

Key Points of 5th IEEJ/APERC International Energy Symposium

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On September 18, the Institute of Energy Economics, Japan (IEEJ), and the Asia Pacific Energy Research Center (APERC) held their fifth international energy symposium titled “Energy Trilemma in the Post-Corona World: Can Innovation and Soft Power Be the Solutions?” The annual symposium has been held since the first one marking the 50th anniversary of the IEEJ and the 20th anniversary of APERC in 2016, becoming a flagship IEEJ/APERC event.

The latest symposium took the form of an online meeting under the COVID-19 disaster. As consideration was given to the time difference problem regarding speakers in Europe and the United States, the first session ended at shortly past 10:30 a.m. and was followed by the next session that started at 3 p.m. The symposium featured panel discussions in three sessions and a special address by Shin Hosaka, Commissioner of the Japanese Agency for Natural Resources and Energy. Panelists also held vigorous discussions with other participants. In the following, I would like to summarize key points of each session of the symposium.

The first session was titled “Is It Possible to Fully Decarbonize the Global Supply of Energy by 2050? -- Role of Renewable Energy, Nuclear Energy and Energy Efficiency.” The panelists for the session were Roger Pielke, Professor, Environmental Studies Program, University of Colorado Boulder; Kenneth Medlock III, Senior Director, Center for Energy Studies, Rice University's Baker Institute; and John Kotek, Vice President, Policy & Public Affairs, Nuclear Energy Institute. IEEJ Managing Director Yukari Yamashita served as moderator.

In this session, it was pointed out that decarbonization initiatives attracting global interests face a mountain of big challenges from the macro viewpoint. Although slower-than-expected growth in global population and per capita gross domestic product could hold down greenhouse gas emissions, fossil fuels would be steadily required mainly in non-OECD countries over a long term, making global decarbonization difficult, according to panelists. Fossil fuels' share of global energy consumption is expected to decrease as non-fossil energy consumption including renewables and nuclear expands. If overall energy consumption expands, however, fossil fuel consumption could not necessarily fall but increase, even with fossil fuels' share dropping. In this sense, decarbonization is challenging from the viewpoint of realities in the world including developing countries. Energy infrastructure, once developed, would continue to be used for decades. The depth of existing fossil fuel infrastructure could be a constraint on progress in decarbonization, according to a participant in the session. It was pointed out that nuclear power generation, though required to further improve its cost competitiveness amid electricity wholesale price drops in the United States, is expected to contribute to decarbonization as a stable, reliable source to provide dispatchable CO₂-free electricity. An interesting view given in the session was that the adoption of nuclear energy for the electricity mix would help to lower decarbonization costs than in the case of without nuclear power.

The second session was titled “Is Hydrocarbon the Enemy or Ally to Climate Change Countermeasures?” The panelists were Yuji Iida, Deputy Commissioner, Agency for Natural

Resources and Energy, Ministry of Economy, Trade and Industry, Japan (for a recorded video presentation); Mechthild Wörsdörfer, Sustainability, Technology and Outlooks Director, International Energy Agency; Wim Thomas, Chief Energy Adviser, Shell International BV; and Eric Williams, Senior G20 Adviser, King Abdullah Petroleum Studies and Research Center. IEEJ Board Member Hiroki Kudo served as moderator.

A view underlying the session was that decarbonization requires all energy technology options and depends on innovation. One participant said that the world would go in the direction of a decarbonized society while fossil fuels, as well as renewables, nuclear and other non-fossil energy sources, play a key role as part of the energy mix through the development and use of innovative technologies. A circular carbon economy was proposed as a key concept of such decarbonization. This means that the comprehensive promotion of measures to reduce, reuse, recycle and remove carbon would be the key to decarbonization. An interesting view given in the session was that among the 4R technologies which are all important, CCS (carbon capture and storage) and CCUS (carbon capture, utilization and storage) technologies would pave the way for the world to promote decarbonization while using fossil fuels. The maximum electrification and zero-emission electricity sources will be required first for promoting decarbonization. A key problem will be how to decarbonize fields in which electrification cannot be achieved. CO₂-free hydrogen and other technologies would be a solution to the problem. At present, a participant said, the problem is how to lower high costs for CO₂-free hydrogen and develop relevant infrastructure. It was also pointed out that fossil fuels would continue to be consumed over a long term as the process for electrification and zero-emission electricity sources includes fossil fuel consumption from the viewpoint of the material balance. An example is that the expansion of wind power generation is accompanied by fossil fuel consumption for production of materials for wind farm facilities. In this way, the total process includes fossil fuel consumption. In this respect, CCS technologies are important.

The third session was titled “What Can Stabilize the Middle East Region, Military Power or Soft Power? -- Can Japan’s Soft Power Play a Role?” The panelists in the session were Paul Stevens, Distinguished Fellow, Energy, Environment and Resources Program, Royal Institute of International Affairs (Chatham House), United Kingdom; Tatiana Mitrova, Director, Energy Center, Skolkovo School of Management, Russia; and Nobuo Tanaka, Special Advisor, Sasakawa Peace Foundation, Japan. I served as moderator.

The Middle East, which holds the key to the stability of international energy markets, has frequently been destabilized. Geopolitical tensions there remain high even at present. A view given in the session was that hard power including military power has not contributed to stabilizing the Middle East but provided external interventions that have complicated problems and caused confusion. Global political and economic environments surrounding oil-producing Middle Eastern countries are severe and uncertain, plagued with a mountain of challenges. As the COVID-19 disaster has hard hit oil-producing economies, Saudi Arabia and other Middle Eastern oil-producing countries and Russia have no choice but to continue their joint production cuts to support the oil market, according to one participant. If oil demand peaks due to global decarbonization initiatives, the Middle East would be affected further. The COVID-19 disaster has led some people to believe that oil demand has actually peaked out and would fail to rebound. It was pointed out that in such situation, oil-producing Middle Eastern countries would have to break away from their heavy dependence on oil revenue and diversify and advance their economies. To this end, oil-producing countries would have to make self-help efforts and get cooperation from major countries. Then, soft power would have to be utilized. Saudi Arabia and other oil-producing countries have growing interests in CO₂-free blue hydrogen that would be made from fossil fuels, with relevant CO₂ output being captured and stored. Japan has proactively cooperated with these countries in the CO₂-free

blue hydrogen initiative, leading its technological and soft power contributions to attract attention. However, various challenges and difficulties exist in regard to the stabilization of the Middle East. No optimism can be warranted. We have no choice but to keep a close watch on how and whether future initiatives of Middle Eastern countries and their partners including Japan would make successful achievements.

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