

Energy crisis: how will Europe cope this winter?

The next six months look tough, but a bigger test awaits further out

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SUMMARY

- Since Russia's invasion of Ukraine, gas flows from Russia to Europe have dwindled. Fearing a weaponisation of energy, Europe is preparing for a full interruption of Russian gas supplies.
- This is consistent with our base-case scenario for the conflict, which assumes a high (70%) probability that it persists through the winter, increasing the odds that Russia leverages its control over energy supplies to the maximum extent.
- Natural gas stores, consumption-reduction measures and temperatures will be key in determining Europe's fate this winter.
- In our base-case scenario of a full cut-off of Russian gas flows and normal temperatures, the EU would barely get through winter months without having to resort to rationing, albeit with regional differences.
- Should it be a colder-than-average winter, some rationing would be likely, with major consequences for energy-intensive industries and economic growth.
- European authorities' ability to rebuild inventories rapidly in the spring is likely to be seriously hampered. New liquefied natural gas (LNG) import capacities will help but are likely to arrive too late. In our base-case scenario, EU gas stores will only reach 40% of capacity by next September.
- Increases in European LNG imports have occurred to the detriment of other parts of the world, particularly South-East Asia. Since major increases in supply growth are only expected in 2025-26, the cost of energy will likely remain high in the meantime. A Chinese economic recovery would only add fuel to the fire.

THE SHADOW OF WAR LOOMS OVER EUROPE'S ENERGY SUPPLY

The conflict in Ukraine has shone a bright light on Europe's clear dependence on Russian energy exports. The promotion of economic interdependence between Europe and Russia– a key feature of Germany's *Ostpolitik* initiated by Willy Brandt in the late 1960s – was notably aimed at preserving peace. However, European decision-makers are now learning the hard way that the flipside of such interdependence is vulnerability to a change in Russian policy.

Since Russia's invasion of Ukraine in February, gas flows from Russia to Europe have progressively dwindled from 400 million cubic meters per day (mcm/d) to less than 100 mcm/d. Despite Russia's attempts to blame supply disruptions on technical (maintenance) or political (sanctions) reasons, Europeans quickly came to the conclusion that Russia was willing to weaponise energy in its ongoing stand-off with the West, and hence started preparing for a potential full interruption of Russian gas supplies.



Natural gas flows (via pipelines) from Russia to Europe

Source: PWM CIO & MR, Bloomberg Finance LP as at 28 September 2022

We believe there is a high (70%) probability that the protracted conflict between Russia and Ukraine will continue through the winter. Ukraine has strong military momentum at present, and therefore little incentive or willingness to negotiate, especially after annexation referendums were held in Russian-held regions of Ukraine. For its part, Russia is likely to wait for the winter to regroup and re-arm its forces, hoping that its recent partial mobilisation will help turn the tide on the battleground. Tensions on the energy front are likely to persist as President Putin exploits Europe's dependence on Russian gas and oil flows to the fullest.

THE WINTER LOOKS CHALLENGING, BUT STORAGE PROVIDES A GLIMMER OF HOPE

Reduced gas inflows from Russia mean that Europe will rely more than ever on existing storage capacity and consumption-reduction measures to get through the winter.

While overall EU gas consumption is lower than domestic production and imports in the summer, enabling the region to replenish its inventories, this situation reverses during winter as residential heating needs – which account for 64% of household energy consumption – kick in. Whereas EU natural gas consumption averages around 25 billion cubic meters per month (bcm/m) from April to September, it increases sharply to around 43bcm/m from October to March. On the positive side, EU countries have been very successful in increasing their reserves ahead of winter, with inventory levels currently hovering around 88% of maximum capacity.

The key variable to watch, albeit a hard one to predict, is temperature. Should Europe experience a colder-than-average winter, gas consumption would rise accordingly, depleting gas stores quickly. This, in turn, may lead to rationing, with major consequences for energy-intensive industries (especially manufacturing) and economic growth. Inflationary pressures would also probably increase further at a time when the ECB is already struggling to anchor expectations.

We envisage three main scenarios in the coming months.

1. Reduced Russian gas inflows (status quo) and mild winter (15%)

In this scenario, we assume Russian gas inflows remain at their current level (around 19% of 2021 inflows) and winter temperatures are close to their seasonal averages. We also assume a 10% reduction in overall EU gas consumption (slightly below the European Commission's 15% objective). Such a scenario would enable the EU to avoid rationing, with storage levels down to 30% of maximum capacity by the end of March. However, we expect Russia to further weaponise energy supplies throughout the winter, so we assign a rather low probability to this scenario.

