IV.-2 Energy and Infrastructure

Overview

In order to promote the shared goal of a free and open Indo-Pacific, the governments of Japan and the U.S. are strengthening cooperation in energy and infrastructure. In addition, the energy landscape is undergoing rapid changes marked by the heightened awareness of global environmental issues, the shale gas revolution in the U.S., and Japan's reduced energy self-sufficiency due to the decommissioning of nuclear power plants. Under these circumstances, Japan and the U.S. should work towards (1) meeting the sustainable development goals (SDGs) and responding to climate change, (2) promoting the use and construction of highly efficient energy and infrastructure utilizing AI/IoT, and (3) increasing Japan-U.S. cooperation in third country infrastructure development. To that end, the U.S.-Japan Business Council / Japan-U.S. Business Council (hereafter "the Councils") propose the following recommendations to the governments of Japan and the U.S.

Contributing to the realization of the SDGs, including responding to climate change

1. The Councils urge Japan and the United States to play a leading role in the clean energy industry and promote all sources of carbon-free sources of energy.

2. Renewable energy, particularly solar and wind power, should be promoted as a mainstream source of power, with a goal toward reducing their costs and incorporating them in power systems such as the transmission and distribution network. In addition, challenges associated with output fluctuations resulting from the expanded use of renewable energy can be addressed through storage batteries, along with technological development and utilization of hydrogen. The Councils urge close cooperation and the provision of appropriate incentives in this area.

3. Nuclear power is an important baseload power source that contributes to the stabilization and decarbonization of the long-term energy supply and demand structure. Its utilization and safe operation will continue to be necessary in the future. To that end, the "Agreement for Cooperation between the Government of the United States of America and the Government of Japan Concerning Peaceful Uses of Nuclear Energy" is at the core of nuclear energy utilization. The Councils recognize that the continuous strengthening of cooperation between Japan and the U.S. based on this Agreement is extremely important. There is potential for major technological innovation in small modular and other advanced reactors, which also have good potential in respect of expansion into emerging markets. Advancing the development of these technologies requires a regulatory framework for evaluating and licensing these technologies. The Councils call upon the Japanese and U.S. governments to establish appropriate regulatory frameworks for new technologies. The Councils also urge the Japanese and U.S. governments to continue to strengthen industrial cooperation and cooperation in research and development, making use of the energy cooperation framework. In order to continue to use nuclear power, it is necessary to safely execute decommissioning. Important projects such as decommissioning of the Fukushima Daiichi Nuclear Power Station are at the forefront of Japan-U.S. nuclear cooperation. The U.S. leads the field in this area, and its regulatory approach and results serve as guidelines for Japan. The Councils expect further expansion and progress on Japan-U.S. cooperation on this regard.

4. Global energy demand is projected to rise more than 40 percent by 2035, driven by population growth, income expansion, urbanization and transportation needs, particularly in Asia. Reducing greenhouse gas (GHG) emissions presents a formidable challenge. Achieving the necessary greenhouse gas reductions for effective global warming countermeasures will include the use of cost-effective renewable energy resources, including wind, solar and new technologies. Yet it will also require the use and development of clean energy technologies, including high-efficiency, low-carbon fossil fuel power. These technologies should include high-efficiency natural gas-fired thermal generation, which will allow Japan to leverage the expected supply of North American LNG assured by LNG export approvals, for which the US and Japanese business communities have been united in advocacy.

5. The Councils agree on the need to use coal in a more environmentally sustainable manner and invest in technologies that reduce GHG emissions. At the same time, the Councils recognize that coal will remain an affordable and reliable source of energy in emerging markets in Asia and a vital part of a diverse energy portfolio. In this context, the Councils are concerned that the growing restrictions on coal-related projects in emerging markets may bring unintended consequences of delaying the introduction of high efficiency coal-fired power plants and prolonging reliance on older and low-efficiency coal-fired power generation. For this reason, the Councils urge both governments to support the research and development, as well as the promotion and dissemination of carbon-reducing technology. In connection with using coal, CCUS (Carbon Capture, Utilization and Storage) technology is essential to ensure coal is used as a low carbon technology. The Councils urge the Japanese and U.S. governments to continue cooperation on CCUS and introduce policies designed to lower the costs of deployment and operation while encouraging more investment. Furthermore, the Councils ask for government support and incentives for joint Japan-U.S. projects to promote the widespread adoption of CCUS technology.

