

The Energy Crisis Hits Europe

Resonances for the Global South and Climate Change

Climate change is one of the most important issues facing humanity, particularly in the Global South. The Russian invasion of Ukraine has compelled European states to prioritize energy security. Indirect effects of the European response are likely to include an increased use of coal, gas supply shortages in some developing countries, and long-term development of new natural gas production. The costs of energy security policies in Europe, and also in China, India and other countries, are likely to be measured in higher carbon emissions.

Brief Points

- By prioritizing energy security, European states are buying an increasing share of the global supply of Liquefied Natural Gas (LNG).
- China, India and other states have similarly prioritized energy security in the wake of gas shortages, which has led to them increasing their use of coal.
- European states have also substituted Russian gas imports by increasing their own production and import of coal.
- A bitter, long-term legacy of the invasion of Ukraine is likely to be higher carbon emissions.
- EU leadership on mitigating climate change is undermined by the need to prioritize energy security.

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Introduction

The Russian invasion of Ukraine led to subsequent bans by the European Union (EU) of Russian energy imports. Prior to this state of affairs, the interplay between the agendas of energy security and climate change had different and generally manageable dynamics in the West and various sub-regions of the Global South. The EU aspired to take the lead in advancing the prospect of 'green' energy transformation, and leading states in the Global South such as China and India had pledged to implement long-term reductions in their carbon emissions. However, these outlooks have been profoundly altered by the direct and indirect effects of the Russian invasion of Ukraine, as ensuing sanctions on Russian oil and gas has led the EU to seek out alternative energy supplies in order to reduce its reliance on Russia. The EU presently finds itself affected so severely by the cuts in supply of oil and natural gas that the ambitious goals for reducing emissions are de facto postponed into an essentially indefinite future. It is politically problematic if not impossible to acknowledge the depth of necessary compromises or to admit mistakes in the recent decisions to increase gas imports from Russia (against the officially proclaimed guidelines on diversification), but the fact of the matter is that the urgent measures taken by the EU and its member states to obtain new sources of supply have serious negative effects on the energy balances in the Global South. Faced with power shortages and being outbid in gas markets by Europeans, both China and India have also emphasized energy security over climate change by increasing their reliance upon coal.

Some of the European emergency measures are short-term and may not have a lasting influence on developing the investment-heavy mid- and long-term projects. But the strategic EU course on radically reducing dependency upon Russian energy sources might significantly transform the global market. Instead of a future powered by renewable energy, the need to meet EU demand may result in the increased production of coal and natural gas by the Global South. Signs of an effect upon energy production are already apparent in booming exports among some of the world's leading coal producers, especially the United States,¹ Indonesia,² Australia,³ and South Africa.⁴ The end result may be more carbon emissions and less likelihood that humanity will achieve its objectives to limit climate change.

Presently, many importers from the Global South, like India, are eager to buy Russian oil and gas at a discount, but such supplies have not been sufficient to meet demand, and these importers have to account for Russia's unreliability as an energy supplier and adjust investments accordingly. Looming recession in Europe caused by high energy prices may lower levels of support provided to Global South countries for their costly 'green' agendas (which are typically focused on reducing consumption of coal).

EU Divestment from Russian Energy Sources

A central element of the EU's response to the Russian invasion of Ukraine has been to divest itself of reliance upon Russian supplies of energy. On 22 February 2022, following Russia's formal recognition of two breakaway regions in eastern Ukraine, Germany announced that it would halt certification of the Nord Stream2 gas pipeline that runs parallel to the Nord Stream1 (completed in 2012) and was supposed to double its capacity. Import of Russian coal was banned in April 2022, and a partial and phased ban on Russian oil and diesel was announced in June. The EU Commission's main response to the war has been the REPowerEU plan, whose aim is to make Europe independent of Russian energy supplies by 2027. This is to be achieved in the short run by a two-thirds cut in gas supplies by the end of 2022, with the remainder occurring over the next five years. When announcing the EU's objectives, European Commission President Ursula von der Leyen stated: 'We must become independent from Russian oil, coal and gas. We simply cannot rely on a supplier who explicitly threatens us.'⁵

The Commission's strategy is based upon three pillars, namely: 1) demand reduction;

2) diversification of fossil fuel imports; and 3) an accelerated transition to renewable energy sources. The ultimate aim of 3) is to power Europe in the future with enormous quantities of cheap renewable electricity which would be delivered reliably and at low prices. This would have a significant positive effect upon the ability of the EU to meet its commitments to decarbonize its energy sector. This long-term ambition is undercut by the fact that, in the years following 2022, the most important effects on climate change are to be found in the EU's efforts to obtain gas and coal imports from other sources. The effects of these attempts to diversify energy supplies are highlighted in the remainder of this policy brief.

