

What is Green Transformation (GX) ?

WHAT IS IT?

Green Transformation, better known as “GX,” is an initiative led by the Japanese government to supposedly bring about a shift from an industrial structure centered on fossil energy to one centered on clean energy.¹ It is a centerpiece of Prime Minister Fumio Kishida’s government and GX-related legislation is currently being deliberated in the Diet.

The catch-all term gained wide recognition in February 2022 when the Ministry of Economy, Trade and Industry (METI) announced the “**GX League Basic Concept.**”² Also launched was a “GX League” of companies joining to develop “a new market and socio-economic system to realize CN (carbon neutrality) in 2050.”³ (The league now has more than 670 corporate members and more are expected to join).⁴ The prime minister said a few months later that Japan’s public and private sector investments in GX for the next decade would total more than 150 trillion yen (about \$1.1 trillion).⁵

In February 2023, Kishida’s cabinet approved the “**GX Basic Policy,**”⁶ a set of policies to implement the green transformation, with a roadmap for the next decade. “Green Transformation signals a major transformation of industrial and energy policies in the post-war Japan,” the government says in the Basic Policy, comprised of two main parts:

- 1) Measures for a stable energy supply
 - Energy efficiency
 - Renewables
 - Nuclear
 - Other energy sources including hydrogen, ammonia, LNG, batteries, carbon recycling, etc.
- 2) “Growth-oriented” carbon pricing schemes
 - Voluntary emission trading starting in FY2026 ?
 - Carbon surcharges starting in FY2028

In February, the cabinet also submitted to the Diet two sets of legislation to implement GX measures.^{7,8}

WHAT ARE THE ISSUES WITH GX BASIC PLAN AND LEGISLATION?

The GX initiative has drawn criticism from academics, environmental organizations and citizens’ groups, and opposition from the Constitutional Democratic Party of Japan, the largest opposition party.⁹ They argue that GX policy and legislation are designed to support false solutions and are not ambitious enough to achieve key climate targets such as the Paris Agreement and the G7 agreement to decarbonize the power sectors of member countries by 2035.

Overall issues

- The focus is on promoting industry rather than decarbonization. There is no linkage to increase climate ambition, such as Japan’s nationally

1 Government of Japan, GX Basic Policy, February 10, 2023 (in Japanese).

2 Ministry of Economy, Trade and Industry, press release, Feb. 1, 2022.

3 METI, “Establishment of the “GX Business Working Group” to Build a Framework and Promote Evaluation and Disclosure on Climate-related Opportunities.”

4 METI, “What is the GX League,” February 14, 2023 (in Japanese).

5 METI, summary of GX Basic Policy, February 10, 2023 (in Japanese).

6 Government of Japan, GX Basic Policy, February 10, 2023 (in Japanese).

7 METI, press release, February 10, 2023 (in Japanese).

8 METI, press release, February 28, 2023 (in Japanese).

9 Jiji, “Constitutional Democratic Party of Japan to oppose GX legislation,” March 23, 2023 (in Japanese).

determined contribution (NDC) under the Paris Agreement, or renewable energy targets.

- The 150 trillion yen in public-private investments include nuclear, hydrogen, ammonia, and carbon capture and storage (CCS).
- There was a lack of public participation in the process, including only a short public comment period for the draft.
- The plan appears designed to lock in METI's influence in decision making and implementation (METI was placed in charge of compiling a GX strategy).¹⁰
- It aims to expand GX initiatives abroad through the Asia Zero Emission Community (AZEC),¹¹ a Japan-led initiative.

Measures for a "stable energy supply" focus more on nuclear and fossil energy than renewables

- GX supports all types of energy sources, including unproven technologies such as CCS, rather than focusing on cost-effective, Paris-aligned measures to reduce emissions.
- Hydrogen and ammonia co-firing are promoted in support of fossil fuel power generation.
- The plan includes service life extensions for nuclear reactors (previously capped at maximum 60 years), plus development and construction of "next-generation" nuclear reactors.
- Targets for floating offshore wind are to be set, but would be part of the 30-45 GW of project development targeted for 2040 (already announced in 2020).

Carbon pricing schemes are too little, too late

- **GX Economy Transition Bonds**
 - 20 trillion yen (about \$150 billion) worth of "transition bonds" are to be issued to support the 150 trillion yen public-private investments for GX starting in FY2023 for 10 years.
 - Emission trading and surcharges are to be introduced, with plans to use revenues from

the schemes for the redemption of the bonds.

- **Emissions trading**
 - FY2026: Starts as a **voluntary** program following a trial starting in FY2023
 - FY2033: Auctioning of emissions from **power plants** begins
- **Carbon emission surcharges**
 - Starts in FY2028, targeting fossil fuel importers
 - Introduces surcharges, not a carbon tax, making it easier to designate the use of revenue for industry efforts
- **Issue with the schemes**
 - Carbon prices are expected to be set at low levels – estimated at 1,500 yen/t-CO₂¹²

GX IN ESSENCE

- The Japanese version of "Green Transformation" is a term with contents that are uniquely defined by the Japanese government. It includes support for unproven technologies and insufficient carbon pricing schemes. An endorsement or adoption of GX by other countries would mean these issues will be extended abroad.
- GX strongly promotes ammonia and hydrogen co-firing in thermal power generation. However, emission reductions from such technologies are projected to be minimal in 2030. It is hard to predict the amount of emission reductions that can be achieved even after 2030 as these technologies are unproven and very expensive. Co-firing is promoted as an alternative solution to a "coal phaseout," but it could just prolong the life of coal power plants.
- GX is being promoted through AZEC to ASEAN countries. Expanding GX in these countries could undermine efforts under the Just Energy Transition Partnership (JETP) to move away from coal.

10 Renewable Energy Institute, "The GX Basic Policy Falls Short in Proposing Strategies for Overcoming the Current Crises," February 28, 2023.

11 Ministry of Foreign Affairs, "Pillar 2: Addressing Challenges in an Indo-Pacific Way, New Plan for a "Free and Open Indo-Pacific (FOIP)," March 20, 2023.

12 Citizens' Commission on Nuclear Energy, document, March 20, 2023 (in Japanese).