6. There are great expectations of improvements in energy efficiency as a means to decarbonization. The Councils recognize that in addition to using the latest technologies, such as AI and IoT, energy efficiency can be improved by promoting further use of current energy-saving technologies and equipment. The Councils hope that our governments will promote their use and the efficient use of energy, alongside new AI and IoT technologies and products, not only in Japan and the U.S. but also in third countries.

Enhance energy and infrastructure efficiency by utilizing AI and IoT

7. The Councils recognize that the introduction and promotion of AI and IoT technologies will drive solutions to various problems in the energy field. IoT technology makes it possible to collect a wide range of information and data in real time, and that data can be used to create value. In fact, AI technology can create value from enormous data sources that are usually very difficult to analyze. For example, applying IoT to power generation equipment makes it possible to monitor its status in real-time, and makes it possible to operate the equipment with greater flexibility, along with efficient inspection and repair cycles based on its actual condition. AI can also be used in demand forecasting to improve the accuracy of consumption prediction.

Expanding the use of AI and IoT will promote the collection and use of diverse data, and for this reason the importance of protecting data privacy and ensuring security will become only more important in the future. In order for their benefits to be fully realized, the Councils urge the two governments to work together to build a policy framework that allows the data generated by AI and IoT technologies to be used effectively in the energy field.

In both Japan and the U.S., aging transmission and distribution networks, and the danger of cyber-attacks on power infrastructure are important issues. Dealing with them requires a transition to high-efficiency, secure, next-generation transmission and distribution networks that deploy AI, IoT and other technologies. While the increase of renewable energy resources is making smooth progress, the Councils believe this will also make its problems with continuity and completeness as a power source more apparent. In response, in addition to advanced supply and demand adjustment technologies, we will in the future increasingly require technologies like VPP (Virtual Power Plants) and Demand Response to efficiently manage resources on both the demand and supply sides. The Councils request that the Japanese and U.S. governments provide support in the form of incentives for investment, development, and promotion of appropriate system designs in areas such as secure next-generation transmission and distribution networks, as well as new technologies such as VPP and demand response.

Japan-U.S. cooperation in third country infrastructure development

8. Last November, the Japanese and U.S. governments signed a Memorandum of Understanding on energy cooperation to encourage high-quality infrastructure in the Indo-Pacific region. Since then, a number of public and private sessions have been held. The Councils welcome the various support measures for Japan-U.S. cooperation projects, including advocacy and capacity building initiatives for third country governments. The Councils look forward to further democratically guided cooperative projects in a wide range of fields. At the same time, the Councils recognize that large-scale cooperation projects in third countries are directly linked to Japanese and U.S. security and long-term national policies and urge the governments of Japan and the U.S. to continue policy dialogues with third party governments, so as to improve regulatory cooperation, operational efficiency of infrastructure maintenance, and administrative transparency.

9. The Councils recognize the mutual benefit that U.S. LNG exports to Japan brings: For Japan, U.S. LNG is a new supply source that helps diversify suppliers, enhance Japan's energy security, and contributes to the expansion of the LNG market. For the U.S., LNG exports present an opportunity to boost its companies' presence in the Asia region. In order to expand exports of U.S. LNG, the Councils urge the U.S. government to ensure a stable budget to develop and maintain access channels of crude oil and LNG export bases. The U.S. has many ports on rivers, and annual dredging is essential to maintain channels deep enough for large vessels to use them. It is also important to deploy enough dredgers to quickly remove sediment inflows from disasters like hurricanes. In addition, studies are underway to deepen ports and channels to improve the economic efficiency of crude oil transportation, and we urge the U.S. government's support not only in crude oil but LNG. A further consideration is that ships sailing from the ports on the eastern seaboard must pass through the Panama Canal, which imposes cost and time constraints. The Councils would like to see the earliest possible

development of infrastructure (e.g., pipelines, storage, export bases) on the U.S. west coast. Both Councils appreciate the efforts made by the U.S. government to simplify and streamline licenses for LNG infrastructure, and hope to see a continuation of similar moves. Japanese and U.S. companies have begun to cooperate in exports of U.S. LNG to the Indo-Pacific region, but in order to expand exports, governments in this region should formulate comprehensive introduction plans, and port infrastructure should be improved to include LNG terminals for unloading LNG. Because long-term cash flows remain an obstacle, the Councils hope the Japanese and U.S. governments will continue policy dialogues with Asian counterparts, capacity building, and seek support from government financial institutions and similar entities.