The Gas Crunch Is Set to Get Worse

A key component of the European strategy has been to replace piped gas supplies from Russia with Liquefied Natural Gas (LNG) imported by ship. However, the world has limited capacity to supply LNG, and so during 2022 European states and energy companies have bought up LNG supplies by outbidding other states, especially China, India, Japan and South Korea.⁶ Unsurprisingly, this price competition has resulted in high LNG prices paid in Europe and in East Asia. Restricted gas supplies have led to other states buying more coal.

Russia has significantly cut piped gas supplies to Europe. During the week of 13–19 June 2022, EU member states imported 1,098 million cubic metres of gas from Russia, almost a third less than the equivalent period in 2021.⁷ Those reduced Russian supplies were mainly replaced by higher exports of gas via pipeline from Norway and increased imports of LNG transported by ship. Exports of gas from Algeria by pipeline have not yet increased. During January

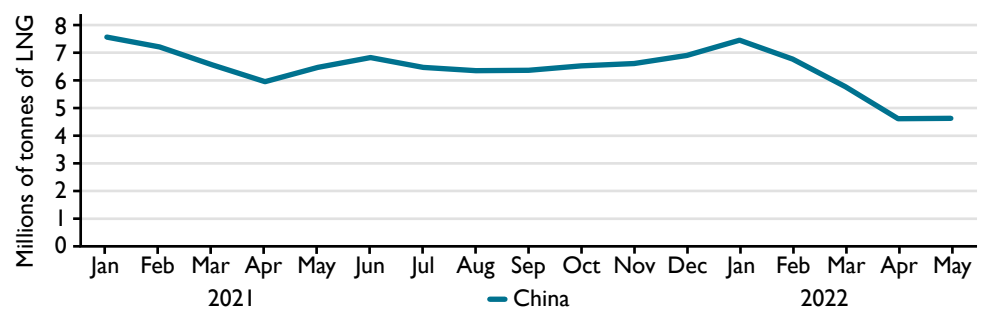


Figure 1: China's import of LNG 2021–2022. Source: Cockayne & Byrne (2022) 'China LNG Buying Subdued But Qatar Volumes Surge & Revenues Triple', Mees, 24 June

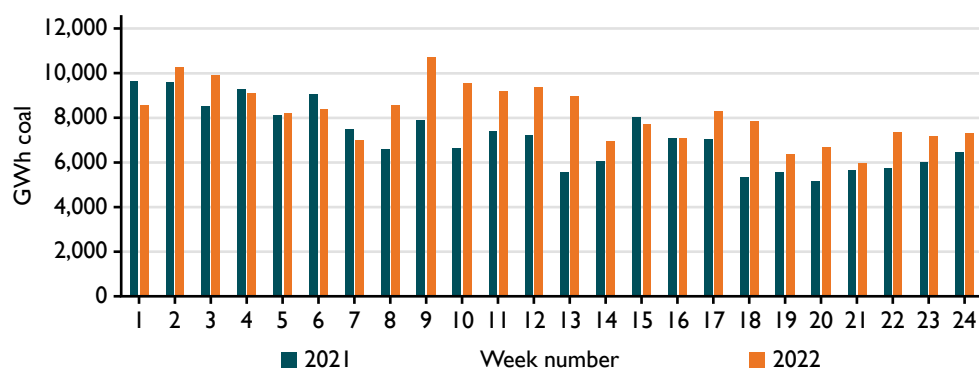


Figure 2: European coal use in power generation, 2021 and 2022. Source: Authors' compilation of statistics collected by the Fraunhofer Institute

to May 2022, Europe imported record quantities of Liquefied Petroleum Gas (LPG), which were about 66 per cent higher than the annual average during 2021.⁸ Most of this gas was delivered to northwest Europe, where it was used to replenish stores as well as directly substitute imports of Russian gas by consumers.

Europe has been able to obtain larger LNG supplies from abroad by dramatically increasing its share of the global LNG market. For example, during the first four months of 2022, 74 per cent of US LNG exports went to Europe, over twice the 2021 annual average of 34 per cent.⁹ Nevertheless, US total exports were only 18 per cent higher, with trade having been diverted from other markets, mainly Asia, which received 51 per cent less LPG compared to the 2021 average (the main buyers being South Korea, Japan, India, and China), and Latin America. Similarly, Qatar, another of the top exporters of LNG, has reported a steady increase in the financial value of European imports of LNG, which were worth USD 1 billion in mid-2020 and had risen to 4.12 billion in the first quarter of 2022.¹⁰ The increase in spending is similarly indicative of European states buying up LNG capacity (though the quantity imported would not have increased fourfold as the price has also risen).

