

Energy Crisis Amidst the Ukraine War: Three Scenarios

The onset of war in Ukraine triggered a deep and quickly evolving energy crisis, the effects of which continue to destabilize major energy markets and deliver painful consequences upon many regions of the Global South. Urgent measures taken by western governments to alleviate the immediate impacts of the crisis have been poorly coordinated and depart from the common goals of the energy transition set out in the Paris Agreement and other documents. In this context, the climate agenda has been reduced to second priority under the pressure of security challenges, and questions about the duration of this shift of priorities can only be answered by comparing alternative scenarios – which we outline in this policy brief.

Brief Points

- Russia's role as an "energy superpower" supplying a wide range of resources will be undermined for the long term.
- Markets for oil and natural gas are affected differently by the war and can adjust to reduced exports from Russia in the mid-term.
- The crisis of supply, demand and price volatility has significant negative implications for the climate agenda and the energy transition to green and renewable technologies.
- The best opportunities for overcoming the energy supply crisis will be found in the gas oil and coal reserves found in the Global South.
- De-escalating tensions in the Middle East is a key condition for reducing further volatility.

Pavel K. Baev

Peace Research Institute Oslo (PRIO)

Nicholas Marsh

Peace Research Institute Oslo (PRIO)

Harry Tzimitras

PRIO Cyprus Centre (PCC)

Energy Variables in the Complex Global Economic Emergency

Since February 2022, Russia's invasion into Ukraine has become a major disruptive force in the world system, and, among its many perturbing impacts, one of the most serious is the contraction of supply into global energy markets. The effects of Russia's invasion on the world economy have been compounded by a sequence of simultaneous events, including the rise of inflation and the collapse of crypto-currencies. But the high volatility of prices for oil and natural gas is one of the strongest suppressors of growth – and this is caused primarily by the as yet only partly estimated direct and indirect consequences of the war. We cannot predict how long the hostilities will last and when a stable peace might emerge, but policy planners cannot avoid the assumption that Russia's role as a global “energy superpower” delivering resources from coal to nuclear technologies will be undermined for years to come.

The quickly evolving energy crisis features a wider divergence among the fundamentals in the markets for major resources (i.e., oil, natural gas, coal). These markets are also regionally fragmented in different ways and affected by different speculations and anxieties. Our analysis will focus on the markets of oil and natural gas, which used to be closely connected in the 2000s and began to separate in 2010s. Today, they show quite different dynamics with natural gas having less importance for the Global South (except for producing countries like Bolivia, Egypt and Iran).¹

In many emerging economies, retail petrol prices are regulated, so the rise of oil prices (Figure 2) is a more serious problem for government budgets than for consumers. However, in the US, “gas at the pump” that has become a grave political issue. Meanwhile, for natural gas, price spikes have become a major problem in the EU, while in Japan and US, the rise in prices has been more steady (Figure 1). The June 2022 explosion at the Freeport LNG terminal in Texas has pushed gas prices in Europe even further up, but downward in the USA.²

The on-going energy crisis is not only about fundamentals of supply and demand, but also about implementing the global transition to renewable and low-carbon energy sources. High or volatile oil and gas prices tend to incentivize

investment in both decarbonization and in production of more fossil fuels, including coal.

Russia is a major force in gas and oil markets, but its role as a major oil exporter had been expected to decline by the late 2020s, while in the gas market it was expected to go from strength to strength. To evaluate this situation further, we present three scenarios (that avoid extreme developments) outlining possible shifts in the oil and gas markets in the months to come, while granting particular attention to the consequences for the Global South.

Three Neither-The-Worst-Nor-The-Best-Case Scenarios

Scenario 1: Stable high

The key proposition in this scenario is a persistent shortage of supply on the global energy market resulting in an overall oil price plateau of about \$US 120-150 per barrel (comparable when adjusting for inflation with the plateau at \$US 30-40 from during the early 1908s) and a larger increase of price compared to median prices for liquid natural gas (LNG). A second assumption is that traditional oil producers (maintaining the OPEC cartel format) succeed at regulating output needed to sustain this rewarding level of prices, while key gas producers can only moderately increase output and alternative suppliers (including the US shale-developing companies) face growing operational costs that necessitate high price for ensuring a satisfactory margin of profit. In the absence of major economic shocks (like COVID-19), the gradual decrease in demand for oil from OECD economies

is accompanied by a modest demand increase in China, but global demands for LNG and pipeline-delivered gas expands significantly. The oil and gas markets achieve corresponding balances underpinned by the slightly diminishing consumption of oil and expanding, but constrained, consumption of natural gas.

