



The EU's energy plan for a difficult winter: What are the options?

by Elisabetta Cornago, 9 September 2022

The European Commission's new plan aims to cut electricity use to reduce prices and possible blackouts; to extract some of the windfall profits of energy companies; and to curb Russia's gas revenues.

EU electricity and gas prices have reached new highs in the last few weeks. Pipeline gas imports from Russia are lower than ever, as Gazprom has again halted gas flows through the Nord Stream 1 pipeline, which may not reopen. The European electricity market is also under stress: half of France's nuclear capacity is offline due to unforeseen maintenance and heatwaves complicating cooling, while droughts have cut hydropower generation.

Record-shattering energy prices are driving EU governments to consider new Union-wide measures to curb prices at the emergency meeting of EU energy ministers on September 9th. European Commission President Ursula von der Leyen [stated](#) on August 29th that the Commission was considering both short-term emergency policies to help consumers, and long-term structural reforms of electricity markets. This marked a change in the position of the Commission, which had previously strongly opposed calls for revising electricity market design. But structural reform will take time, so for now the focus is on emergency interventions: this insight analyses the proposals that President von der Leyen [announced](#) on September 7th, building on details contained in leaked documents.

The reason why electricity prices have been rising following the rise in gas prices is because of the way electricity markets function. Market demand is filled firstly by the cheapest power generation, with more expensive generation options joining in until all demand has been filled. Wholesale electricity prices are driven by marginal pricing, meaning that the price of the most expensive power generation, which produces the last megawatt of electricity needed to fully meet demand, determines the price for all electricity generation. Currently the most expensive technology is gas-fired power plants, and they are frequently called upon when there are peaks in demand, since they can scale their generation up and down quickly unlike many other generation options. As their price bid is the highest, gas-fired plants set the wholesale price even though a large chunk of electricity is generated with cheaper technologies like wind, solar, hydropower and nuclear power plants.

This system ensures that electricity supply meets demand in an efficient way, by prioritising low-cost producers who secure their sales thanks to their lower price bids, and remunerates these producers for their investments, attracting more of them to the market. This is also environmentally beneficial, as renewables tend to be cheaper than gas and coal power generation. But now that production costs of gas power producers are historically high, due to President Vladimir Putin's weaponisation of gas flows, many are asking whether governments should break the link between gas and electricity prices and stop the trouble on the gas market from spilling over to the electricity market.

The wholesale price component is only one part of the retail prices that consumers see in their bills, as the latter also include fees to cover electricity transmission and grid maintenance, and a range of different taxes. But following the five-fold increase in wholesale electricity prices in the past year, the coming months will see big hikes in retail prices (if not as big as wholesale ones), and this is the crux of the matter facing EU energy ministers on September 9th.

In the run up to the meeting, Von der Leyen has [announced](#) a set of five emergency measures: 1) mandatory electricity savings; 2) a revenue cap for companies that generate electricity from low-cost sources, which would allow governments to extract their windfall profits; 3) a 'solidarity contribution' from oil and gas companies; 4) support for power utilities struggling with liquidity; and 5) a price cap on Russian gas imports.

These measures will not cut European energy prices directly, as the Commission is reticent to meddle with wholesale electricity and gas prices. Instead, the Commission aims to reduce electricity demand (as it required for gas demand in July), which will both lower prices and limit the risk of blackouts. It also wants to limit the windfall profits of electricity generators and oil and gas companies benefiting from high prices, and use these revenues to support consumers. Finally, it aims to curb Russia's revenues from gas exports.

Addressing electricity scarcity: Mandatory savings targets

While much of the public discussion so far has focused on price interventions, the Commission is proposing mandatory targets for cutting electricity use like it did for gas in July, when the EU set a 15 per cent energy saving target by March 2023. These [targets](#) would be twofold: power use would be cut in peak-time by 5 per cent and in total by at least 10 per cent.

Encouraging consumers to save energy at peak time can dampen prices and avoid outages. For example, large-scale industrial consumers have already been taking part in 'demand reduction tenders', which are auctions where they can bid for compensation if they promise to cut consumption at critical times. The Commission is right to [recommend](#) that similar rewards for energy savings should be offered to residential consumers: energy retail suppliers are best placed to set up such incentives.

