



The Fukushima Hydrogen Energy Research Field (FH2R), located in Namie Town in Fukushima Prefecture, is one of the largest production facilities of hydrogen from renewable resources in the world.

JAPAN'S GREEN GROWTH STRATEGY WILL ACCELERATE INNOVATION

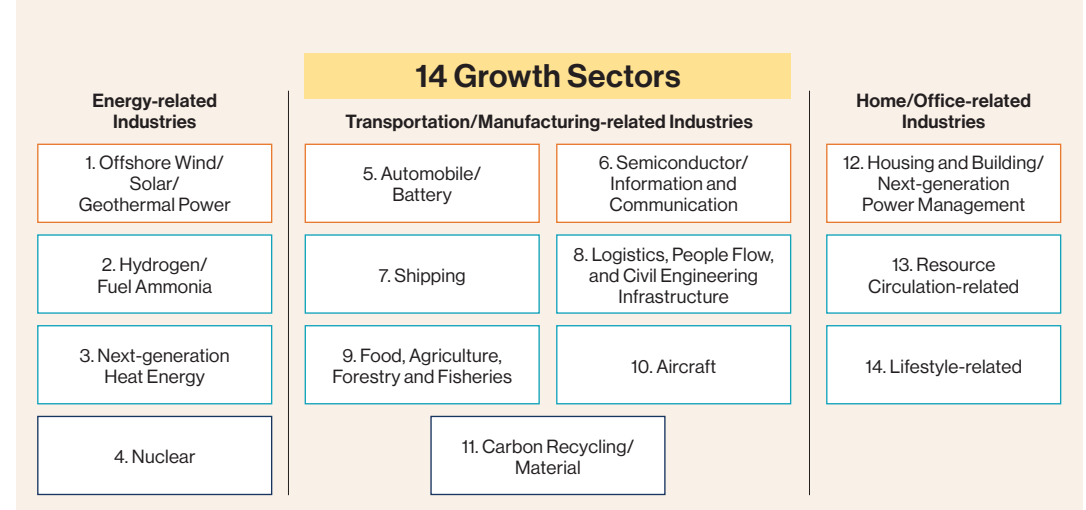
Japan has set out an ambitious plan to lead the world in decarbonization. What exactly is Japan's Green Growth Strategy?

In October 2020, the Japanese government announced its plans to achieve net zero carbon emissions by 2050. Moreover, in April 2021, it raised its previously set goal of reducing emissions by 2030 to an ambitious 46% from its 2013 levels, stepping up its efforts to reach carbon neutrality. Tackling global warming is no longer seen as a cost, but more as a great opportunity whereby such proactive measures will bring about strong economic growth. To create such a “virtuous cycle of economy and environment,” the government launched the “Green Growth Strategy through Achieving Carbon Neutrality in 2050”.

“The pillars of Japan’s strategy for reducing carbon emissions are twofold: decarbonization of the electric power sector and electrification of other sectors,” says KAWAHARA Kei, director, Environmental Policy Division, Carbon Neutral Action Plan Promotion Office, at the Ministry of Economy, Trade and

Industry. For the electric power sector, the strategy has proclaimed the goal of pursuing all avenues—including renewable energy and hydrogen power—to promote the decarbonization of power generation. For other sectors, such as manufacturing, transportation and housing, the strategy’s main approach is to further propel a shift in power sources toward electricity. To curtail the growing electricity demand associated with that shift, however, the strategy also calls for the advancement of energy saving through digital technology, such as the automated, optimal control of the power network, along with a leaner, more efficient use of energy.

The Green Growth Strategy sets out 14 promising fields (see chart) in which future growth is expected, and where efforts are essential for achieving the reduction of greenhouse gas emissions. All available policy measures—from budget and taxation to regulatory reform—will be called upon to stimulate innovation



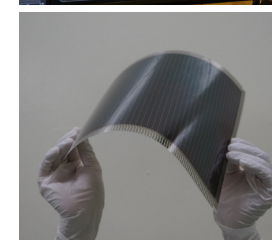
in each of the different fields. Notable among these measures is the establishment of a 2-trillion-yen (18.2-billion-dollar) Green Innovation Fund, which will provide continuous support for a series of efforts from ambitious R&D to social implementation over the next 10 years. “We will provide continuous supports, but at the same time we can call on companies to aspire toward high-reaching goals for 2030 and a strong commitment to them. By introducing such supportive mechanisms, and using 2 trillion yen of governmental funds as pump priming, private companies are expected to increase their R&D and capital investment,” explains Kawahara.

Concrete action plans have also been drawn up for each of the 14 fields to demonstrate realistic pathways toward their goal in 2050, thereby allowing steady progress to be realized in each field. For example, for the hydrogen industry, the strategy lays out several steps. It focuses first on increasing the volume of hydrogen introduced in the society. Bringing hydrogen power generation turbines and fuel cell trucks into marketable products are some of the urgent issues specified in the strategy. It also puts emphasis on measures to strengthen hydrogen supply including transportation and storage. Through these steps, the strategy aims to bring down the price of hydrogen and to expand the volume of domestic introduction up to 3 million tons in 2030 and 20 million tons in 2050.

To spread these new technologies and boost the competitiveness of Japanese industries, the Green Growth Strategy also focuses on international cooperation. Japan will encourage domestic companies to collaborate with overseas firms, promoting bilateral and multilateral ties so as to lower the barrier to overseas markets, while also actively working to formulate international rules. In 2021, separate agreements were

reached with the United States and EU to create new frameworks to reinforce such cooperation. Meanwhile, the Japanese government has proposed the Asia Energy Transition Initiative, a support measure for the gradual reduction of carbon emissions in the region, to Asian countries. The initiative encourages a realistic energy transition through the use of a wide range of energy sources and technologies in line with the industrial and social structures and geographical conditions of each country where demands for energy are expanding. “We should bring together the best technologies and make the most of what they offer. While increasing Japan’s industrial competitiveness, we will make our contribution to the world by spreading Japanese technology overseas,” says Kawahara.

With the Green Growth Strategy, Japan will promote decarbonization, which is one of the most critical and global challenges for the future of humanity. Taking the challenge as an opportunity for growth, Japan will push forward with efforts to realize a truly sustainable society by promoting innovation, fostering new industries, and sharing its achievements with the world.



Toshiba Corporation

Top Left: The automated control of electric power networks using digital technology has reduced energy consumption in Kashiwa-no-ha Smart City in Chiba Prefecture.
Top Right: Aichi Prefecture’s Toyota City provides a car sharing service utilizing ultra-compact electric vehicles.
Left: Film-type perovskite solar cells developed in Japan can potentially be installed on the sides of buildings.