2. Complete shut-off of Russian gas inflows and mild winter (60%)

In our second scenario we make the same assumptions as in our first scenario except for Russian pipeline gas inflows, which we assume will end entirely. In this scenario, the EU would run a significantly higher energy deficit and its gas inventories would drop quickly, reaching a bottom of 17% in March – a level that sits on the brink of requiring rationing. Furthermore, as the EU is not a homogeneous and fully interconnected region from a gas standpoint, some countries may have to ration even if the overall situation looks manageable. Rationing would bear significant consequences for heavy industry and economic growth.

3. Complete shut-off of Russian gas inflow and cold winter (25%)

Our third scenario – admittedly the most severe – assumes a full interruption of Russian pipeline gas flows to the EU during a cold winter that leads to gas consumption rising to close to the highest levels observed in the past 5 years. Such a scenario would lead to gas inventories being fully depleted by March. Parts of the industries categorized as "non-protected customers" by authorities would have to drastically cut production or even shut down entirely. This may lead to a snowball effect, disrupting strained supply chains, pushing inflation even higher, and ultimately depressing aggregate demand. EU businesses' competitiveness could be eroded on the international stage, with some of the most energy-intensive firms potentially considering relocating outside Europe.

Of note, our simulations are meant to be looked at ceteris paribus – that is, before any additional policy measures are implemented, such as price caps, mandatory cuts in demand, or even partial rationing. As a matter of fact, European ministers agreed today on a number of measures including additional levies on power

providers via a revenue cap of €180/MWh for those companies using cheaper energy sources than gas, a voluntary reduction target of 10% for electricity consumption, and a solidarity levy for fossil fuel companies.

Depending on actual development in gas supply and demand, one could imagine additional measures being announced over coming months.

2023 MAY ACTUALLY PROVE EVEN MORE DIFFICULT

While getting through the upcoming winter without Russian gas will be difficult, running the European economy without Russian gas for several years could prove an even bigger challenge.

Whatever happens this winter, Europe is likely to enter spring with low gas inventories. European authorities will then face a new challenge: rapidly increasing gas inventories before the next winter. Despite new LNG import capacities and gas-saving measures, reduced flows from Russia put Europe at risk of entering the 2023-24 winter with insufficient gas stores.

In our base-case scenario, we expect gas stores in the EU to fall to 17% of capacity in April, which usually marks the beginning of the inventory buildup season. From then on, additional import capacity should come online in two waves, mainly thanks to the delivery of Floating Storage and Regasification Units (FSRU):

- Wave 1 will provide 28bcm of gas import capacity per year before next summer (mainly in Germany, the Netherlands, Finland and Italy).
- Wave 2 will provide 19bcm per year from next October onwards (4bcm in France and 15bcm in Germany).

By the end of 2023, Europe's LNG import capacity is expected to reach 180bcm per year, thus matching Russian gas imports before the invasion of Ukraine. But despite the huge effort involved, the additional import capacity is unlikely to come online in time to rebuild sufficient gas inventories before winter. In our base-case scenario, we expect EU gas stores to reach 40% of capacity by next September.



EU gas stores in our three scenarios

Source: PWM CIO & MR, Eurostat, Refinitiv as at 28 September 2022

Besides, ensuring sufficient regasification capacities is only one side of the coin. For the market to balance, there also needs to be sufficient supply. Proven global gas reserves, which are estimated to be around 188 trillion cubic meters are, in theory, sufficient. However, capacity to liquefy gas is limited. A typical LNG project takes a minimum of five years to be completed, and the next major leg of additional supply capacity is only expected in 2025-26. This means the abrupt interruption of Russian gas exports to Europe is likely to have a major impact on the global gas supplydemand balance until at least 2025. The obvious consequence is high gas prices for some time.

So far, Europe has been able to secure more LNG imports by outbidding for LNG that would otherwise have gone elsewhere, notably to South-East Asia. China's subdued economic activity due to its zero-covid policy and property sector crisis has certainly helped in this regard. One should, however, expect an increase in demand for fossil fuels (mainly gas, but also oil and coal) when the Chinese economy reopens fully. All these factors combined suggest there could be a long-term increase in the cost of energy.

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