



SOAKED IN
FOSSIL FUEL



日本政府のGXは
化石燃料まみれ

JAPAN'S TOXIC ENERGY STRATEGY FOR ASIA

April 2023

OVERVIEW

KEY TAKEAWAYS:

- Japan's "Green Transformation" policy is pure greenwashing designed to benefit Japanese corporate interests. The policy relies heavily on LNG; ammonia co-firing; fossil hydrogen; and carbon capture, utilization and storage.
- Japan is driving the expansion of fossil fuels across Asia and globally at a time when we must phase them out.
- Communities and groups across Asia are rejecting Japan's dirty energy strategy and are mobilizing to stop Japan from derailing the energy transition.

Led by Prime Minister Fumio Kishida, the Japanese government is working to expand the use of fossil fuels across Asia under the guise of "decarbonization." The Japanese strategy would block the transition to clean energy, worsen the climate crisis, undermine energy security, and harm communities and ecosystems.

Japan's new "Green Transformation" (GX) policy, approved by the Cabinet in February 2023, outlines how Japan intends to achieve carbon neutrality by 2050 and support the energy transition across Asia. The strategy aims to deploy JPY 150 trillion (over USD 1.1 trillion) in public and private capital over the next 10 years to overhaul industrial sectors in Japan and provide partner countries with Japanese technology and finance.¹

Japan's dirty technologies would prolong the use of fossil fuels at a time when renewable energy solutions are reliable, available, cleaner, and cheaper.

However, the GX policy is a greenwashing exercise made to benefit Japanese corporate interests. Japan's strategy relies heavily on fossil fuel-based technologies, including liquefied natural gas (LNG); co-firing of ammonia at coal power plants; fossil hydrogen; and carbon capture, utilization and storage (CCUS). Japan intends to promote these technologies at home and abroad through subsidies, debt guarantees, and memorandums of understanding with foreign governments.²

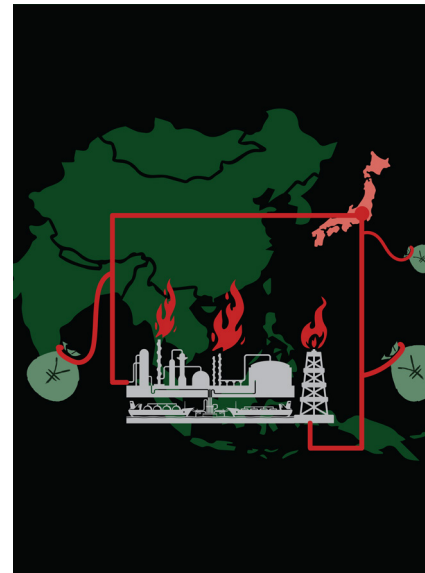
Japan is using its diplomatic might to promote these dirty technologies at the G7 and within the Association of Southeast Asian Nations (ASEAN).^{3 4} These technologies would perpetuate the use of fossil fuels and divert valuable resources away from cheaper and cleaner alternatives, undermine international climate goals, and expose countries to geopolitical risks associated with fossil fuel dependency.^{5 6 7 8}

TECHNOLOGIES JAPAN IS PROMOTING

LNG

Japan is leading the drive to expand LNG consumption across Asia. Japan is also the world's largest provider of international public finance for gas, spending USD 4.3 billion on average each year between 2020–2022.⁹ Despite Japan's claims, gas is dirty, producing heavy emissions throughout its lifecycle. Since methane is vented throughout the fuel's supply chain and extra energy is needed to process it, gas can be just as polluting as coal.¹⁰ Where companies drill and transport the fuel, gas infrastructure also harms local communities and the environment.¹¹

Investing in fossil gas infrastructure poses significant economic risks. The International Energy Agency (IEA) explains that the window of opportunity for gas as a transition fuel has narrowed dramatically as gas prices have soared while the costs for solar, wind, and batteries have plummeted.¹² With this trend set to persist, countries that are investing in gas infrastructure face the risk of stranded assets.¹³



The ongoing energy crisis, aggravated by Russia's aggression against Ukraine, has underscored the economic perils associated with fossil gas infrastructure investments.

