

CLIMATE TRANSITION BONDS

SHOW JAPAN'S COMMITMENT TO CARBON NEUTRALITY

How will Japan achieve carbon neutrality? One answer to that question was provided by the national government earlier this year when it introduced the Japan Climate Transition Bonds—the first of their kind ever issued in the world. They give a clear picture of Japan's strategy and roadmaps in this key area.

In February 2024, the Japanese government began issuing Japan Climate Transition Bonds and set a target of providing 20-trillion-yen worth of support for Green Transformation (GX) efforts through their issuance over the coming decade, with the goal of achieving a decarbonized society. The world has been watching to see how Japan—with its low energy self-sufficiency and large ratio of hard-to-abate industries (industries that have difficulty reducing emissions)—will achieve its goal of carbon neutrality by 2050. The framework for the bonds will provide a concrete strategy and roadmaps for that goal.

The keyword is “transition.” Reducing carbon emissions and limiting the increase in global temperature require action by every sector. The reality, however, is that the transition must be carried out in not only established decarbonization technologies such as shifting to renewable energy, but also in a graded fashion as new technologies come to be developed and commercialized. Japan started issuing the bonds to raise funds for that transition in accordance with international standards for so-called transition bonds, making it the first country in the world to do so.

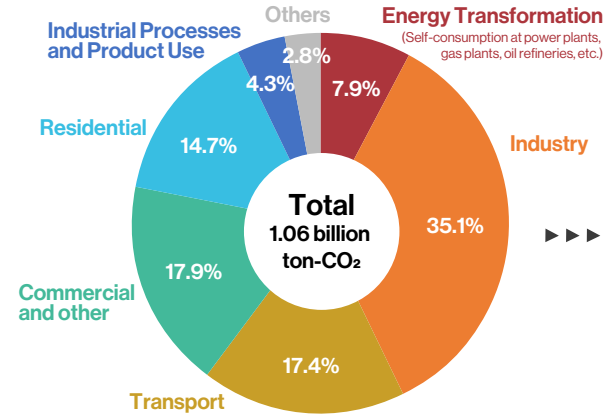
The bonds clearly spell out how the raised funds will be used. In accordance with the Japanese government's GX Promotion Strategy, relevant ministries have

selected various projects subsequently approved by the Diet. The projects span 22 different fields—including hydrogen and ammonia, next-generation innovative reactors, food, agriculture, forestry, and fisheries, among others—and cover all seven carbon-emitting sectors (see figure). Specifically, some of the projects involve the development of next-generation solar cells and support for the introduction of equipment and machinery with high energy-saving performance in factories and offices.

Despite a degree of concern about the viability of some of the projects selected to receive funds for R&D, the reality is that most will eventually achieve commercialization. Indeed, several of them—such as decarbonized steel and floating offshore wind power—have already reached the stage of demonstration testing.

In addition, because the Transition Bonds have been designed to support gradual efforts toward decarbonization, the projects they support are required to demonstrate how they will ultimately contribute to the transition to carbon neutrality. The GX Promotion Strategy acts as a reference for that, presenting a specific pathway for each of the 22 fields over the next decade. As for steel and other high-emission industries, roadmaps have already been drawn up for individual decarbonization technologies, from development to

Breakdown of CO₂ emissions by various parts of the Japanese economy



An analysis of the carbon emissions stemming from the production of electricity and heat by various parts of the Japanese economy, according to their level of consumption, shows that industrial and living sectors (Residential, Commercial and other) account for the majority of emissions. For the bonds, projects are selected from all sectors, so as to support efforts across the board.

Use of proceeds under the Japan Climate Transition Bond

Energy Transformation
Next-generation solar power, offshore wind power generation
Development of submarine DC power grid
Zero-emission thermal power generation
Utilization of nuclear power
Industry
Structural transformation of manufacturing industry (Fuel/raw material conversion)
Transport
Decarbonization of the transportation sector (promotion of EV, FCV, PHEV)
Development of synthetic fuel
Commercial and other
Promotion of installation of high-efficiency water heaters in households
Cross-departmental initiatives
Thorough promotion of energy conservation
Promotion of energy-saving materials in housing/buildings
Storage battery industry
Power semiconductor
Support for introducing hydrogen and ammonia
Carbon recycling/CCS

Created by JCR based on the Ministry of the Environment's "Japan's National Greenhouse Gas Emissions and Removals in Fiscal Year 2021 (Final Figures)"

practical application. Furthermore, all the companies funded by the bonds need to submit their own carbon reduction plans.

In recognition of those points, the Climate Bonds Initiative (CBI), a global not-for-profit organization providing standards on climate-related bonds, along with the Japan Credit Rating Agency, Ltd. (JCR), a major domestic credit rating agency, have certified the first tranche of the bonds for their consistency with the Paris Agreement. Expressing his surprise about that, KANEDOME Masato of DNV Business Assurance Japan K.K., a subsidiary of a Norwegian external review provider, who also certified the framework of the bonds, said, “CBI certification is not easy to obtain; I’ve never seen such a large transition bond do it before.” He added, “The bonds demonstrate Japan’s commitment to achieving carbon neutrality by 2050, with all sectors and companies working together to get it done. That is how a national government should adapt itself to nationwide decarbonization efforts. The bonds will likely have a positive impact on the future actions of other countries.”

Additionally, KAJIWARA Atsuko of the JCR commended the government’s action, saying, “It was a bold move for the government to announce the transition. It has presented a clear strategy and consistent roadmaps, as well as specific projects in each field for the bonds. The international response has been quite positive so far, not merely on account of the

elevated transparency in Japan’s decarbonization efforts but also because of the sophistication of the framework itself. I further believe that the program will serve as a catalyst for major investments by the private sector.”

Along with helping Japan fulfill its international commitments insofar as reducing carbon emissions is concerned, the development of decarbonization technology and the creation of new businesses should both strengthen the country’s industrial competitiveness and help it attain greater economic growth. To be certain, Japanese firms currently boast technological strengths in quite a few business sectors. But with a clear transition strategy and ambitious roadmaps, the country will continue confronting the global challenge of climate change through the combined efforts of its public and private sectors. ●



According to KAJIWARA Atsuko (right), managing executive officer at the Japan Credit Rating Agency, “By building a framework that incorporates even the smallest details, we can also focus attention on individual technologies’ innovativeness and effectiveness. That should attract direct investment in them.” KANEDOME Masato (left), principal at DNV Business Assurance Japan, is even more anticipatory. He said, “I’d like the Japanese government to go one step further than the goals in the Paris Agreement by setting targets for collaboration between separate industrial sectors in order to further encourage companies.”