In the Global South, this high level of energy prices will highlight the contrast between the key exporters of oil and gas, who stand to harvest rich dividends, and the importers who are likely to experience not only increasing costs of living and pressures on national budgets but also sustained suppression of economic growth.³ Saudi Arabia and the Gulf petro-states might use their revenues to increase investments to stabilize the wider Middle East (prioritizing Jordan and Lebanon). Egypt in this scenario could reach energy self-sufficiency, but Iran and Iraq would remain difficult for external investors and deliver only modest increases in oil and gas production. Algeria, Libya, Nigeria and Venezuela will also continue experiencing domestic troubles that would hamper investments to develop their hydrocarbon resources. New projects, like the Shell/Equinor LNG plant in Tanzania, will go forward, but will not become operational sooner than second half of the 2020s.⁴ The burden of high energy costs, particularly when combined with harsh climate change impacts, will in the near-term aggravate instability in many low-income energy importing states and drive unrest in sub-Saharan Africa and the Pakistan-Afghanistan-Central Asia insecurity complexes.

For decarbonizing the global economy, persistently high energy prices provide three

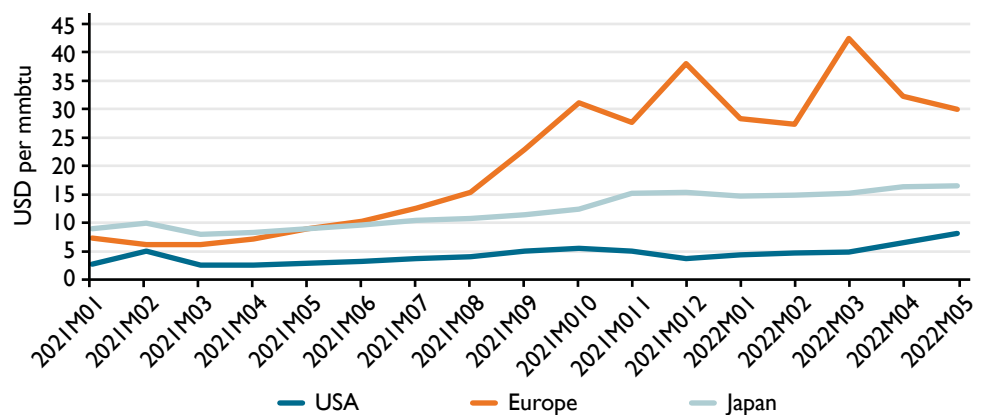


Figure 1: Gas prices in the US, Europe and Japan, 2021–2022

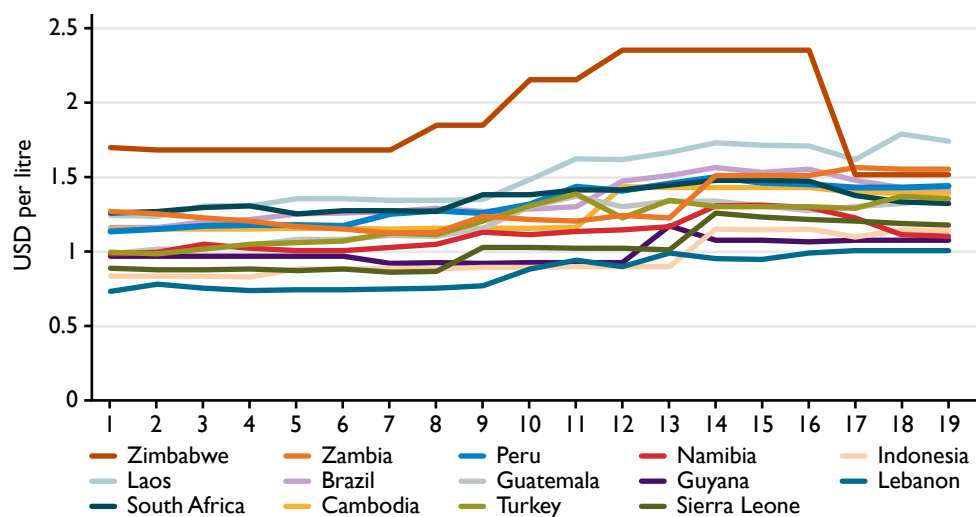


Figure 2: Retail petrol prices during weeks 1–19, 2022. Source: authors' analysis of data obtained from globalpetrolprices.com

diverging incentives. First, high oil and gas prices will provide, especially in developed countries, an incentive for households, businesses and governments to invest in electric-powered equipment for heating and transport and use oil and gas more efficiently to cut down on overall consumption. Second, persistent high oil and gas prices provide an incentive to increase use of coal, a cheaper fossil fuel with higher carbon emissions. Third, high prices for oil and gas may stimulate investment in production capacity in Global South nations such as Ethiopia, Senegal and Tanzania, among others. While such production and exports may benefit those states financially, the production capacity is likely to be 'locked in' and contribute to global warming until reserves are exhausted.