The ongoing energy crisis, aggravated by Russia's aggression against Ukraine, has underscored the economic perils associated with fossil gas infrastructure investments.¹⁴⁻¹⁵ Asian spot LNG prices surged to record highs in 2022.¹⁶ Bangladesh, for example, shut down 22 gas power stations and operated others at low capacity due to persistent shortages last year.¹⁷ The nation expects to face rolling blackouts for another three years, with devastating consequences for its economy.¹⁸

CO-FIRING AMMONIA AND HYDROGEN WITH FOSSIL FUELS

Japan is investing heavily in commercializing technology to burn ammonia with coal and blend hydrogen with fossil gas in existing coal power plants and gas turbines. Co-firing would prolong the lifetime of fossil fuel-powered plants when the country should be shutting them down. Japan is eagerly trying to export this approach to South and Southeast Asian nations.¹⁹

Advocates tout that ammonia and hydrogen do not emit carbon dioxide (CO₂) when burned. However, burning coal and ammonia in equal amounts – an impossible feat with today's technology – would still emit about as much CO₂ as a gas-fired combined cycle power station.²⁰ Ammonia released into the air also becomes a base for nitrous oxide, a potent greenhouse gas.²¹



According to BloombergNEF, offshore wind, onshore wind, and solar with co-located batteries are more affordable alternatives for Japan’s power sector than ammonia.²² Most importantly, further investing in ammonia would undermine Japan’s energy security by increasing reliance on imported ammonia and prolonging its deep dependence on coal.²³

Moreover, the vast majority of ammonia and hydrogen is produced from fossil fuels, which generate substantial emissions, including methane emissions vented throughout the gas lifecycle.²⁴ Hydrogen makers have proposed capturing carbon emissions to produce so-called “blue hydrogen.” However, blue hydrogen can be 20 percent worse than burning fossil gas for heat in terms of greenhouse gas intensity over its production and use lifecycle.²⁵ Yet, Japanese government policy treats ammonia and

hydrogen as non-fossil energy, regardless of their source.²⁶

Producing hydrogen requires great energy and yields great emissions. Using hydrogen to heat homes or power personal vehicles, for example, is much less efficient than using electricity or batteries.²⁷ Hydrogen is being used as a dangerous distraction delaying the urgently needed transition to renewable energy.

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Further, Japan is prolonging the use of coal by incentivizing the co-firing of biomass at coal plants. However, both wood biomass co-firing with coal and biomass-only power plants produce greater greenhouse gas emissions than burning coal. The emissions produced are far above the IEA Net Zero Scenario’s power plant CO2 emissions limit for 2030.²⁸ Furthermore, demand for wood biomass hinders global forests’ ability to sequester and store carbon. In 2021, more than 500 scientists wrote to world leaders, warning them of the impacts “shifting from burning fossil fuels to burning trees” will have on climate and biodiversity.²⁹

