

GX Initiatives: Transformation of Japan's Economic and Social Systems

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Green Transformation (GX) of Japan's Economic and Social Systems

1. The oil crises in the 1970s served as an important catalyst for Japan's energy transformation, which focused on its reduced dependence on oil, to strengthen its energy security. At the same time, however, Japan had to transform its economy and industry to survive under this energy transition. Similarly, how to leverage the current energy crisis and the upcoming energy transformation as an opportunity for transforming the industry for the future is an important challenge. Recently, the gross domestic products of chemical and allied products, electronic parts and devices, and general-purpose, production, and business-oriented machinery have been increasing. It is necessary to analyze whether they will be seeds for future economic growth.
2. The vision or goals, and the roadmap or pathways for the green transformation (GX) of Japan's economic and social systems are illustrated in the appendix of Japan's Basic Policy for Realization of GX formulated in February this year, with 22 future business areas as examples. But in which of these areas should Japan aim to "win" (achieve economic growth), and how? It is also important to compare Japan's industrial policies with those being worked on in the US and the EU, on the methodologies of how support is being provided.

Overview of Japan's Basic Policy for Realization of GX ("GX Basic Policy")

3. Areas involving large amounts of GX investment, namely automobile and storage batteries, renewable energies and next-generation networks, houses and buildings, and investment in digitalization for decarbonization, were all classified in the Green Growth Strategy as the areas in a deployment and expansion phase, and thus these investments aim to achieve short-term results.
4. The initiatives for the 22 areas illustrated in the GX Basic Policy can be divided roughly into the following: short- to medium-term initiatives involving (1) industrial policies (semiconductors, storage batteries) and (2) transformation of social systems (automobile, houses and buildings, renewable energy), and medium- to long-term initiatives involving (3) research and development (R&D) and deployment.
5. While the industrial policies under the GX Basic Policy focus chiefly on semiconductors and storage batteries, whether these industrial policies can ensure sustainable economic growth and how to identify the industrial areas that will lead to medium- to long-term economic growth (through selection and concentration) are a challenge.
6. As for R&D and deployment, long-term goals for cost and volume have been set for only a few areas, including hydrogen and ammonia; the pathways for achieving these goals and the means of support are still uncertain. For the longer term, how to build a support framework for promoting R&D in broader areas, and, out of these areas, how to identify and select areas of R&D that will lead to economic growth and to concentrate resources in them, will be the issues going forward.

Growth-Oriented Carbon Pricing Initiative

7. Japan's Growth-oriented Carbon Pricing Initiative has a two-phase structure that transitions from investment support to carbon pricing. Investments will be mobilized through large-scale government support worth 20 trillion yen, utilizing

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GX economic transition bonds, and private finance worth 130 trillion yen over 10 years from FY2023. A carbon emissions trading system will enter full operation in FY2026, a carbon surcharge (fossil fuel surcharge) will be introduced in FY2028, and an emission allowance auction will be introduced gradually for the power sector in FY2033. The 20 trillion yen in capital will be funded by revenues from the carbon surcharge and the emission allowance auction.

Industrial Policies of the US and the EU

8. In the Inflation Reduction Act (August 2022), the largest tax credits over ten years are estimated through the following: (1) Extension and Modification of Credit for Electricity Produced from Certain Renewable Resources, (2) Clean Electricity Investment Credit, and (3) Residential Clean Energy Credit. Production tax credits (tax credits allowed in proportion to products) also play a significant role.
9. Under the EU's Green Deal Industrial Plan (February 2023), the proposed Net-Zero Industry Act merely simplifies the regulatory framework for the manufacturing of net-zero technologies. On the topic of EU-level funding, the setup of the Sovereignty Fund as a mid-term structural answer to the investment needs is uncertain, and additional funding is not identified.
10. Regarding the methodologies of support, the main tools employed by the US Inflation Reduction Act are amendments of and additions to production tax credits stipulated in the Internal Revenue Code. The requirements are specified, and the tax credits are thought to be of high interest and attractive to private businesses. As they allow funds to be monetized quickly, they are incentivizing companies to make investments, and could lead to the creation of new industry seeds and their growth. Meanwhile, the EU aims to create markets through carbon pricing such as the EU ETS, and regulations, but the markets are still in the process of being created. As no additional EU-level funds have been specified, some companies are redirecting their investments to the US from the EU. Japan needs to ensure that its investment support achieves results before the full launch of its carbon pricing system.

Challenges for the GX Initiatives

11. (1) With regard to the targeted GX areas in industrial policies, as well as R&D and deployment measures, it is important to build a mechanism to objectively evaluate and identify the areas that would lead to economic growth, and to concentrate resources in those areas. (2) As for the methodologies on supporting GX, Japan should, while learning from the industrial policies of the US and the EU, operationalize investment support as soon as possible, in an accelerated and enhanced dialogue with the private sector and businesses, in order to create seeds for new industries aiming for future development and growth, before carbon pricing and regulations could create markets.

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