Special Bulletin

A Japanese Perspective on the International Energy Landscape (744) June 2, 2025

Key Points of 10th IEEJ/APERC International Energy Symposium

Ken Koyama, PhD
Chief Economist, Senior Managing Director
The Institute of Energy Economics, Japan

On May 30, the 10th IEEJ/APERC International Energy Symposium was held at the Grand Prince Hotel Takanawa in Tokyo. This symposium has been held annually as a flagship event of the Institute of Energy Economics, Japan, and the Asia Pacific Energy Research Center since the first one took place in 2016 to commemorate the 50th anniversary of the IEEJ and the 20th anniversary of APERC. The latest one was a milestone event under the title of "Ideals and Reality in the Global Energy Landscape under Growing Uncertainties" and consisted of three sessions in which prominent Japanese and foreign experts participated as panelists to give presentations for panel discussions on the following topics.

In the first session titled "Examining the Gap between Ideals and Reality from Various Perspectives," participants examined the gap between ideals and reality regarding today's energy issues in the world from the perspectives of the United States and China, as well as from the viewpoint of climate change policy. In the second session titled "Strategies to Bridge the Gap between Ideals and Reality," participants discussed strategies to bridge the gap regarding somewhat relatively "mature" technologies such as nuclear energy, hydrogen, CCS (carbon capture and storage), and other areas from the perspectives of technology and finance. In the third and final session titled "Innovations to Overcome the Gap between Ideals and Reality," discussions focused on innovations that are less mature but may affect the success or failure of the future energy transition, such as carbon removal and adaptation. In the following, I would like to summarize my comments on this symposium, based on the points that left the greatest impression on me, mainly in the first session.

In the wake of the Ukraine crisis, various problems in the international energy situation have become increasingly complex and difficult to resolve, significantly increasing uncertainties about future developments. Until around 2021, the world's interest regarding energy issues had focused on carbon neutrality and decarbonization. However, the destabilization of the international energy situation amid the Ukraine crisis has led to a renewed recognition of the importance of energy security. How to secure a stable supply of energy, which is indispensable for daily life and economic activities, has regained its position as the most important energy issue. Balancing energy security and decarbonization has been positioned as the central energy challenge. However, the challenge has turned out to be extremely difficult to achieve. As the uneven distribution of wealth and the imbalance in income distribution have expanded, it has become clear that it is difficult for society to accept rising energy costs and prices even in developed countries, affecting the outcome of national elections in major countries and regions.

While major countries have strongly enhanced industrial policies to promote innovations that are recognized as necessary for the successful energy transition, uncertainty over how to proceed with innovation has emerged and strengthened amid a growing awareness that it is not easy to introduce responses or measures that lead to energy cost hikes, as described above. In addition to these issues, it is also an important point that the energy transition must be pursued with an emphasis on

economic security at a time when the division of the world becomes more serious and complex. China's dominance in the supply of strategic commodities such as critical minerals and in clean energy production capabilities now needs to be taken into account, further complicating issues related to the energy transition. In addition, the rapid spread of generative artificial intelligence and data centers has recently raised awareness of a potential increase in electricity demand amid the progress of a new information revolution, bringing the issue of securing a stable power supply to the fore. In addition, the impact of Trump 2.0 policies has shaken the international situation in general, making it even more difficult to respond to these issues and increasing uncertainties about future developments.

The abovementioned international situation is the background factor that has produced and widened the gap between ideals and reality regarding energy issues. In a sense, the situation itself is reality. Although countries around the world set forth the goal of carbon neutrality in the middle of the 21st century and ambitious greenhouse gas emission reduction goals for 2030, 2035, and 2040 toward the carbon neutrality as ideals amid the trend of decarbonization that accelerated worldwide from around 2020 to 2021, the world is now reminded that the real energy situation is severe enough to make it difficult to realize ideals.

Regarding fossil fuels, which account for more than 80% of global energy consumption, it was pointed out in the symposium discussions that oil, gas, and coal consumption have expanded over the past 20 years, indicating that demand for all fossil fuels is extremely steady and resilient. Of course, fossil fuel demand has peaked and declined in some countries. However, the entire world has been expanding fossil fuel consumption due primarily to increasing demand in developing and emerging economies. One reason for this is that enormous international and domestic supply chains for the use of all energy sources, including fossil fuels, exist as legacy assets, meaning that the energy transition will take an extremely long time due to these legacy assets. Given this point, the energy transition may come despite the continuously resilient demand for fossil fuels as clean energy sources join fossil fuels, as an addition, instead of replacing fossil fuels.

It was extremely interesting for me to see that the recognition that the geopolitical situation has extremely large impacts on the prediction of the future of energy issues was frequently indicated in the symposium discussions. A view was also presented that the fate of the global energy transition will be greatly affected by the extent of strategic confrontations in the midst of severe geopolitical situations and the deepening division of the world. Interestingly, it was pointed out that the use of clean energy would globally decelerate in a manner to delay the reduction of GHG emissions in a scenario for the intensification of confrontations.

It is also important to see what kind of moves China will make in such a future world. While the promotion of clean energy use has slowed down worldwide, the spread of electric vehicles and renewable energy continues to expand in China. As economic uncertainties increase in China due to the economic slowdown and the impact of the Trump tariffs, attention will be paid to the future status of energy and climate change measures and how their reality will be in China. Energy use changes in China, which have driven global energy demand growth through its sustained rapid economic growth since the 1990s, are the biggest factor affecting the reality of the international energy situation. As China overwhelmingly increases its presence in the international community, its future trends will hold the key to energy geopolitics regarding the United States, Russia, the Middle East, and East Asia, and to the international situation surrounding climate change issues. When it comes to dealing with the gap between ideals and reality, we cannot take our eyes off China's moves.

Global energy-related CO_2 emissions have basically continued to expand over the past more

than half century, excluding years when the global financial crisis and the COVID-19 pandemic greatly affected energy consumption. Based on this reality, we will have to pursue our ideals. However, the pursuit will be difficult. Facing the gap between ideals and reality, all countries will be required to curb and minimize energy cost hikes under inclusive initiatives reflecting their respective conditions.

Contact: report@tky.ieej.or.jp
The back issues are available at the following URL.
http://eneken.ieej.or.jp/en/special_bulletin.html