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Insight

The impact of the Ukraine war on global energy markets

by Nick Butler, 14 July 2022

Instability in world energy markets will continue beyond the war in Ukraine. Europe will be less dependent on Russia's fossil fuels, but a weakened Russia could still cause problems.

The war in Ukraine is not about oil and gas, but the conflict has further disrupted an already volatile situation, in which energy prices were rising due to post-lockdown energy demand exceeding supply. The consequences of Russia's attack on Ukraine will take years to play out, whatever happens next: the only credible forecast is of uncertainty and further price volatility. To give some idea of the range of that uncertainty, the following analysis considers what is happening now, what might happen in a year's time, and what could things look like two to three years from now.

What is happening now

The physical operations of the energy trade changed little after Russia's invasion of Ukraine on February 24th. Oil and gas have continued to flow from Russia to Europe, even through the pipelines which cross Ukraine. Since the invasion, energy prices have risen sharply, significantly benefiting Russia and other oil and gas producers. In early April, EU foreign policy chief Josep Borrell said that imports from Russia have been costing Europe at least €1 billion a day.

Only in late June were physical gas supplies cut – not as a result of any Western sanctions but because Russia has chosen to deny supplies to countries such as Poland and Bulgaria, which refuse to pay in roubles, and to countries such as Finland, which has applied for NATO membership. In each of these cases, the limited supplies which have been cut have been easily replaced. However, on July 11th Russia also shut the major NordStream 1 pipeline for scheduled maintenance, potentially cutting up to 60 per cent of supplies to Germany. If Russia chooses not reopen the pipeline, those supplies will be harder to replace. The risk has led the government in Berlin to accelerate the implementation of the next stage of its emergency response plan.

The price rises seen over the past year – 60 per cent for oil and a remarkable 400 per cent for natural gas in Europe – have been driven by two factors. First, the surge in demand as the pandemic faded around the world, and then after February 24th by fears that western sanctions and Russian retaliation would cut back trade and trigger a fierce competition for available supplies.

Oil supplies can probably be managed as cargoes of Russian crude oil can continue to flow (where necessary in unmarked vessels) to a receptive market in Asia and Africa. The natural gas trade, which relies on dedicated infrastructure such as pipelines and liquefaction facilities, is more difficult to adjust. Plans for new gas lines to Asia exist but are at least five years away from being operational. If Europe meets its commitment to cut imports of Russian gas by two thirds by 2024, that would leave a gap of 100 billion cubic metres (bcm) per day to be filled – a volume far in excess of the currently available supplies. From the Eastern Mediterranean to Central Asia, gas reserves have been identified but their development, along with the infrastructure required to bring them to market, will take years.

The European Commission has created a single buyer mechanism to negotiate the necessary purchases, and agreed with the US a deal to bring 15 bcm per day from the United States to Europe. At the same time, individual countries such as Germany and Italy, dependent on Russian gas, are already organising their own deals with potential suppliers such as Qatar and Algeria. Some gas can be saved by improvements in efficiency. Some can be substituted by an expansion of renewable power generation. But even considering these possibilities to substitute supply and reduce demand, the gap between demand and supply will remain substantial. That is the source of current market concerns.

Faced with what appears to be an insoluble short-term problem, political leaders across Europe have begun to talk of self-sufficiency and energy independence. To date, however, such comments have amounted to rhetoric rather than substance. This is because of the time scales involved in developing new renewables (at best two years and often longer), hydrogen (a decade at best) and new nuclear plants (on recent evidence 15 years or more). For the moment, Europe remains dependent on imports for more than 50 per cent of its daily energy needs. As global prices have risen, consumers in Europe and elsewhere are paying more, making energy costs a major contributor to inflation, the cost of living crisis and the economic downturn.

What could happen in the next year

Within a year, almost all European countries may have eliminated most of their oil purchases from Russia, and found alternative supplies from the Middle East and elsewhere. The price they have to pay will depend less on Russia than on the Organization of the Petroleum Exporting Countries (OPEC), the oil exporters' cartel, deciding on oil production levels. The temptation for the Saudis and others to limit output in order to keep prices above $100 a barrel will be strong, and will only be tempered if the US shale industry can produce a new surge in supply.

Europe will have cut its natural gas imports from Russia by a third to a half. Supplies from the US and Qatar will flow to Europe through existing facilities, supplemented by projects such as the floating terminals being planned around a number of German ports. These imports will help to close the supply gap, but at a price.

