The heat is on for European energy markets



October, 2022



It has been a tumultuous time in the European energy market, with the disruption to Russian gas flows exacerbated by a long dry summer affecting hydro, nuclear and coal-based power generation.

The EU has reacted with a swathe of measures to try to stabilise markets and lower energy costs for consumers, including:

- a 'solidarity contribution' of 33% imposed on the extra profits of fossil fuel companies for FY22;
- a 'revenue cap' of €180 per megawatt hour (MWh) on the market revenues of non-gas power generators (e.g. renewables, nuclear etc) for one year;
- power demand reduction targets including a 10% monthly reduction target, and a peak hours' reduction target of at least 5%.

In addition, the EU has proposed liquidity support measures for energy companies seeing high collateral demands, the setting up of a new EU gas benchmark, and longer-term reforms of the electricity market to decouple gas and power prices. Germany and the UK are also looking to extend the lives of nuclear reactors marked for decommissioning and reinstating coal plants that were formally slated for closure or had already been mothballed.

This has somewhat stabilised gas and electricity prices, albeit still at elevated levels. However, the risk of further disruption remains heightened with damage to both Nord Stream pipelines and with the Russian government threatening sanctions against one of Ukraine's oil and gas companies, which transports gas from Russia through Ukraine into Europe. This would threaten access to the remaining 10% of Russian gas flows.

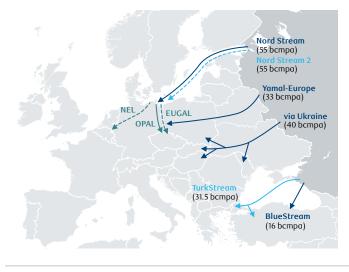
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Can the largest drop in gas demand on record help to reduce Europe's energy woes?

Demand destruction will be key to Europe making it through the winter without Russian gas and the EU has targeted a 15% cut as part of its "Save Gas for a Safe Winter" plan. The plan focuses on substitution of gas with other fuels and efficiency improvements but is also likely to entail production cuts and it is likely to exacerbate supply chain issues. The International Energy Agency (IEA) has forecast a 10% drop in annual gas demand for 2022, the largest drop on record, and reflects the expectation of higher gas prices curbing consumer usage, causing a 3% fall in natural gas power generation and a 20% fall in industrial gas demand.

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In addition to reduced demand, replacement of Russian flows will rely on Europe continuing to outcompete Asia to secure an adequate spot price for liquefied natural gas (LNG). While Europe has benefited from buyers in Asia being deterred by high prices, the tussle for cargoes could intensify if Asia sees a colder-than-normal winter or hotterthan-usual summer. Europe is set to become reliant on the spot LNG market as more than 8 million metric tons worth of contracts expire in 2023.



Source: Gazprom

Figure 2 details Europe's reliance on Russian gas in terms of overall energy consumption, electricity generation, storage capacity and LNG capacity and clearly illustrates that the immediate impact from the latter would be most keenly felt in Slovakia, Austria and Italy. However, gas and power prices are likely to move higher given the interconnectivity across Europe.

Figure 2: Russian gas imports, energy consumption, generation, and storage levels

We're in the red.

	Percentage of Russian Gas Imports (2020)	Percentage of Gas in Total Energy Consumption (2021)	Percentage of Gas in Electricity Generation (2021)	Total Storage Capacity (bcm)	Percentage of Filled Gas Storage	LNG Capacity (bcm/yr) at RE-gasification Terminals
Latvia	100.0%	29.3%	40.3%	2.47	51.9%	N/A
Czechia	100.0%	20.1%	8.5%	4.48	84.1%	N/A
Hungary	95.0%	39.4%	27.2%	6.93	69.8%	N/A
Slovakia	85.4%	27.9%	14.7%	3.69	84.8%	N/A
Austria	80.0%	22.4%	14.2%	9.78	74.4%	N/A
Bulgaria	75.2%	15.7%	6.6%	0.59	70.2%	N/A
Finland	67.4%	7.0%	5.5%	N/A	N/A	N/A
Germany	65.2%	26.6%	15.5%	25.05	90.1%	N/A
Poland	54.9%	19.1%	8.8%	3.73	98.5%	6.20
Estonia	46.2%	8.0%	0.7%	N/A	N/A	N/A
Romania	44.8%	29.8%	17.3%	3.36	81.5%	N/A
Italy	43.3%	42.3%	52.7%	19.81	87.9%	15.50
Lithuania	41.8%	33.0%	29.3%	N/A	N/A	4.00
Greece	39.0%	24.1%	40.3%	N/A	N/A	7.00
Netherlands	30.0%	37.2%	46.8%	14.23	86.7%	12.00
Norway	30.0%	7.6%	1.4%	Net Exporter	Net Exporter	N/A
Luxembourg	27.2%	19.5%	17.7%	N/A	N/A	N/A
France	16.8%	16.6%	5.4%	13.58	95.6%	33.00
Sweden	12.7%	2.2%	1.0%	0.01	90.8%	N/A
Spain	10.4%	22.0%	15.4%	3.61	87.9%	60.10
Portugal	9.7%	22.8%	33.8%	0.37	100.0%	7.60
Slovenia	8.7%	12.3%	3.1%	N/A	N/A	N/A
Belgium	6.5%	22.7%	22.3%	0.89	84.3%	11.40
United Kingdom	5.0%	40.4%	40.3%	1.00	100.0%	48.10
Croatia	0.0%	29.4%	20.7%	0.49	85.4%	2.60
Denmark	0.0%	14.1%	5.8%	0.95	95.1%	N/A
Ireland	0.0%	29.9%	45.5%	N/A	N/A	N/A

