required to foster the penetration of renewable energy sources (RES). Blockchain has been identified as an enabling technology to provide such platform with capabilities for decentralized operations, like local energy transactions, while handling other problems associated with complex grid management at large.

Humphrey Otombosoba Oruwari examines the constraints to efficient electricity supply in Nigeria, and recommends ways for policy decisions. Using literature review and case study, it is revealed that efficient electricity supply is dependent on the political, technical, economic and social factors which need to be addressed.

Doug Reynolds looks at something called Don King Economics with electric utility systems to induce incentivized management. Don King was a boxing agent, but the idea may enhance utility efficiency.

Farhad Billimoria states that large scale distributed energy resource deployment is expected to result in negative regional demand in grid-edge markets. While the price signal provides the economic rationale for consumption, a cohesive risk management framework for negative prices underpinned by foundation risk trading mechanisms are required for co-ordinated operational, commercial and investment decision-making.

DLW

Careers, Energy Education and Scholarships Online Databases

IAEE is pleased to highlight our online careers database, with special focus on graduate positions. Please visit http://www.iaee.org/en/students/student_careers.asp for a listing of employment opportunities.

Employers are invited to use this database, at no cost, to advertise their graduate, senior graduate or seasoned professional positions to the IAEE membership and visitors to the IAEE website seeking employment assistance.

The IAEE is also pleased to highlight the Energy Economics Education database available at <http://www.iaee.org/en/students/eee.aspx>. Members from academia are kindly invited to list, at no cost, graduate, postgraduate and research programs as well as their university and research centers in this online database. For students and interested individuals looking to enhance their knowledge within the field of energy and economics, this is a valuable database to reference.

Further, IAEE has also launched a Scholarship Database, open at no cost to different grants and scholarship providers in Energy Economics and related fields. This is available at <http://www.iaee.org/en/students/ListScholarships.aspx>.

We look forward to your participation in these new initiatives.



THE INTERNATIONAL ASSOCIATION FOR ENERGY ECONOMICS IS PLEASED TO INVITE YOU TO THIS CONFERENCE ON 7- 9 JUNE 2021 ONLINE

An ideal climate and energy policy regime should simultaneously address possibly conflicting objectives: ensuring energy security, promoting universal access to affordable energy services, and fostering greener and sustainable energy systems.

These policies notoriously have heterogeneous impacts on states, consumers, factor prices, energy technologies and existing assets like fossil reserves and carbon-intensive capital stock. Building credible and effective policies is a difficult task and needs to take into account geopolitical, economic and environmental realities to make them acceptable especially in COVID times.

Against this background, the pressing quest for credible and sustainable solutions requires rapid development of deep and broad analyses of policy instruments and institutions. It requires a broad mobilization of the concepts and notions used in economics, natural sciences, humanities or other social sciences to inform the numerous public policy debates affecting international energy trade, environmental regulation, markets vs. government intervention, energy infrastructure and technology choices.

What is the IAEE online conference?

The IAEE International Online Conference aims to be a bridge between the latest science in energy economics and its relevance to practical hands-on experience in the energy sector. The digital edition addresses a wider global audience, enhancing the event experience and offering several opportunities for networking, interaction and knowledge exchange across all the different topics, audiences and time zones.

REGISTRATION DEADLINE
15 May 2021

For further information, please contact:
iaee2021@oyco.eu

Who Should Attend

Academics and scholars working in the fields of energy, natural resources or environmental economics; Policy makers and officials in governments, international institutions and regulatory agencies; Energy analysts working for local authorities, development agencies, consumer bodies, NGOs; Business leaders and practitioners.

Join us online

The conference provides a unique online platform for academics, policy-makers and business leaders from around the world to present and discuss the latest economic research on pressing energy issues in an open and nonpartisan setting. The conference also welcomes the many environmental and natural resource economists working on these topics.

Call for papers

From a methodological perspective, the conference welcomes contributions based on: analytical models, econometrics, experiments, surveys, rigorous institutional analyses and case studies, simulation models, equilibrium models, optimization models. Interdisciplinary works with all areas of the natural, social or engineering sciences are also welcome.

Registration Fees (non-refundable)

- Presenter (IAEE member): **300€**
- Presenter (non-member): **390€**
- Presenter (student): **200€** (one-year IAEE digital-only membership)

Delegate (IAEE member)

- **35€** (3-day/full conference)
- **20€** (single day)

Delegate (non-member)

- **125€** (3-day/full conference)
- **110€** (single day)

Delegate (student)

- **25€ for 3-day** (includes one-year IAEE digital-only membership)

Online Venue

The online Conference will take place from Monday 7th June to 9th of June 2021. Sessions will run from early morning to late evening in Central European Summer Time (CEST) to facilitate international covering of the event.

#IAEE2021ONLINE

iaee2021online.org

IAEE - APEEN Student Prize for Portuguese students

On the past 20-21 January 2021 took place the 5th Annual Conference of the Portuguese Association of Energy Economics (APEEN), fully dedicated to all aspects of the Energy Transition and Sustainability, organized by CENSE (Center for Environmental and Sustainability Research) from NOVA School of Science and Technology.