Scenario II: Persistent volatility

The key proposition for this scenario is that the oscillating trajectory of the Russia-Ukraine war, with ceasefires and spasms of armed clashes, will perpetuate high volatility on the global energy markets, perhaps not as extreme as in the late 2000s (with oil prices spiking from \$US 60 per barrel at the start of 2007 to \$US 180 by mid-2008 and falling to \$US 40 at the start of 2009), but not dissimilar from the second half of 2010s (with oil prices falling from about \$US 100 in mid-2014 to \$US 35 at the start of 2016 and recovering to nearly \$US 75 by mid-2018). The gas market, which used to be much more stable, would be set to experience volatility of similar amplitude, exemplified by the current

sharp price increase in the European market. Swings in prices could be aggravated by Russian attempts to sell its oil and LNG at significant discount and by additional setbacks in China's economic recovery from COVID-19. Permanent uncertainty will discourage major energy corporations, including US shale producers, from investing in high-cost projects, while the OPEC producers would seek to benefit from the price peaks rather than aim to stabilize the market.

OECD economies can weather this volatility by increasing their oil and gas reserves and regulating the gas trade between them, but for the Global South each spike in prices could bring painful economic contractions. Instead of there being a single price shock, there would be a series, which would severely hamper energy planning and in the wider economy as suppliers and consumers would find it impossible to anticipate expenditure. Governments would struggle to predict budget income and expenditures, with further increases in indebtedness being a likely result.⁵ The wider Middle East might experience a significant escalation of instability as the petro-states would alter their policies from proactive engagement to domestic agendas, while net importers of energy will suffer from recurrent financial difficulties caused by the need to increase subsidies for fuel in unpredictable periods of shortage of supply. The Iranian-Saudi conflict will drive this instability and talks about a new deal to regulate Iran's nuclear program would yield no satisfactory result.⁶ Syria could re-emerge as a seat of complex violence as the

al-Assad regime would be undercut by the reduction of Russian support and curtailing of Iranian engagement. Many external stakeholders could give up on Syrian reconstruction projects in this case. The highly unpredictable environment would challenge the capacity of international donors to mitigate the periodic aggravation of the economic situation in many low-income countries because making reliable budget projections will be extremely difficult.

Volatile oil prices may have a negative effect on investment in renewable energy, which requires capital expenditure that can only be recouped over time. Rapid changes in the price of oil or gas will make it difficult to predict the future competitiveness of renewable energy projects. Government energy policy budgets, especially in the Global South, may be affected by the need to mitigate the effects of rapid increases in oil prices, which may distract from long-term investment in renewable or low-carbon energy.

Scenario III: Business as usual

This scenario assumes that while the immediate impact of the Russian aggression against Ukraine on the global energy market was strong and sharp, but within 2022 it has significantly diminished, so that the sum total of negative consequences is considerably lower than initially predicted by many experts. This trend is more pronounced in the oil market, where the effects of lower Russian supply has been mitigated partly by the weakening of demand in China, which is hit by yet another wave of the COVID-19 epidemic, and partly by the release of oil from the US strategic reserves supported by similar steps taken by the International Energy Agency (IEA). Short-term supply crises might yet arise, but it is entirely possible that in the mid-term a relatively stable supply-demand balance could be established in the world oil trade with the benchmark oil price settling on a plateau of about \$US 75 per barrel, only slightly higher than in the second half of 2010s, with moderate volatility in the range of \$US 65-85. A significant decline in Russian oil production was expected to occur by the end of current decade due to exhaustion of its main oilfields and poor structure of its reserves. Major producers can adapt their investment policies a few years earlier and increase production to offset the sooner than expected reduction in Russian capacity. The gas market can also achieve a 'new normal', perhaps on a higher level than in the

2010s, depending upon the collective capacity of the EU to proceed with decarbonizing its energy sector and to secure new supplies, particularly from the Eastern Mediterranean.⁷ The key issue in the coming months is easing tensions between Saudi Arabia and Iran in the context of reconfigured deal on Iran's nuclear programme, which would bring an increase of oil and gas exports from Iran. In mid-term, the opening up of Iran's energy sector for foreign investment would compensate for expected decline in Russian export.