CCUS

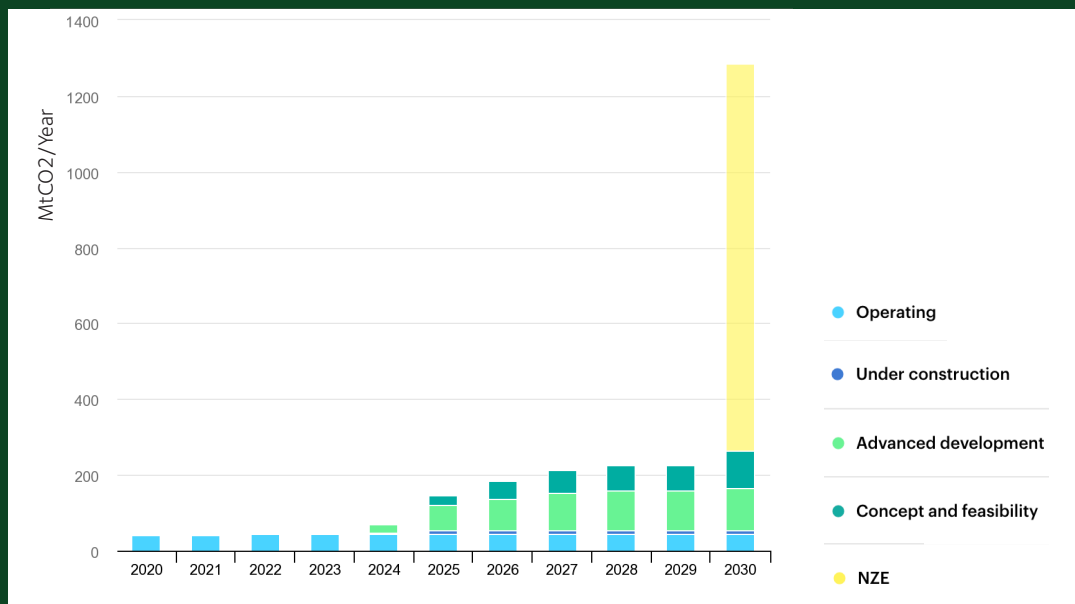
The fossil fuel industry is promoting carbon capture, utilization and storage technologies (CCUS) to prolong the use of fossil fuels. CCUS is supposed to capture CO2 from burning oil, gas, or coal before it can enter the atmosphere and bury it deep underground or convert it into other products.³⁰

However, the majority of projects in operation worldwide have failed or are underperforming, often by significant margins. Current commercial CCUS facilities are capturing 45 million tonnes of CO2 globally, only 3.5% of what’s required to meet IEA’s Net Zero Scenario, as seen in Figure 1.³¹



CCUS have so far been primarily used to extract more oil and gas out of the ground, generating more emissions and dirty profits for fossil fuel companies.³² Without geologically suitable storage sites, Japan also has contentious plans to export its CO2 emissions to Southeast Asia.³³

Figure 1: IEA, Capacity of large-scale CO2 capture projects, current and planned vs. the Net Zero Scenario, 2020–2030.



Source: IEA, Paris. Licence: CC BY 4.0

JAPAN'S POWER PLAY

Japan is using the GX Basic Policy to play a more dominant role in driving Asia's energy transition. Japan announced its "Asia Energy Transition Initiative"³⁴ in 2021 to chart a pathway to decarbonization for the region that utilizes Japan's fossil-based technologies. Japan created the "Asia Zero Emissions Community"³⁵ last year to advance this initiative with partner countries.³⁶ The government pledged to mobilize USD 10 billion in public and private finance for LNG, renewables, energy efficiency, and other energy-related projects,³⁷ with investments already underway in Indonesia, Malaysia, Thailand, and Vietnam.³⁸

Japan's energy businesses are searching for new export markets, and emerging economies in South-east Asia saddled with debt are prime targets. Japan is working to create more LNG demand across the region to grow and maintain its influence in international markets.³⁹ According to an April 2023 report by Oil Change International, [Japan is the world's top funder of LNG export terminals, spending nearly USD 40 billion from 2012 to 2022.](#)

Japan is one of the world's biggest public financiers of fossil fuels, spending \$6.9 billion on average annually on new gas, coal, and oil projects between 2020–2022. This is three times more than Japan spent on clean energy.⁴⁰ Japan is the only G7 country that has not signed on to the "International

Public Support for the Clean Energy Transition” (the Glasgow Statement) to end all international public finance for fossil fuels by the end of 2022, and prioritize finance for clean energy.⁴¹ Although it joined other G7 nations in pledging to end direct public funding of the international unabated fossil fuel energy sector at last year’s G7,⁴² government officials announced shortly afterward that Japan would remain committed to financing upstream oil and gas developments.⁴³

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Figure 2: Recent Memorandums of understanding between Japan and Southeast Asian countries, partnering on fossil fuel-based technologies

THAILAND

Japanese Partner: Kyushu Electric Power
 Host Country Partner: PTT Global LNG Company and PTT International Trading
 Partnership: LNG business, including investing in upstream and midstream LNG assets

