

Carbon neutrality a long way off for Japan despite reopening nuclear reactors

From 2023, despite some opposition, nuclear power generation is expected to increase substantially – giving Japan room to breathe when it comes to reducing gas emissions and reaching its net-zero 2050 target



The recent spark in commodity prices has fuelled discussions about restarting nuclear power sooner than expected

Japan's climate goals

In October 2020, Japan, the fifth-highest emitter of carbon emissions in the world, committed to achieving net-zero emissions by 2050. Former prime minister Yoshihide Suga declared at the Leaders' Summit on Climate in April 2021 that Japan aims to reduce its greenhouse gas emissions by 46% by 2030 from 2013 levels and to “continue the strenuous effort in its challenge” to achieving a 50% reduction. Previously, Japan had targeted an 80% reduction in greenhouse gas emissions by 2050, and carbon neutrality would come “as soon as possible” in the second half of the century.

Where it's at so far

As part of its latest pledge, the government presented its new “Green Growth Strategy in line with Carbon Neutrality in 2050” in December 2020 and approved a new Basic Energy Plan in October

2021. The plan included a revised 2030 electricity energy mix target of 36-38% from renewables (vs 22-24% in the previous version), 20-22% from nuclear (unchanged), 22% from gas (vs 27% previous), and 19% from coal (vs 26% previous).

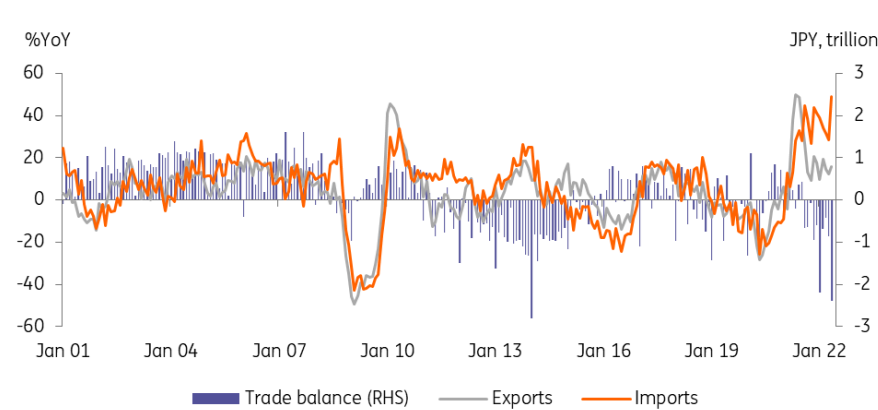
Financing coal plants overseas is likely to decline in the future, as the publicly-funded Japan Bank for International Cooperation (JBIC) will only fund coal power plants under strict conditions such as carbon capture and storage equipped plants.

Indeed, while the newly-revised Basic Energy Plan showed a clear roadmap for meeting the net-zero 2050 target and reducing significant amounts from fossil fuels, keeping coal resources at 19% will not be possible if Japan is to achieve the pledged goal. The relatively high reliance on nuclear power has also been criticised given the strong local opposition to reopening nuclear reactors and the accompanying legal issues.

What’s happened since the Ukraine war

The 2011 Fukushima plant accident has had a significant impact on Japan’s energy system and trade structure. Nuclear power was suspended entirely, and although recently partially restarted, the country has become even more dependent on fossil fuels to close the gap in power generation, which has negatively affected its trade balance. Since the Ukraine war, Japan’s trade deficit has widened sharply again mainly due to higher commodity prices.