Prices of LNG in Asia and Europe had already risen dramatically during 2021 as the post-pandemic recovery was accompanied by lower gas production in Europe and a reduction in supplies from Russia to that continent. The resulting competition between European and Asian buyers resulted in an average Asian LNG spot price of USD 35.8 metric million British thermal unit (MMBtu), which was 4.3 times higher than the price in the previous January.¹¹

Prices jumped to USD 38.5 MMBtu in February 2022, before dropping to USD 34.3 MMBtu in May 2022, which was still almost five times higher than in May 2021. As well as using spot markets, LNG is also delivered via long-term contracts, which are more stable. Nevertheless, official import statistics also show that gas imported in March 2022 increased in price for China (by 82 per cent), Japan (83 per cent), Taiwan (138 per cent) and South Korea (130 per cent). India has also made use of long-term LNG contracts and since February 2022 is reported to have purchased LNG at discount prices from Russia. Nevertheless, it was reported that, in May 2022, Indian power-generating companies had to import LNG at about three times the price paid at that point in 2021.¹² Pakistan has been unable to source enough LNG for its power stations, and the country has faced both soaring costs and power blackouts.¹³

An indirect effect of these high prices for LNG in Asian markets has been that electricity generators have turned to coal. Faced with a choice between energy security or decarbonizing their power generation sectors, governments have chosen to shelve plans to reduce their use of coal. In India, in order to cope with soaring demand amid a heatwave, the government reversed its earlier policy of cutting coal imports. Instead, the government has cut the coal import duty to zero, planned to increase coal imports, diluted environmental laws to make it easier for some mines to raise production, and used emergency laws to reopen coal-fired power plants.¹⁴ In May 2022, insufficient supplies meant that gas-fired power stations were running at only 16 per cent capacity, whereas coal-fired plants were running at 72.6 per cent (India also has problems obtaining enough coal).

Amid soaring prices and the continuing effects of the COVID-19 pandemic, China's imports of LNG declined from 7.45 million tonnes in January 2022, to 4.63 million tonnes in May (see Figure 1). Faced with power blackouts and reduced LNG imports, China has also prioritized energy security over its planned transition to renewable or low-carbon energy. As well as announcing a build-up of nuclear energy, the Chinese government has turned to coal. In April 2022, China announced a 300-million-tonne increase in annual coal mining capacity (a figure similar to EU coal production in 2020).¹⁵ This increase in 2022 followed the increase in mining capacity of nearly 700 million tons that took place between 2017 and 2021.

A second indirect effect of the European 'dash for LNG' is the development of new LNG production capacity, particularly in Africa. For example, one projection identifies six 'upcoming natural gas hubs' that have been stimulated by European demand in six African states (Ethiopia, Tanzania, Mozambique, South Africa, Senegal and Mauritania).¹⁶ While these investments and later gas sales are likely to have beneficial financial and economic consequences for the exporting countries, developments of new fossil fuel production capacity may well undermine humanity's global objectives to cut carbon emissions.

Ultimately, meeting climate obligations will have to entail reserves of fossil fuels remaining underground. In May 2022, the executive director of the International Energy Agency (IEA) warned that new investments in oil, gas and coal which were stimulated by high prices may 'lock in' future fossil fuel use, which could contribute to the world not meeting climate goals.¹⁷

Increased European Production and Imports of Coal

Another example of how security concerns have trumped the global imperative to reduce carbon emissions is the use of coal by European states as a substitute for Russian gas. Figure 2 shows that use of coal in electricity generation in Europe is significantly higher in 2022 than in the same period during the previous year, with a noticeable uptick after the February invasion. As of June 2022, the increase in coal use was equivalent to 25 547 GWh, or about three million tonnes of coal. Overall, the proportion of coal in EU electricity generation jumped from

14 per cent during the first 24 weeks of 2021 to 16.4 per cent during the same period in 2022. This apparently modest increase belies how coal was supposed to be phased out in order to meet global objectives to limit global warming.

The increase in European coal consumption occurred because several states postponed or reversed plans to phase out their use of coal in order to meet global targets designed to mitigate climate change. For example, in Southeastern Europe, Bosnia, Greece, Kosovo, North Macedonia and Serbia have all announced that they will increase their production or import of coal.¹⁸ Northern and Eastern European states have made similar initiatives. Germany has restarted electricity production in some old coal-fired powerplants that had been mothballed.¹⁹ Austria's last coal plant, which was converted to use gas in 2020, will be converted back to use coal. The Netherlands has rescinded a January 2022 cap that limited coal-fired power plants to 35 percent of full capacity. Poland plans to increase its domestic production of coal by 1.5 million tonnes in 2022 and has introduced a coal subsidy for domestic users.²⁰ These Northern European initiatives have a clear energy security rationale. By substituting gas used in electricity generation for coal, available gas supplies can then be diverted to storage for the winter, or to uses that require gas (such as domestic heating).

