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Reviewing Japan's Energy Policy History (4): Transition from Low-carbonization to Decarbonization

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In this fourth essay of the "Reviewing Japan's Energy Policy History" series, I would like to take up the turbulent energy situation in Japan and the rest of the world since the beginning of the 2020s and its major impacts on Japan's energy policy. Titled "Transition from Low-carbonization to Decarbonization," this essay analyzes (1) the international energy situation, which has experienced unprecedented upheaval under the COVID-19 pandemic, and the decarbonization trend, which has progressed rapidly in that process, (2) energy policy affected greatly by the decarbonization trend, (3) the simultaneous surge in energy prices that occurred amid changes from the COVID-19 pandemic and the Ukraine crisis, which accelerated the surge, and (4) initiatives and challenges to balance energy security with decarbonization amid energy price hikes.

The international energy situation in the early 2020s featured tumultuous turbulences due to the unprecedented political, economic, and social impacts of the COVID-19 pandemic. In 2020, when the COVID-19 disaster grew serious, with the number of victims continuing to increase amid the rapid global spread of infections, the global economy experienced a tremendous contraction of more than 3% from the previous year. As sharp economic activity contraction was coupled with lockdowns and other tough measures to prevent the COVID-19 infection spread, global energy demand plunged by nearly 4% from the previous year. The decline in oil demand was the most remarkable due to a sharp decrease in demand for energy for transportation amid the lockdowns, resulting in a significant oversupply and price falls in the international energy market. In an unusual event in April 2020, the key futures price for the benchmark West Texas Intermediate crude oil hit a record low of minus $37 per barrel. Thus, the international energy situation in 2020 got off to a tumultuous start with oversupply and remarkably low prices under the enormous impact of the pandemic, leading recovery from the pandemic to become a top global policy priority.

Under these circumstances, the impact of the COVID-19 pandemic on climate change measures became a serious matter of interest. In the face of the pandemic, which was intensifying right in front of us, there was a view that addressing the extremely important but long-term issue of climate change would be given relatively lower priority. In fact, however, the opposite was the case. In the year 2020, the trend toward decarbonization accelerated around the world at once, with the carbon neutrality movement sweeping the world. In addition to the European Union, which took the initiative in setting a goal of achieving carbon neutrality by 2050, major countries such as China and Japan announced carbon neutrality goals one after another in 2020. The United States joined this trend under Joe Biden, who won the presidential election in 2020. Various factors contributed to the acceleration of this decarbonization trend. I believe that the impact of the EU's "Green Deal Strategy" was important among the factors. This strategy had originally been emphasized by the EU as positioning green investment for the prevention of climate change as a major contributor to the long-term economic growth of the EU. When a severe recession occurred due to the outbreak of the COVID-19

pandemic, however, green investment was positioned as contributing not only to long-term growth but also to short-term economic recovery. As the pandemic intensified, this strategic concept of promoting green investment for economic recovery and long-term growth was embraced by countries around the world. It formed a policy recognition that preventing climate change is economically significant.

The pursuit of decarbonization to realize carbon neutrality will require a fundamental change in the energy supply and demand structure. In order to envision the future carbon neutrality, a backcast approach was explored to set the goal of carbon neutrality and provide a path to the goal. Representing this approach was the International Energy Agency's Net Zero Emissions Scenario published in May 2021. The "normative scenario," which indicates how the world should change in order to achieve carbon neutrality, began to be emphasized and referenced in energy policy. The world is now required to take on enormous challenges, including the complete conversion of long-lived "legacy assets" such as supply chains and entire infrastructure that support the energy supply and demand structure into a new system by around the middle of this century and the introduction of advanced technologies that have not yet been commercialized on a large scale in the conversion process.

However, the upheaval in the international energy situation did not stop there. The reaction to the pandemic, energy investment shortages, and the vulnerability of the international energy market after a decline in surplus supply capacity all contributed to the simultaneous surge in energy prices that became apparent from around the second half of 2021. Oil, natural gas, LNG, coal, electricity, and other energy prices soared. Energy price hikes emerged as the center of the world's political, economic, and social problems. From around October 2021, the EU first began to consider the introduction of energy subsidies. Later, Japan introduced subsidies as a measure to mitigate drastic changes. Calls for increasing production to curb the rise in crude oil prices grew sharply among major oil-consuming countries, contributing to increasing the international influence of oil-producing countries such as the OPEC-plus group. Energy price hikes and the energy supply-demand crunch behind the hikes were accelerated and aggravated by Russia's invasion of Ukraine in February 2022. Energy exports by Russia, known as the world's largest fossil fuels exporter, became the biggest destabilizing factor, threatening the stable global energy supply. Then, energy security suddenly emerged as a top policy priority.

While interest in decarbonization remained unchanged, it was only natural that securing a stable supply of energy, an indispensable commodity, became an urgent and top priority amid the Ukraine crisis. In this respect, new light was shed on the importance of fossil fuels expected to play an important role in the energy transition in the future or the significance of securing a stable supply of fossil fuels. Although balancing energy security and decarbonization has been a global challenge since the outbreak of the Ukraine crisis, the challenge is becoming more difficult now that the world has shown itself vulnerable to rising energy costs. The question at present is how to minimize energy transition costs from a comprehensive perspective while taking into account the actual situation of the world and the conditions in each country.

As the Ukraine crisis has intensified the division of the world based on the U.S.-China confrontation, the concept of emphasizing economic security regarding strategic goods and technology has become more influential. Increased interest in critical minerals has led to the need for careful consideration of how to proceed with the energy transition from the perspective of economic security. As mentioned above, the realization of innovation has become a challenge for a successful energy transition. Industrial policy has come to be emphasized around the world for promoting economic and industrial development through innovation. The world's major economies are engaging in fierce competition for successful industrial policies and seeking cooperation and collaboration with strategic

partners from the perspective of economic security. As the world has become increasingly divided, the importance of the Global South and resource-rich countries has increased, leading to a global tug-of-war to win over and cooperate with them. It is essential for international strategies for energy and climate change measures to respond appropriately to complex international situations.

A new energy policy for Japan is required based on the turbulent international energy situation since 2020. The current Sixth Strategic Energy Plan was approved by the Cabinet in October 2021. Given the timing of discussion at government advisory councils and other forums that preceded the approval, it is clear that the central topic of the domestic and international situation at the time was the global trend toward decarbonization. However, Japan is now required to restructure its energy policy in light of the ever-changing international energy situation. It must learn from history and consider energy policy with an eye on the future.

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