For the Global South, this stabilization is the best possible prospect for energy security, but it can only be achieved through sustained trend toward peace and conflict resolution in the key regions constituting this wide conglomerate of nations. If this development goes in parallel with a stable resolution of violent conflict in Libya, or an onset of reforms in Venezuela, oil prices could settle even lower. In the gas market, the situation could be more difficult since replacing Russia is a tall order, but increased output in Iran and Iraq, combined with possible new projects in Algeria, Indonesia, Mozambique and Tanzania, could ensure a stable reconfiguration of supply and demand.

A future that entails a rapid return to the relative stability of the late 2010s would perhaps offer a more predictable environment in which to plan and implement the necessary transformation of global energy supply to renewable or low-carbon sources. Governments in the Global South and their partners in the North could encourage investment without having to manage simultaneous crises due to persistently high or volatile energy prices.

Conclusion: Defying Gloomy Forecasts

The war in Ukraine continues to threaten the European security system and global order, and

the economic situation in all world regions and groupings is deteriorating, but sound political choices can mitigate the security challenges and prevent a recession.

A rise in energy insecurity in the Global South caused by the onset of the Russia-Ukraine war and its possible transformation into a protracted confrontation isolating Russia from global markets is a worrisome prospect, but by no means inevitable. Russia may perceive itself as an indispensable hydrocarbon supplier and presume that turmoil in the world energy markets would weaken western solidarity with Ukraine, but in fact, its role as a major oil exporter was set to decline inside the current decade, and the war has only accelerated this trend.

There are multiple options for replacing Russian supplies in the natural gas market and while the US may emphasize its capacity for expanding production from shale resources, the main opportunities for stabilizing the balance of supply and demand are likely to be explored in the Global South. Doing so would help to replace energy supplies from Russia, but at the likely cost of exploiting fossil fuel deposits which need to remain underground if the world is to meet its climate targets.

There are certainly many other causes of high uncertainty in the global energy complex, and the dynamics of China's economy is a major one. The main opportunity to reduce market uncertainty would be through de-escalating tensions in the wider Middle East and the Gulf area, in particular. A possible consequence of the invasion of Ukraine would be a decline in Russia's ability for and propensity to manipulate conflicts in the Middle East. Russia's strategic absence, including its diminished support for the a-Assad regime in Syria, may become a key source of change and de-escalation in the region. ■

THE AUTHORS

Pavel K. Baev is a Research Professor at PRIO, working on Russian energy policy, conflict management and the implications of the Ukraine war. Nicholas Marsh is a Senior Researcher at PRIO working on strategic trade, security assistance and post-conflict disarmament. Harry Tzimitras is Director of the PRIO Cyprus Centre, specializing in energy security, geopolitics and the Eastern Mediterranean.

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.

Notes

1. One important exception is Pakistan, where the share of natural gas in the energy mix is 40–45%, while in India it is only 6–7%. See: ourworldindata.org/energy.
2. On the scope of this accident, see: Financial Times (2022) 'European gas prices surge after fire at Texas LNG plant'. 9 June. Available at: www.ft.com/content/d89b4b3d-1503-4d6f-b83a-9a17b0ec318f.
3. This recession would go deeper than the already lowered growth forecasts for sub-Saharan Africa by the key financial institutions. See: International Monetary Fund (2022) *Regional Economic Outlook Sub-Saharan Africa: A New Shock and Little Room to Maneuver*; World Bank (2022) *Africa's Pulse*, No. 25.
4. On the off-shore project in Tanzania, see Reuters (2022) 'Tanzania signs LNG framework agreement with Equinor and Shell', 11 June. Available at: www.reuters.com/business/energy/tanzania-signs-gas-project-deal-with-equinor-shell-2022-06-11.
5. On the increase of indebtedness in the Global South, see: Malloch-Brown, Mark (2022) 'The Global South's Looming Debt Crisis—and How to Stop It', *Foreign Policy*, 16 March. Available at: foreignpolicy.com/2022/03/16/global-south-sovereign-debt-crisis-covid-economy-imf-reform.
6. Ross, Dennis (2022) 'A New Iran Deal Won't Prevent an Iranian Bomb', *Foreign Policy*, 9 September. Available at: foreignpolicy.com/2022/09/09/a-new-iran-deal-wont-prevent-an-iranian-bomb.
7. On the new deal between Egypt, Israel and the EU, see Wall Street Journal (2022) 'EU Signs Gas Deal With Israel, Egypt in Bid to Wean Itself off Russian Supplies', 15 June. Available at: www.wsj.com/articles/eu-signs-gas-deal-with-israel-egypt-in-bid-to-wean-itself-off-russian-supplies-11655299886.

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