Addressing windfall profits: Revenue caps and 'solidarity contributions'

The Commission is proposing a revenue cap for electricity generators with lower production costs than gas-powered generators at [€200](#) per megawatt hour. This would be a big cut for generators subject to the cap, compared to current wholesale prices which in Western Europe are hovering around [€400](#) per megawatt hour, but would leave an ample profit margin for the lowest-cost among them. This revenue cap would leave the wholesale price untouched, so it would not reduce prices for consumers, and they would still have incentives to cut energy use.

Rather than curbing electricity prices, this measure primarily aims to extract windfall profits from electricity companies benefiting from high gas prices. A revenue cap would change the power

generators' incentives when selling on the market. If the cap only concerned trading on the day-ahead market, generators might bypass it by selling more power on forward markets (where trading takes place for delivery months or years down the line), or by signing bilateral deals with large electricity consumers. This would undermine the cap's purpose.

The Commission disregarded various alternatives, whose shortcomings were set out in leaked [non-papers](#). The Commission rejected extreme solutions like the suspension of the electricity market (whereby electricity would be distributed by market regulators, and generators would be remunerated based on their costs) and a cap on wholesale electricity prices. Both approaches would result in artificially lower wholesale and consumer prices and thus discourage energy saving.

The Commission has also not recommended expanding across the EU the so-called 'Iberian solution', which Portugal and Spain have enacted in the past few months. In this system the wholesale electricity price is capped. The Spanish and Portuguese governments have subsidised electricity generators that use gas to cover the extra cost they face purchasing gas on the global market. By lowering the wholesale price, this system increases consumption of electricity and of gas. It also encourages neighbouring countries to import from countries where the wholesale price is capped, further worsening the scarcity of both gas and electricity. And because the plan relies on subsidies, it would come at a high budgetary cost, which would ultimately entail a transfer from taxpayers or power consumers to gas power generators.

The Commission also appears sceptical about the [proposal](#) put forward by Greece in July, which advocates splitting the power market into two categories of generators: on the one hand, 'not-on-demand' energy generators, such as intermittent renewables, and on the other 'on-demand' generators, such as gas, which can switch on production as needed. 'Not-on-demand' generators would be remunerated with long-term contracts guaranteeing a certain return (contracts for difference, CfDs) and would thus compete on how much electricity they can deliver, rather than price. 'On-demand' generators would continue to compete on prices and thus generate the wholesale price, using the existing marginal pricing approach. Consumers would ultimately pay a weighted average of prices emerging from the two systems. This would remove a large chunk of generators from price competition, hollowing out the wholesale power market. Setting up CfDs would also require detailed information on renewables companies' costs, which could possibly emerge via auctions. Its complexity makes this a long-term rather than emergency proposal: while it may not attract the favours of governments seeking quick solutions right now, the idea of splitting fossil and non-fossil power generation is nonetheless going to shape discussions on long-term electricity market reform.

Alongside revenue caps for electricity generators other than gas power plants, the Commission [suggested](#) reclaiming some of the windfall profits of oil and gas companies via 'solidarity contributions', though details on these are still lacking. This may also be more complex for oil and gas companies that are not headquartered in the EU.

Supporting consumers: Recycling proceeds from revenue caps

The Commission argues that governments should use the proceeds from revenue caps and solidarity contributions to support vulnerable consumers and businesses – but in the past few months, consumer support in the face of high energy prices has taken different shapes at national level, from transfers to energy tax freezes to retail price regulation.

EU governments have so far [largely chosen](#) direct transfers to vulnerable groups as the main emergency response to energy price spikes since last autumn, for example through existing social benefits schemes or using energy suppliers to provide rebates on bills. The former approach is better targeted to the most vulnerable, while the latter is more inclusive – at a risk of being wasteful if resources go to users that would not need help paying their bills. As even middle-income households will struggle with sky-high prices, the challenge for governments will be to quickly expand transfers to more consumers, being more generous with those whom need it the most.

The question is whether higher retail electricity prices will increase calls for a larger degree of price regulation, as consumers will not manage to cut consumption beyond a certain basic level, no matter how high prices go. An intermediate solution is the ‘retail price brake’ recently [announced](#) by the German government, that will cap consumer electricity prices for households and small and medium-sized enterprises for a limited amount of ‘basic’ consumption.