Since 2011, energy has become a swing factor for trade

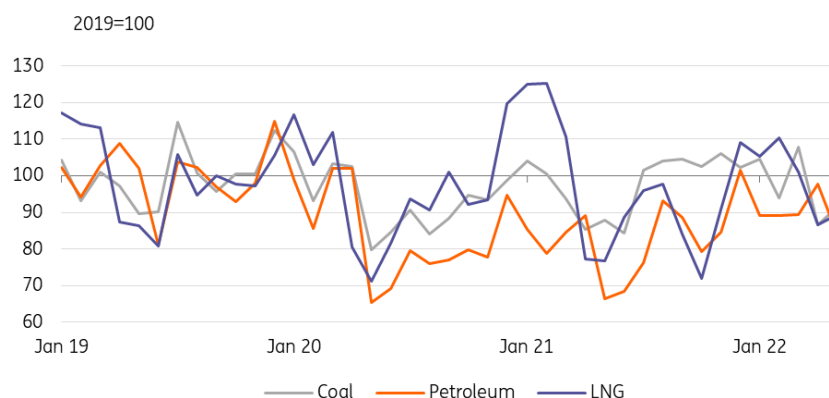


Source: CEIC

However, overall fossil fuel imports such as coal, petroleum, and liquefied natural gas (LNG) in volume terms have not yet returned to pre-pandemic levels, except for a temporary increase in LNG imports during the winter 2020/21 season, largely due to the critical shortage of electricity.

Following the start of the Russia-Ukraine conflict, Japan quickly condemned Russia’s invasion of Ukraine and aligned with the Western sanctions regime on a number of issues. Yet, in terms of energy, Japan initially decided not to comply – although it has recently announced its intention to phase out Russian coal and oil imports. Nevertheless, Japan is continuing to support ongoing joint LNG projects in Sakhalin.

Commodity import volume still below pre-pandemic levels



Source: CEIC

LNG

Russian President Vladimir Putin recently signed a decree to seize full control of the Sakhalin-2 gas and oil project, which could force out Shell and Japanese investors, who hold just under 50% of its shares. Sakhalin-2 is one of the largest LNG projects with an output of 9-12 million tonnes per year, which mainly head to Japan, South Korea, China, India and other Asian countries. So far, Russia's Gazprom is expected to keep in place key contracts to deliver LNG to Japan, but uncertainty over the contracts has been growing, and this could have a significant impact not only on Japan but also on Asian countries in general. Japan imports about 10% of LNG from Russia, mainly under 10- to 20-year long-term contracts from this site. But, as of 19 July, the Japanese government said no further action was taken by the Russian government on setting up a new Russian operator.

Nuclear

Prior to the 2011 Tōhoku earthquake, there were 54 nuclear reactors in operation in Japan, supplying about 30% of the country's electricity. In 2013, the Nuclear Regulation Authority (NRA) established new regulatory requirements, and since 2015 the government has restarted idle nuclear reactors which meet the enhanced safety standards. Since the Ukraine war, record high temperatures and an imminent power crisis have prompted Japan to accelerate its review of idle nuclear reactors.

Prime Minister Fumio Kishida has asked for up to nine reactors to be operational this winter to avoid an electricity crisis. However, the central government has little power to order the reopening of nuclear plants because of strict regulatory procedures. Thus, it will probably take longer than the government anticipates, and meanwhile, dependence on fossil fuels is likely to remain high. As of June 2022, 10 of the 33 operable nuclear reactors have received clearance from the NRA for restart, and only four reactors are currently in operation. Although local governments have agreed to restart the reactors, six are still offline for maintenance. Another 15 operational reactors are at various stages of the restart approval process and two new reactors under construction have also applied.

Summary

Heavy reliance on imported energy sources has been a long-standing problem for Japan, and the recent spike in commodity prices from the Ukraine war appears to have fuelled discussions about

restarting nuclear power sooner than expected. In the short term, it is highly likely that Japan will increase its fossil fuel supply, mostly to LNG, to fill the power shortage, yet geopolitical issues with Russia threaten stable LNG supply. From next year, despite some local opposition, nuclear power generation is expected to increase substantially compared to this year, so it seems that there will be room to breathe when it comes to raw material imports and reducing gas emissions. In terms of the macro economy, this will contribute to moderate cost-push inflation currently being witnessed and work in favour of the trade balance.

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