

South Korea plans to expand renewable energy sources with nuclear

South Korea's efforts to achieve its net-zero 2050 target will continue with an increase in nuclear power generation and other renewable energies. Russian raw material imports have declined significantly since March despite the absence of direct sanctions



Container ship powered by Liquefied Natural Gas - Busan, South Korea

Source: Shutterstock

Where does it want to be?

South Korea has become the 14th country in the world to legislate a carbon target, aiming for a 40% reduction in emissions from 2018 levels by 2030 to achieve carbon neutrality by 2050.

What it's been doing to get there

Since its formation in May 2021, the 2050 Carbon Neutrality and Green Growth Commission has implemented several measures in an effort to gradually move towards total carbon neutrality.

The Carbon Neutrality Act, for example, became effective in March 2022 and aims to facilitate the transition to a carbon-neutral society and increased green growth. Alongside legislative changes, the government has also increased its 2022 carbon neutrality budget to KRW 12 trillion from the

previous year's KRW 7.3 trillion, with a newly established KRW 2.5 trillion climate fund.

Coal power currently accounts for around 40% of the total energy mix, and with seven new coal plants under construction, reaching the net-zero goal is expected to be difficult. However, the government has now announced its Green New Deal, which includes KRW 8 trillion for green projects, the planned introduction of a carbon tax, an end to the financing of overseas coal plants, and charging stations for both electric and hydrogen vehicles.

Following a change of government in early 2022, progress on energy policy has come to a stop. Although the previous administration has been criticised for setting overly ambitious goals and disregarding corporate voices, the new government has confirmed that it intends to stick to the original plans, with details set to be reviewed more closely moving forward.

New energy policies have yet to be disclosed, but it is clear that the government will rely on nuclear power to meet its climate change goals.

The Ministry of Trade, Industry and Energy (MTIE) announced on 5 July that the government will resume the construction of Shin Hanul Units 3 and 4 nuclear reactors and maintain the current level of reactor capacity if safety is ensured. As a result, nuclear will be responsible for 30% of power by 2030, up from 27.4% last year. In addition, the Korean government plans to create a new law for disposing of high-level radioactive waste in order to reduce potential hazards, organising a team exclusively for nuclear waste management. The revised outline, including the target for renewables, will be detailed in the 10th Basic Plan on Electricity Demand and Supply due in the fourth quarter of 2022.

At the same time, the government will continue to push for the phase-out of coal-fired power plants at a “reasonable pace” in line with power supply conditions and will expand the use of carbon-free energy sources. Power grids will also be upgraded to adopt renewable energy sources with new designs for increased efficiency. In addition, the government will seek to enact a special law to reflect the increases in energy costs in electricity bills.

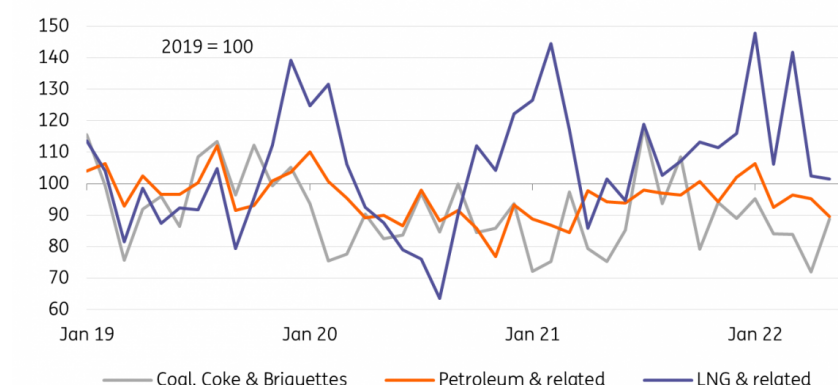
In addition, the Ministry of Environment has established a new national green taxonomy, the “K-Taxonomy”. While nuclear is excluded from the current classification and LNG remains conditional, the inclusion of both elements in the EU taxonomy could potentially influence future revisions and updates.

What's happened since the Ukraine war

South Korea is one of the major net energy importers in the region as the economy is more than 92% dependent on imported energy sources for power. The recent rise in commodity prices is affecting the country's trade, as demonstrated by the deficit in the first half of 2022. In value terms, South Korea's imports of oil, coal and LNG have already far surpassed the pre-pandemic levels mostly due to price effects. In volume terms, LNG has successfully returned to pre-pandemic levels while oil and coal are still yet to make a similar recovery.

Since the beginning of the Russian-Ukrainian conflict, South Korea has joined its strategic allies by imposing a series of sanctions on Russia. However, it has decided not to impose sanctions on Russian commodities, including agricultural and marine products. Nevertheless, South Korea has reduced its imports of coal, crude oil, and natural gas from Russia since March.