This underscores the difficult balancing act that policy-makers are facing today: the tension between ‘putting a lid’ on prices, to prevent a rise in poverty, and encouraging consumers to save energy, to deal with scarce energy supply. Guaranteeing limited price increases on basic consumption can help vulnerable consumers, while still maintaining an incentive to save energy beyond that threshold. But to ensure that consumers save electricity at peak time, both governments and energy suppliers need to find simple ways to engage with them, like timely [text messages](#) inviting them to turn off unnecessary devices when the risk of a blackout is high.

Preserving liquidity on power markets

[Power producers](#) that have signed forward contracts for the delivery of electricity at later dates are finding themselves short of cash: this is because as gas prices increase, they need to present increasing collateral to secure their trading positions in case they default before honouring their contracts (what is called ‘margin calls’). This requires credit lines that not all may be able to secure without government help, and the Finnish and Swedish governments have already stepped in. Industry has also called for a loosening of trading rules that would expand the types of collateral accepted in electricity trading. The Commission has [promised](#) measures to facilitate liquidity support by member-states. While the short-term issue is one of liquidity, keeping capital ‘frozen’ as collateral could translate into lower or slower investment in additional electricity generation down the line.

Curbing the Kremlin’s revenues: A price cap on Russian gas imports

Alongside the measures focusing on electricity markets, von der Leyen proposed a price cap on Russian gas imports, which would probably apply only to pipeline gas. This is because piped gas cannot be redirected to alternative buyers as quickly as liquefied natural gas (LNG), which is shipped: as such, if Russia chose to stop pipeline flows, it would have no easy options to sell it elsewhere in the short-term.

Is a price cap on Russian gas imports still important, since pipeline imports of Russian gas are at historical lows? On the one hand, Europeans have been diversifying imports, while on the other, Russia has been cutting its exports, most recently halting flows through the Nord Stream 1 pipeline. Europe does continue to import Russian gas via other pipelines, but a price cap on piped gas would apply to a much more limited volume of trade than it would have a few months ago. The Kremlin might respond to a price cap by further reducing its exports to Europe, so such a measure would require the EU to be ready for a complete halt to Russian gas imports – and would make gas demand reduction all the more important.

Regardless, the impact of a price cap on Russian imports on final consumer bills is likely to be minimal. The ultimate aim of such a price cap is to curb revenues the Kremlin gets from gas exports – its impact on gas prices in Europe would be indirect, as the share of Russian gas in total gas supply would continue to drop if it were imposed, raising gas prices as a second-round effect. For this reason, if EU member-states go ahead with it, they could set the cap at a level that, economically speaking, still incentivises Russia to export to Europe, making it better off than turning off the taps. Politically, however, the Kremlin may decide there is more benefit in cutting gas supplies entirely to increase division within Europe, rather than extracting whatever amount Russia can from gas sales.

An alternative approach the Commission has [studied](#) but abandoned is regional caps on wholesale gas prices in those regions most affected by the disrupted supply of Russian gas, notably Central and Eastern Europe, Germany and Italy. Such regional price caps would be triggered when local prices surpass a certain threshold. The rationale for regional wholesale price caps is that in a tight gas market, high gas prices spiral out of control without attracting additional gas supplies, so it would make sense for governments to put a ceiling on them.

Conclusion

The spotlight of the Commission's proposed emergency measures is largely on electricity, as the gas crisis has long spilled over into electricity markets. The Commission is right to propose a bundle of policies, rather than a single solution to scarcity on the power market. Demand reduction for both gas and electricity is needed to ensure that blackouts and rationing can be avoided, or at least minimised, over winter – and it will also help lower prices. However, prices are likely to remain substantially higher than pre-war levels in the medium-term, and that requires support schemes for consumers: revenue caps for non-gas electricity generators, and similar measures for oil and gas companies, can help pay for transfers to poorer households. But these remain a temporary solution, and probably not enough to pay for all the relief that households and businesses will need. Transfers will also need to be timely and discussions will intensify on how wide to cast the net of beneficiaries.

Governments must not forget that accelerating housing insulation programmes is the best way to reduce energy demand from households in the medium-term, and one that would reduce bills, energy poverty and therefore the need for emergency transfers. On the supply side, investing to expand the share of renewables in the electricity mix, and the electrification of our economy, is the best way out of this gas-driven energy crisis, as it would reduce Europe's reliance on Russian gas specifically, and natural gas more broadly.

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