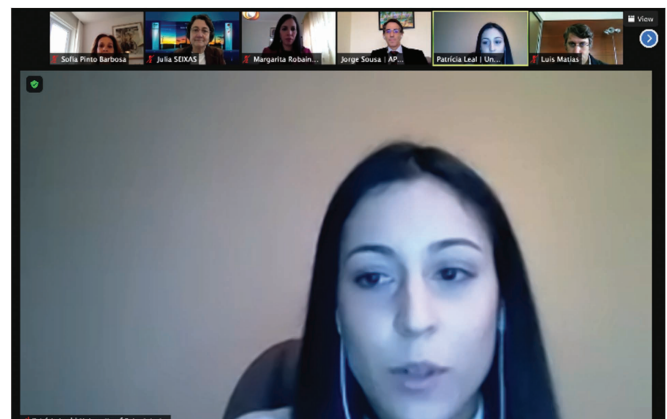
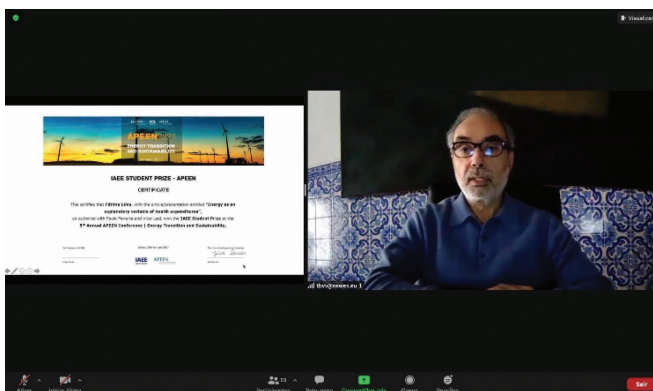
The best article/presentation in 2021 APEEN Annual Conference was awarded with the International Association for Energy Economics (IAEE) Student Prize, that is \$350 and the annual membership rate payment of \$50 to join APEEN/IAEE for one year.

The IAEE prize was promoted and offered by IAEE, in an effort to encourage more students to join the Association and to investigate in the Energy Economics area. More than 20 articles of MSc and PhD students were presented at the conference and were candidates to this prize.

The prize was awarded to the student Fátima Lima with the paper "Energy as an explanatory variable of

health expenditures", co-authored with Paula Ferreira and Victor Leal.

APEEN also gives in its annual conference the Young Researcher Award with the objective of rewarding the scientifically relevant work in Energy Economics by young researchers, as well as promoting the growth and renewal of this scientific area in Portugal. The Young Researcher award has the monetary value of 1000 € and the candidates have to send an article published in a scientific journal, have at least 35 years old, and be an APEEN member. This year the winner was Patrícia Hipólito Leal, with the article "Are de jure and de facto globalization undermining the environment? Evidence from high and low globalized EU countries", co-authored with António Marques and published in the Journal of Environmental Management".





WORKING PAPER SERIES — CALL FOR ENERGY RESEARCH PAPERS —

The USAEE and IAEE have combined efforts to create a working paper series that gives all USAEE/IAEE members a chance to increase the circulation, visibility, and impact of their research. If you have an unpublished research paper that addresses any aspect of energy economics or energy policy, we would like to feature your paper in this new series. There is no cost to you, only benefits:

- Place your work where it can be seen and used on a daily basis.
- Gain timely feedback from other researchers working on related topics.
- Create a permanent and searchable archive of your research output within the largest available Electronic Paper Collection serving the social sciences.
- Provide unlimited, hassle-free, public downloads of your work on demand.
- Raise your research profile, and that of the USAEE/IAEE, by joining with fellow members to establish a new energy research *trademark* that is unparalleled in terms of its breadth and depth of focus.
- Have a chance to win a complimentary registration to attend one of USAEE/IAEE's conferences in 2022.

The *USAEE/IAEE Working Paper Series* is a component of the Social Science Research Network (SSRN) *Research Paper Series*. SSRN is the leading online source of full-text research papers in the social sciences and is accessible at the following link: <http://www.ssrn.com/>. SSRN is indexed by all major online search engines, ensuring that anyone who does a keyword search in your area of research will be directed to your paper, receive free downloads, and will be provided with your contact information. SSRN tabulates the number of abstract and full-text downloads of each paper in the series and publishes various "top-ten" lists to indicate which papers are most highly demanded within individual subject areas.

To view current working papers in our series please click [here](#).

Contributor Guidelines

The USAEE/IAEE Working Paper Series includes only papers that present original, scholarly research related to energy economics and policy. Editorials, marketing tracts, and promotional material and papers carrying a

high degree of opinion to analysis will not be accepted. Other than this initial screening, the working papers will be unrefereed and authors are solely responsible for their content. Authors will retain all rights to their work, including the right to submit their working papers (or subsequent versions thereof) for publication elsewhere. Neither USAEE/IAEE nor SSRN will assume or usurp any copyright privileges with respect to papers included in the series.