Source: BNEF, Energy Monitor, 'Our World in Data', GIE – AGSI. Russian gas imports as of Dec-20, energy consumption and generation as of Dec-21, gas storage levels as of 18th Sep 2022.

Figure 1: Gas pipelines from Russia into Europe

Silver lining to the energy crisis

The upside from the current energy market disruption is likely to be an acceleration in renewables deployment and increased investment in hydrogen which, as yet, fails to register materially on most forecasts for the EU power generation mix.

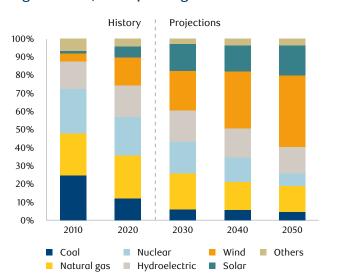


Figure 3: Projected power generation mix

Source: US Energy Information Administration, International Energy Outlook 2021 'Reference Case'

The economics for consumers remains challenging but stack up for a range of sectors – including long-haul transport, chemicals, as well as iron and steel – where it is proving difficult to meaningfully reduce emissions. With declining costs for renewable electricity, in particular from solar photovoltaics (PV) and wind, interest is growing in electrolytic hydrogen as an energy store and there have been several demonstration projects in recent years.

A lump of coal for Christmas

In the near term, an unfortunate effect of the energy crunch will be that we burn more coal – with strong returns for utilities that are forced to extend or reopen capacity. Based on current economic and market trends, the IEA forecasts global coal consumption to rise by 0.7% in 2022 to 8 billion tonnes This would match the record set in 2013, with risks to the upside if the Chinese economy recovers before the end of the year.

"Coal consumption in Europe is expected to rise by more than 7% in 2022."

Whilst much of the demand comes from emerging markets, such as India, coal consumption in Europe is expected to rise by more than 7% in 2022 which comes on top of last year's 14% jump. But, a pragmatic stance is needed as emissions rise in the near-term. Elevated gas prices are also having knock-on effects in sectors beyond heating and power. Petrochemical producer margins are being squeezed as energy feedstock prices soar, and a search for oil-based alternatives to gas in other sectors may prop up demand for middle-distillate oil products, with the knock-on effect of higher emissions.

There are some bright spots that deserve to be mentioned. A squeezed polysilicon market will breathe a sigh of relief for photovoltaic manufacturers as China brings new factories online later in the year. And, while steel prices and the cost of shipping remain well above pre-pandemic averages, they have tumbled from their previous heights.

Look elsewhere and the picture is gloomier: the global supply of lithium will, for instance, struggle to match demand in the years to come. That could continue to pressure battery cathode prices even if supply chain issues ease.



The investment outlook?

Energy network companies are well-placed in the energy complex. European utilities have been one of the worst performing sectors year-to-date, underperforming all cyclical sectors except for real estate and other financials. Recent government intervention has levelled the field somewhat with extraordinary support for the more challenged and windfall taxes for the winners optimally positioned.

"Throughout the energy crisis, energy network operators have proved to be resilient and remain our favoured investment in the utility space." However, with energy shortages looking less likely through the winter we would expect credit metrics to remain resilient across the sector. Meanwhile, long term energy transition strategies should be largely unaffected, with a significant ramp up in renewables and grid investment. Throughout the energy crisis, energy network operators have proved to be resilient and remain our favoured investment in the utility space. Revenues, costs and returns of network companies are pre-set via regulated price controls (grid operators do not take positions in energy market). Price, volume, government intervention and liquidity impact should all be negligible. Inflation protection mechanisms such as automatic indexing, whereby growth in revenues and/or the regulated asset base of a company are directly linked to an inflation index, are also supportive in the current environment.



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