The energy security agenda will have moved beyond dreams of self-sufficiency to bilateral and perhaps multilateral deals. Direct long-term deals, already the norm for importers such as Japan and China, will have begun to dominate the market, marking the end of the open trade structure which has operated since the 1990s.

Energy will have become a major preoccupation for NATO – revitalised by the new Russian challenge. Access to secure energy supplies at affordable prices will be seen as crucial to the security of member-states, particularly if Russia continues to limit supplies to those it sees as particularly hostile to its

objectives. To achieve energy security in a fragmented market, importing countries are already beginning to develop partnerships with key suppliers such as Qatar and Azerbaijan. These will involve not only long term commercial supply contracts but also potentially wider political, economic and security links. Out of such a network of links could emerge a new 'energy NATO' – a network of importing and exporting countries all committed to maintaining security of supply.

None of these moves will be easy and many will take time to put in place. The success of a new burden-sharing approach to energy will crucially depend on the willingness of the US to participate in it by exporting more of its home-produced oil and gas, even if the result is higher domestic prices for US consumers.

Whatever the source, the extra supplies of natural gas flowing into Europe are likely to be entrenched by new long-term contracts, designed to justify the necessary investment in infrastructure such as liquefied natural gas (LNG) facilities. This in turn means that the diversification of supplies away from Russia will not easily be reversed.

On this timescale, limited available supplies are still likely to leave Europe short of gas. The balance will be met by a combination of additional renewables, some coal, and, in the event of a severe winter, some rationing through the extended use of interruptible supply contracts. The greatest pressures will be felt in Germany, given the scale of dependence on Russia built up over the last 30 years.

The situation will be worse if, as recent reports suggest, the poor state of existing French nuclear capacity forces closures and cuts in electricity production, which will create the need for even greater gas imports.

The longer term: The view to 2024

By 2024 the energy market – in Europe and internationally – should have found a new balance. Europe will have cut its gas imports from Russia by two thirds. European countries will have signed a series of long-term deals to secure gas supplies, with Qatar likely to become their leading supplier. Other gas developments around the world will be under construction, including in politically sensitive areas such as the waters off the shores of Israel and Lebanon. Prices are likely to remain relatively high until several of these new projects come onstream.

On this timescale, Europe will have reduced its gas needs by substituting electricity, produced mainly from renewables, for home heating and the transport sector. In retrospect the invasion of Ukraine will be seen to have accelerated Europe's transition to a lower carbon economy.

Worldwide energy demand will continue to rise, driven by population growth of almost a quarter of a million people per day, and the spread of prosperity which will give more and more people the ability to buy commercial energy supplies for the first time. Large-scale wind and solar facilities will be providing ever increasing volumes of electricity, but the bulk of energy needs will still be met by oil, gas and coal. The global challenge of climate change will remain unresolved, with increasingly likely extreme weather, especially in vulnerable areas such as North Africa and a band of countries running through the Middle East, Northern India and China. A fundamental solution through a complete global transition to net zero will remain elusive.

To this instability will be added the weakening of Russia. Without Western investment, the development of the next generation of Russian oil resources – particularly in the Arctic – looks impossible. Without

such developments Russian production will decline. Gas trade to China will begin to grow, but Chinese wariness of dependence on Moscow will set a limit to it, while Beijing will seek alternative supplies from Central Asia and the Middle East.

By 2024, the chances of a ceasefire in Ukraine must be quite high, even if a full and final peace settlement may prove elusive. With a ceasefire will come pressure for a renewal of trade from east to west. That pressure will come both from Russia, in urgent search of revenue, and from gas consumers, particularly from energy-intensive businesses losing their competitive edge as a result of rising prices.

Some new balance will be possible, but the trust which has been broken will be hard to rebuild. With gas demand falling and a policy of diversification in place in Europe, Russia will be lucky to retain even a third of the energy trade with Europe which was in place at the beginning of 2022.

Such developments will reshape the energy market but do not amount to a stable and sustainable equilibrium. The climate agenda will remain unresolved, with emissions continuing to rise. Relatively high energy prices will fuel inflation and the resulting cost of living crisis. An impoverished Russia will still be a dangerous neighbour. In Europe and across the world, the challenges of energy insecurity will shape economic and political relationships, creating new alliances but also provoking new tensions and conflicts.

Nick Butler is Visiting Professor and Founding Chair of the Policy Institute, King's College London.