LNG imports have recovered to pre-pandemic levels

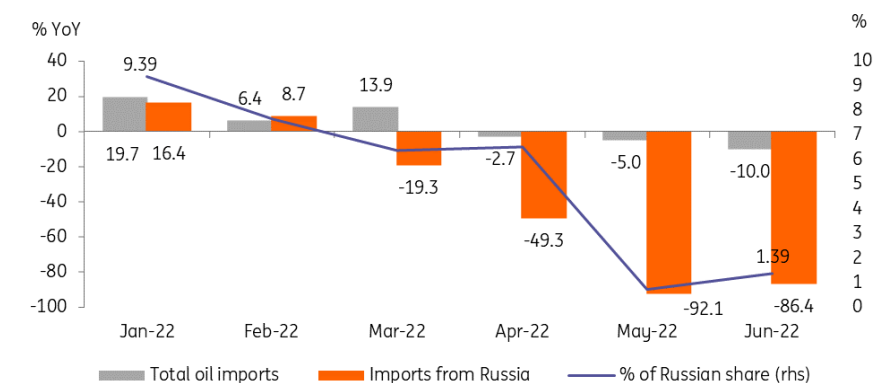


Oil

In 2021, Russia accounted for 9.1% of total oil imports, ranking fifth overall. During the first half of 2022, Russian oil imports declined by 39.8%, while total oil imports increased by 3.3%. Looking at the trend of monthly imports, the downward trend became more evident after the outbreak of the war. As of June 2022, the share of Russian oil has fallen to a mere 1.4% (vs 9.4% in January 2022).

The global oil market is mostly driven by OPEC, but the relatively wide range of oil suppliers in the market has allowed South Korean importers to substitute Russian oil with alternative sources. A key feature of South Korean oil imports is that a significant amount of oil imported into South Korea is processed for re-export rather than domestic consumption. Refineries and petroleum companies probably halted imports of Russian oil quickly in order to avoid payment-related issues with Russia, as well as any possible sanctions on Russian-originated products. We expect oil imports from Russia to remain at a low level for a while as payment-related risks are expected to persist with the SWIFT ban. Oil imports overall are also expected to decline further, having been on a downward path since early in the second quarter – a sign that global oil consumption is gradually weakening due to higher energy prices and soft demand.

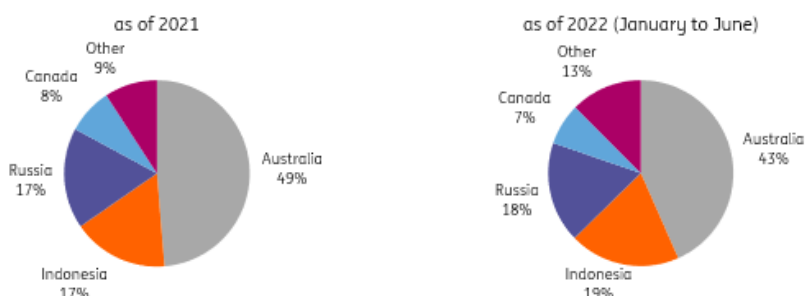
Russian oil imports have declined sharply since March



Coal

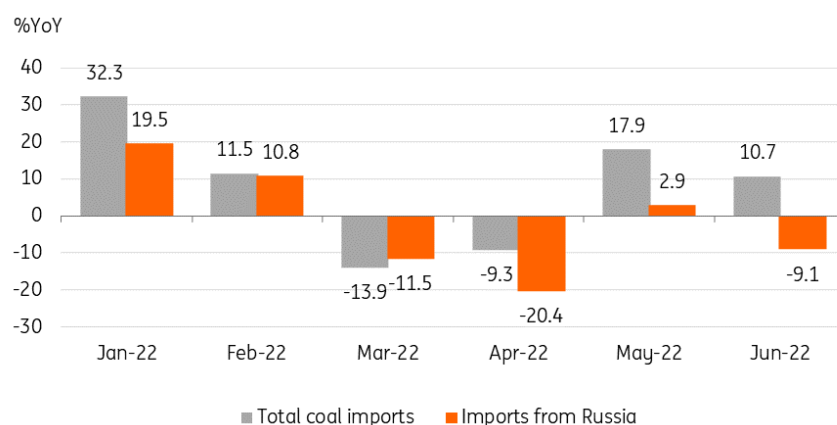
Korea's dependence on Russian coal is higher than on other commodities. In 2021, about 17% of South Korea's coal imports were from Russia, ranking as the third-largest coal provider. In 2022 (January to June), total coal imports increased by 6.9%, while Russian imports decreased by 3.3%. A decline in Russian coal imports began in March, similar to the import trend seen in oil. However, due to insufficient substitutes in other coal-producing countries and fierce competition among importing countries, the share of Russian imports has been around 18%, slightly higher than the annual average of 17% in 2021. Given the less diversified coal import portfolio, we do not expect South Korea's dependence on Russian coal to decline significantly anytime soon. In addition, the government plans to reopen old coal-fired power plants this summer to prevent power shortages, so overall energy dependence on coal in the short term is expected to increase. It will take time for alternative resources such as renewable energy and nuclear power to fill the gap.