VIETNAM

Japanese Partner: JOGMEC
 Host Country Partner: PetroVietnam
 Partnership: Next phase study of CCS/CCUS to accelerate deployment

PHILIPPINES

Japanese Partner: JERA
 Host Country Partner: Aboitiz Power Corp
 Partnership: Ammonia co-firing at coal power plants

MALAYSIA

Japanese Partner: IHI
 Host Country Partner: PETRONAS Gas & New Energy, TNB Power Generation
 Partnership: Ammonia co-firing at coal power plants

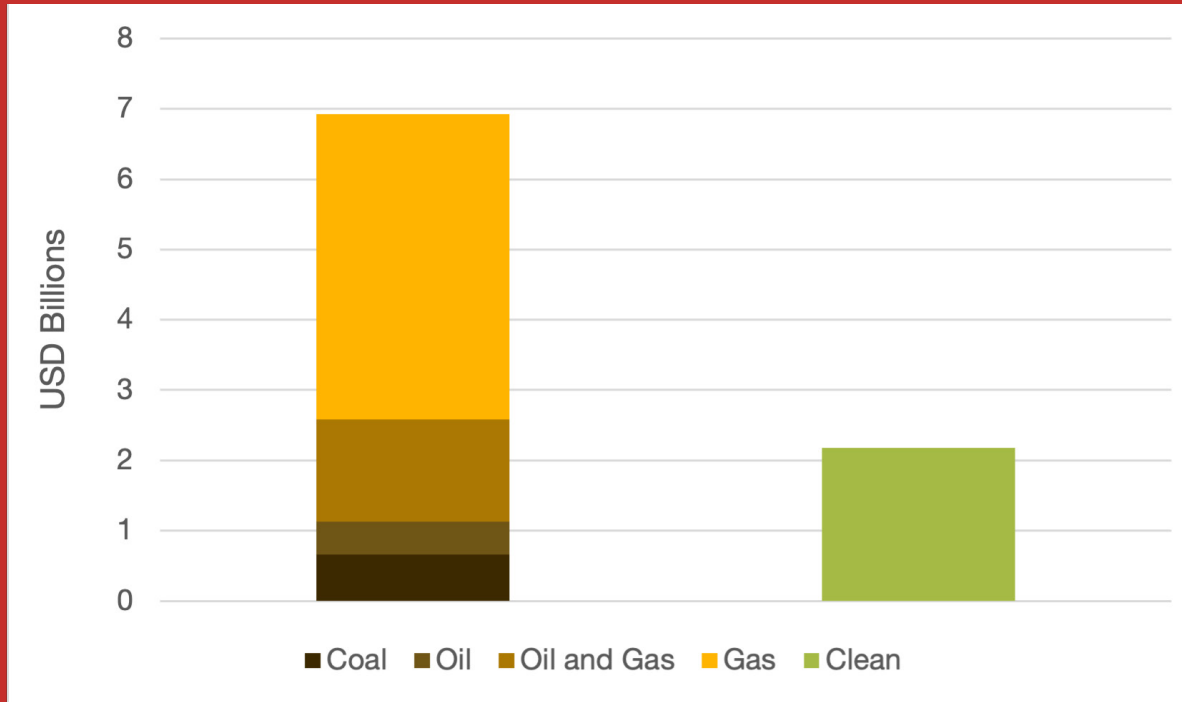
INDONESIA

Japanese Partner: Mitsubishi Heavy Industries
 Host Country Partner: PT. PLN Nusantara Power
 Partnership: Ammonia/hydrogen co-firing at gas-fired boilers and gas turbines, biomass co-firing at coal-fired boilers

Sources: [Ministry of Economy, Trade and Industry](#) (March 2023); [Reuters](#) (February 10, 2023); [Tenaga Nasional Berhad](#) (February 22, 2022)

