

IAEE ENERGY FORUM

CONTENTS

- 5 In Coal We Trust: The Need For Coal Power In Asia
- 7 For Saudi Arabia, the Threat of Stranded Reserves has Spawned a Climate Strategy
- 9 Oil, Natural Gas & LNG Will Keep Renewables Stranded Throughout the 21st Century
- 13 How a Climate Agreement Creating an International Carbon Market Could Reduce Stranded Asset Risk in GCC Countries and Qatar in Particular
- 25 A First Estimation of Fossil-Fuel Stranded Assets in Venezuela Due to Climate Change Mitigation
- 21 Energy Macroeconomics
- 26 Stranded Assets and the Low-carbon Revolution: Myth or Reality?
- 29 The Interplay Between Expectations and Climate Policy: Compensation for Stranded Assets
- 34 Report of the 16th IAEE European Conference, Ljubljana, Slovenia
- 47 Factoring Greenhouse Gas Emissions in Upstream Portfolio Decisions
- 52 Clash of Visions – Coal in Southeast Asia

Editor: David L. Williams

Published By:



PRESIDENT'S MESSAGE

In this editorial of the 4th Quarter *Energy Forum*, I suggest that we explore some transformations that our community of economists, in all its diversity, could wish for the energy system of tomorrow.

Since taking over my duties in January 2019, during my numerous visits to the countries in which IAEE has organized conferences, I have had the opportunity to officially intervene in opening or plenary sessions. I also had the pleasure of exchanging views with you, our members, with senior officials from industry or finance, with ministers and with PhD students. I take from our discussions their vision of the role of energy economics in the transformation of the energy sector in the medium to long term. Can we identify a general trend?

Many actors question the lack of consideration of the short term in the work of economists.

The long-term vision is also exposed to many uncertainties. This is unfortunately due to the fact that a minority of economists have built their businesses on pessimism and catastrophism. They alert opinions in the long term, thus creating short-term uncertainty, alarming markets, generating irrationality and creating sterile and disruptive volatility.

Yet there seems to be a consensus among energy economists: we believe that energy is a source of development, welfare and progress. It is therefore desirable to provide access to energy for all, affordable and environmentally friendly.

The balance between the first two pillars (security of supply and costs) is generally guaranteed for economists by the market, supply and demand determining the balance between energy volumes and prices.

The recognition of the environment is more divided in our community.

However, there is a new trend that has not been sufficiently studied and valued: everywhere on the planet, we are witnessing a questioning of the effectiveness of national or federal governments. In many cases, energy policy governance at the level of municipalities, counties or regions would be more effective. Two examples are blatant:

- The fight against **fuel poverty**: it is well known that the allocation of aid to people in extreme poverty and the search for solutions are more effective at the level of municipal services than from a centralised administration.
- The fight against **climate change**: without denying the role of States, we can observe short-term actions taken by cities and large regions of the world for short circuits or promoting sustainable mobility. The ban on polluting vehicles in city centres, the simple elimination of thermal fuel models from car



Continued on page 2

President's Message (continued)

manufacturers' catalogues could be much faster solutions than global actions.

Local or global are not opposed but are complementary

energy policy solutions that we should evaluate. The conditions for this complementarity are growth, societal and technological innovation.

Christophe Bonnery

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.

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

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.

Editor's Notes

The topic of *Stranded Assets* is a popular one. We begin our coverage in this issue and will continue it in the first quarter 2020 issue. There are several articles not on stranded assets that are of interest. We call particular attention to Doug Reynolds's article summarized below. Finally, the European Conference in Ljubljana, Slovenia was a great success and we're fortunate to have a summary of it included here. Read on.

Tilak Doshi posits that the impending death of the coal industry is greatly exaggerated. He notes that the opposition to building coal power plants in poorer countries is justified in two ways, both of which are false. He explains that contrary to the otherwise claim, climate change policy does not help the poor. Further, he notes it is a myth to claim that solar and wind power are competitive with fossil fuels. They are at least two to three times more expensive than coal or gas-fueled power.

Jim Krane writes that climate change appears likely to force oil producers to compete for a shrinking oil market. Competitive advantage will be based on companies' ability to cope with low oil prices even as they reduce, and later, offset their carbon emissions. Saudi Aramco, the world's largest oil company, appears well placed for long-term participation in markets under these constraints.

Mamdouh Salameh argues that there will neither be a post-oil era nor an imminent energy transition or a peak oil demand throughout the 21st century and far beyond. That is why oil, natural gas and LNG will keep renewables stranded throughout the 21st century.

Frederic Babonneau, Ahmed Badran, Maroua Benlahrech, Alain Haurie, Maxime Schenckery, and Marc Viell discuss how a climate agreement creating an international carbon market, associated with a strong penetration of negative emissions could reduce stranded asset risks in GCC countries, and Qatar in particular.

Simonetta Spavieri reports that a first estimation of fossil-fuel stranded assets in Venezuela under a 1.5°C world leaves 94.1% of Venezuela's reserves stranded which if burned would deplete 64% of the remaining carbon budget.

Doug Reynolds analyses some macroeconomic parallels between the 1970s, the late Soviet Union, and the Early 2000s. The historic events look very similar in nature, and can be used to speculate on future energy related macroeconomic events. Banking, currency, de-regulation and migration are scrutinized.

Anna Creti and **Christian de Perthuis** write that stranded assets, broadly defined, are the highest costs of the low-carbon revolution. To meet the Paris agreement target, they must be a reality. However, the latest figures on investment in carbonized assets show that this revolution is lagging behind. Therefore stranded assets are still a myth. We explain this contradiction and survey recent research, arguing that only coherent carbon regulation can deeply transform the economy.

Achim Hagen, Niko Jaakkola and **Angelika Vogt** assesses how climate policies lead to asset stranding and why this phenomenon might prevent the successful implementation of policies by taking recent German climate policy-making processes as an example.

Florent Rousset and **Fernando Rolla** note that oil and gas companies are under increasing pressure to reduce greenhouse gas (GHG) emissions. One mechanism for managing carbon emissions is the implementation of a carbon price applied on a per tonne of CO₂ equivalent (tCO₂e) basis, effectively assigning a cost to emissions. They illustrate how this would work.

Wen-Yu Weng writes that as the West begins its turn away from coal under the global decarbonization mandate and investor pressures, many Southeast Asia nations are racing towards abundant, cheap coal to meet their ever-escalating energy needs. He explores the multifaceted story of coal in Southeast Asia.