Dependence on Russian coal remains high



Source: KITA

Coal imports from Russia declined by 3.3% in 1H



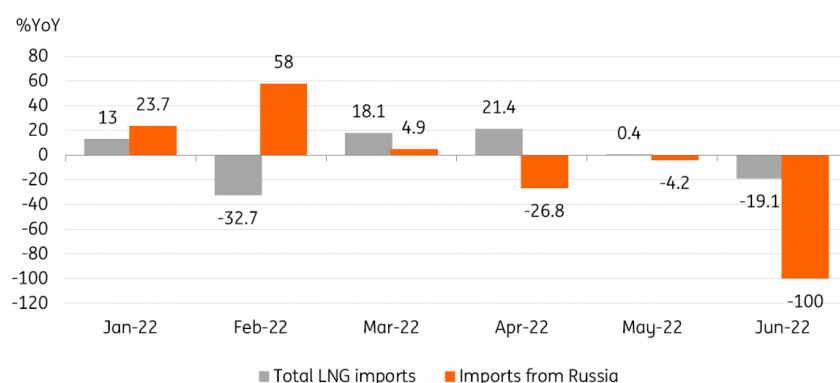
Source: KITA

LNG

Russia became the sixth largest supplier of liquefied natural gas (LNG) to South Korea in 2021, contributing 6.2% of total LNG imports. From January to June 2022, Russian LNG imports accounted for 5.5% of total imports. LNG imports from Russia declined by 7.0% in the first half, a much sharper drop than the total LNG imports of 1.5% over the same period. Monthly data

showed some fluctuations (possibly related to the progression of the war) with strong imports mainly concentrated in the pre-war period. Imports in January and February soared by 23.7% and 58%, respectively, but have fallen significantly since March, with no recorded Russian oil imports at all in June. Going forward, South Korea's LNG dependence on energy is likely to increase in the medium term as this is considered clean energy compared to other conventional energy sources like coal and oil.

No LNG imports recorded from Russia in June



Summary

Similar to other energy importers, South Korea is suffering from the ongoing war due to high inflation and worsening trade conditions. However, as a major refining/petrochemical exporter, South Korea has significantly reduced its oil imports from Russia and this trend is likely to continue. Meanwhile, LNG and coal imports have fallen but at a slower pace due to the high dependence on power generated by fossil fuels. South Korea plans to expand its renewable energy sources, with the anticipated gap likely to be filled by nuclear power. Given its value as a reliable and affordable renewable energy source, nuclear power is expected to become an increasingly critical point of focus for the government moving forward.

Author

Min Joo Kang

Senior Economist, South Korea and Japan

min.joo.kang@asia.ing.com

Disclaimer

This publication has been prepared by the Economic and Financial Analysis Division of ING Bank N.V. ("ING") solely for information purposes without regard to any particular user's investment objectives, financial situation, or means. *ING forms part of ING Group (being for this purpose ING Group N.V. and its subsidiary and affiliated companies).* The information in the publication is not an investment recommendation and it is not investment, legal or tax advice or an offer or solicitation to purchase or sell any financial instrument. Reasonable care has been taken to ensure that this publication is not untrue or misleading when published, but ING does not represent that it is accurate or complete. ING does not accept any liability for any direct, indirect or consequential loss arising from any use of this publication. Unless otherwise stated, any views, forecasts, or estimates are solely those of the author(s), as of the date of the publication and are subject to change without notice.

The distribution of this publication may be restricted by law or regulation in different jurisdictions and persons into whose

possession this publication comes should inform themselves about, and observe, such restrictions.

Copyright and database rights protection exists in this report and it may not be reproduced, distributed or published by any person for any purpose without the prior express consent of ING. All rights are reserved. ING Bank N.V. is authorised by the Dutch Central Bank and supervised by the European Central Bank (ECB), the Dutch Central Bank (DNB) and the Dutch Authority for the Financial Markets (AFM). ING Bank N.V. is incorporated in the Netherlands (Trade Register no. 33031431 Amsterdam). In the United Kingdom this information is approved and/or communicated by ING Bank N.V., London Branch. ING Bank N.V., London Branch is authorised by the Prudential Regulation Authority and is subject to regulation by the Financial Conduct Authority and limited regulation by the Prudential Regulation Authority. ING Bank N.V., London branch is registered in England (Registration number BR000341) at 8-10 Moorgate, London EC2 6DA. For US Investors: Any person wishing to discuss this report or effect transactions in any security discussed herein should contact ING Financial Markets LLC, which is a member of the NYSE, FINRA and SIPC and part of ING, and which has accepted responsibility for the distribution of this report in the United States under applicable requirements.

Additional information is available on request. For more information about ING Group, please visit <http://www.ing.com>.