Each working paper included in the *USAEE/IAEE Working Paper Series* must be authored or co-authored by a member in good standing of the USAEE/IAEE, and be submitted by that member. All papers will be assigned a USAEE/IAEE Working Paper number.

To include your research paper (or papers) in the *USAEE/IAEE Working Paper Series*, please email a copy of the work (**in PDF format**), including a brief abstract, to Colin Vance, Manuel Frondel, and Doug Conrad at wps@iaee.org.

Colin Vance

USAEE Working Paper Series Co-Coordinator since June 2018
RWI - Leibniz Institute for Economic Research

Manuel Frondel

USAEE Working Paper Series Co-Coordinator since June 2018
RWI - Leibniz Institute for Economic Research

Doug Conrad

USAEE Executive Director

Annual USAEE/IAEE Best Working Paper Award

Papers submitted from January 1 through December 31, 2021 will be reviewed by the USAEE/IAEE Best Working Paper Award Committee. One paper will be selected by a committee. This Committee will evaluate papers based on their contribution to the literature, scholarship, and originality. Prior to the review, the lead author will be requested to affirm his/her willingness to present the paper at one of USAEE/IAEE's 2022 conferences should the paper receive the Best Paper Award. The lead author of the paper that receives the USAEE/IAEE Best Working Paper Award will receive complimentary registration to attend one of USAEE/IAEE's conferences in 2022 and will be asked to present the paper in one of the 2022 conference's concurrent sessions.



In Memoriam – Pablo Mulás

The idea is that we humans could extract geothermal energy from volcanos. Sure, I said. Hot rocks, hot water. So what's new? No, Pablo replied. Geothermal from active volcanos! (Of which Mexico has many.) The concept was to drill tunnels into the chamber and recirculate water.

That is a snapshot of a typical conversation between Pablo and me, nearly always with our good friend Juan Eibenschutz. Who knows when, there were so many of these conversations, so lively, across so many topics over so many years. Always with good food, tequila and nice wines. Not a bad deal, wining and dining my way through Mexican energy with my two Wise Men.

Always curious, always wondering, always questioning – that was Pablo. And, always dedicated to public service. When he served as president of the Mexico affiliate, AMEE, in 2000 his desire, along with those of our other colleagues there, was to reinvigorate the affiliate. That year, during my turn as President-Elect of USAEE, Pablo and the AMEE group organized an event that would lead to a full Mexico City-based North American conference in 2003. Adam Sieminski was then at the helm for USAEE and I was IAEE president (and John Jimison contributed a mean piano). We had completed a North American trifecta, for the first time in IAEE history.

Pablo inherited the Mexico Committee for the World Energy Council from Juan. He was dedicated to WEC and convinced that the Council, through its country memberships and collegiality, could help improve understanding of energy complexities. His [podcast](#), recorded before his passing, reflects that belief. More than anything, Pablo was convinced of the importance and value that humans can derive from civilian nuclear. Together with Juan, “Mr. Nuclear” in Mexico for his long push (some 24 years) to build competency and achieve the Laguna Verde facility, Pablo was a steady champion for this clean, green but misunderstood and often maligned energy source. (It’s a confidence thing, an eloquent [point](#) made by Juan: “If

you want to project confidence, you have to act with confidence” not least among nuclear regulators.)

As Guy puts it: “I really enjoyed working with him [Pablo] over many years especially the last several years in Mexico City alongside the *Energía* conference [led by long-time friend Jesus Reyes Heróles and Herman Franssen, another that I miss dearly]. In his capacity as President of the Mexican chapter of WEC, he was very kind to arrange a World Energy Council Mexican chapter breakfast meeting for me to present to concurrently with *Energía*. He was always very insightful at IAEE events and at the USEA meetings.”

“I will miss him very much,” Guy adds.

Pablo was part of [Energía a Debate](#). This is what Pablo did – he connected, supported, befriended, imparted, and, yes, argued, always strenuously (Mexico’s policy on daylight savings time was memorable), but always in the most genteel way.

As Juan put it: “The number of adjectives applicable to Pablo is enormous. Above all, he was a gentleman in the full sense of the word. During the sixty years of our friendship, I never saw him lose his temper. Kind, but firm during the periods when he managed different institutions, always ready to learn, and blessed with the capacity to innovate and think differently. Witness to his personal characteristics the very big number of people that has manifested grief and sorrow at his departure.”

He also cooked fantastic Chiles en Nogada, and my own deep regret is that I was never able to join the fun at his annual gathering in Cuernavaca. From Juan: “The last time I saw him, few weeks ago, he repeated a favorite saying of his, ‘cuando te toca aunque te quites’. May he rest in peace.” Indeed.

*Michelle Michot Foss with
Juan Eibenschutz and Guy Caruso*