Conclusion

The Russian invasion of Ukraine concentrated minds on energy security. The European dash for non-Russian gas and coal has had several indirect and likely unanticipated effects whose result is energy insecurity elsewhere, especially key states in the Global South such as China, India or Pakistan, who have likewise prioritized energy security over mitigating climate change. The invasion and its aftermath will likely have three countervailing effects upon the Global

South. For some states, the European divestment from Russian energy supplies offers an opportunity to profit from booming energy exports, and they may further their gas and coal production, 'locking in' more carbon emissions from those fossil reserves. Other parts of the Global South face energy shortages as they are outbid by anxious Europeans. For them, power blackouts and high retail prices for gas will add to the difficulties faced by households and businesses alike. The states in the Global South that have significant reserves of coal will increase its use and profit from its export. All parts of the world will, in the future, feel the effects of the 2022 embrace of coal. Progress toward meeting global goals on carbon emissions has been set back by the invasion of Ukraine, something which one day may be seen as the most lasting effect of the war. ■

Notes

1. See EIA statistics on weekly and monthly coal production: www.eia.gov/coal/production/weekly/includes/archive.php.
2. Sxcoal.com (2022) 'Indonesia Mar coal exports at an all-time high', 10 May.
3. Gibson, Liam (2022) 'Australia looks to fill Asia's energy gap amid Ukraine crisis', *Al Jazeera*, 9 May; Katrina Beavan (2022) 'Coal exports forecast to smash record with value set to break \$100 billion this financial year', *ABC*, 4 April.
4. Sxcoal.com (2022) 'S Africa Mar thermal coal exports up 2.25% YoY', 6 May.
5. European Commission (2022) *REPowerEU: Joint European action for more affordable, secure and sustainable energy*, 8 March.
6. International Energy Agency (2022) *Gas Market Report, Q2-2022*.
7. Zachmann, Georg; Giovanni Sgaravatti & Ben McWilliams, Ben (2021) 'European natural gas imports', *Bruegel Dataset*.
8. Energy Information Administration (2022) 'Europe imported record amounts of liquefied natural gas in 2022', 14 June.
9. Energy Information Administration (2022) 'U.S. liquefied natural gas exports to Europe increased during the first 4 months of 2022', 7 June.
10. Ingram, Jamie (2022) 'Qatar Gas Exports Surge To Five Year High', *Mees*, 24 June.
11. Cockayne, James (2022) 'Asian Spot LNG Prices Ease As Buying Cools', *Mees*, 20 May.
12. The Economic Times (2021) 'India turns to expensive foreign gas to ease its power crisis', 5 May.
13. Hasan, Munawar (2022) 'Pakistan takes another shot at LNG import', *The News*, 17 June.
14. Energy Intelligence Group (2022) 'India Puts Energy Transition on Back Burner Amid Crisis', 1 June.
15. Collins, Gabriel & Andrew Erickson (2022) 'China's Energy Nationalism Means Coal Is Sticking Around', *Foreign Policy*, 6 June.
16. Rystad Energy (2022) 'Gas starved Europe looks to Africa for new supplies as E&Ps reconsider shelved projects', 12 May.
17. Birol, Faith (2022) *What does the current global energy crisis mean for energy investment?* Paris: IEA.
18. Bytyci, Fatos & Ognen Teofilovski (2022) 'Balkans turns to coal as energy crisis trumps climate commitments', 19 April; Koutantou, Angeliki (2022) 'Greece to ramp up coal mining to help cut reliance on gas, PM says', *Reuters*, 6 April.
19. DW (2022) 'Germany to fire up coal plants as Russia turns down the gas', 19 June.
20. Kurasinska, Lidia (2022) 'Poland To Subsidize Coal For Households Amid Soaring Prices', *Forbes*, 14 June.

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THE PROJECT

The project 'Consequences of the Invasion of Ukraine for the Global South' was set up to provide rapid analysis of the wider effects of the invasion. It is led by PRIO Senior Researcher Nicholas Marsh. The project is funded by Norad and the Ministry of Foreign Affairs of Norway.

PRIO

The Peace Research Institute Oslo (PRIO) is a non-profit peace research institute (established in 1959) whose overarching purpose is to conduct research on the conditions for peaceful relations between states, groups and people. The institute is independent, international and interdisciplinary, and explores issues related to all facets of peace and conflict.