By breaking its commitment, Japan defies the IEA's stance that countries must improve energy efficiency and quickly roll out renewables to deal with energy shortages, not dig for more fossil fuels. In its 2022 World Energy Outlook, the IEA stressed that there is no need for new oil and gas fields or coal mines in its pathway to limiting the global temperature rise to 1.5 degrees Celsius (°C).⁴⁴ Existing fossil fuel extraction alone is more than the climate can handle, and holding warming below 1.5°C will require existing sites to leave almost 40 percent of fossil fuels in the ground.⁴⁵

Figure 3: Japan's international public finance for fossil fuels compared to clean energy, annual average 2020-2022



Source: Public Finance for Energy Database, energyfinance.org

RISEING OPPOSITION

Civil society groups across Asia are rejecting Japan's efforts to expand and prolong the use of fossil fuels.

THE PHILIPPINES

The Batangas region in the Philippines is slated for a massive LNG buildout. This includes 8 new gas plants and 7 planned LNG terminals.⁴⁸

This development threatens the Verde Island Passage in Batangas, a biodiversity hotspot that provides over two million people with food and other benefits.⁴⁹ A coalition of local fishing communities, international think tanks, and NGOs are campaigning against these LNG projects. The Japan Bank for International Cooperation is a shareholder of Atlantic Gulf and Pacific Company (AG&P), which is developing the Philippines' first LNG import terminal.^{50 51} In October 2022, the coalition filed a complaint before the Environmental Management Bureau against AG&P for its violation of environmental laws, calling for an immediate halt to the project.⁵²

BANGLADESH

The Japan International Cooperation Agency (JICA) is advising Bangladesh on the country's energy and power sector master plan, promoting both LNG and ammonia co-firing.^{53 54} As of December 2021, Bangladesh had 32 LNG-to-power projects with a capacity of 30.6 GW in the pipeline, 20 GW of which were in the Chattogram region. The companies involved in these projects are overwhelmingly Japanese, including Sumitomo Corporation, Mitsubishi Corporation, and JERA.⁵⁵ Farmers and fisher folk in the Chattogram region are concerned about the impacts of fossil fuel expansion on their livelihoods.⁵⁶ In May 2022, climate activists in Chattogram took to the streets to pressure Japanese firms to end support for these projects.⁵⁷



Last September, climate justice groups and movements from across Asia jointly urged Japan to stop delaying the energy transition with its support for false solutions.⁴⁶

Photo credit: Asian Peoples' Movement on Debt and Development (APMDD) and CLEAN Bangladesh

INDONESIA

In March 2022, JICA commissioned TEPCO Power Grid, Tokyo Electric Power Company, JERA, and Tokyo Electric Power Services Co. to develop Indonesia's roadmap to decarbonize its power sector by 2060. The roadmap deems ammonia, hydrogen, and LNG (with carbon capture and storage) "desirable" as main fuels.⁵⁸ In November 2022, Indonesian civil society groups submitted a petition to the Japanese Government, calling for an end to prolonging the lifespan of fossil fuels and destroying the environment and livelihoods in Indonesia in the name of a "just energy transition."⁵⁹

CONCLUSION

Japan needs to catch up in the global race to address the climate crisis. Despite growing consensus that renewables can deliver cheaper and faster energy and release countries from the shackles of fossil fuel import dependence, Japan continues to invest precious resources in volatile dirty energy and unproven technologies, squandering its opportunity to become a global climate and energy leader.^{60 61} As Japan prepares to host the G7 summit in May 2023, it will face increasing pressure until it places clean energy and climate security above Japanese corporate interests.



In November, campaigners from the Indonesian Forum for the Environment (WALHI) protested in Jakarta against Japan's support for fossil fuel-related infrastructure and fossil-based technologies.⁴⁷ Photo credit: WALHI

Additional Resources

- [Fossil Free Japan](#)
- Renewable Energy Institute, [The GX Basic Policy Falls Short in Proposing Strategies for Overcoming the Current Crises](#), February 2023
- Influence Map, [Japan GX \(Green Transformation\) Policy: Less Green Than It Appears](#), January 2023
- Oil Change International, [Japan's Dirty Secret](#), November 2022

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