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Research Report

An assessment of Europe's options for addressing the crisis in energy markets

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An assessment of Europe's options for addressing the crisis in energy markets

Conall Heussaff, Simone Tagliapietra, Georg Zachmann, Jeromin Zettelmeyer

Executive summary

SINCE RUSSIA'S INVASION of Ukraine, wholesale prices for electricity and gas in the European Union have risen five to fifteen-fold, with severe impacts for households and businesses. The crisis is also creating liquidity problems for energy companies, with contagion risks for the financial sector.

IN RESPONSE, EUROPEAN governments have taken a range of actions. Some have introduced measures at retail level, while others have introduced windfall-profit taxes on energy companies. Some countries have provided emergency liquidity to energy companies facing soaring collateral costs. Some energy companies have even been nationalised.

EMERGENCY-INTERVENTION PROPOSALS SHOULD be evaluated against three principles. First, energy supply must meet demand at prices that do not cause major damage to the European economy. Second, the most vulnerable consumers must be protected. Third, measures should be consistent with the case for investment in a sustainable energy system, in order to safeguard Europe's ability to decouple structurally from fossil-fuel imports.

GAS PRICE CAPS have been proposed as an emergency measure in different forms: a cap on Russian gas only, a cap on gas used in electricity generation, a cap on all wholesale gas. All entail significant risks. The first might lead to a full stop of Russian gas into the EU. The second might increase gas demand from the electricity sector. The third might raise gas demand and also undermine Europe's ability to attract much-needed gas supplies. Instead of capping gas prices, the EU should engage collectively with external gas suppliers and negotiate new long-term contracts with provisions to limit price volatility.

A SEPTEMBER 2022 European Commission proposal involving electricity demand reduction, a revenue cap on inframarginal generation, solidarity payments from fossil-fuel companies and consumer support measures, is broadly positive, notably because it emphasises demand reduction. However, it is not sufficient. A more comprehensive plan needs to ensure that all countries bring forward every available supply-side flexibility, make real efforts to reduce gas and electricity demand, keep their energy markets open and pool demand to get a better deal from external gas suppliers. In the longer term, measures to split the markets for energy generated from renewables and fossil fuels should be examined.

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1 Introduction

Europe's energy markets are in crisis. Wholesale prices for electricity and gas have risen five to 15-fold since early 2021 (Figure 1). This is being felt in retail prices and wreaking havoc on households' disposable incomes and the profits of energy-intensive companies profit margins, or is being absorbed by intermediaries, undermining their viability. Energy companies and their lenders are increasingly worried by the implications of this unprecedented price shock.

In response, many European governments have introduced measures at retail level, including retail price caps, regulated tariffs, support schemes for companies and energy bill credits. Some have also introduced windfall taxes on energy company profits. To prevent disruptions in the energy sector, several countries have recently started to provide substantial emergency liquidity to energy companies which face soaring collateral costs. Some countries have also taken stakes in energy companies, while others have proceeded with nationalisation. These policies are designed to tackle specific negative impacts of high wholesale prices.

Action to directly intervene in the gas and electricity wholesale markets is also being taken at European Union level, which is what we analyse in this Policy Contribution. We examine the causes of the current very high wholesale prices, high producer rents and price volatility. We then outline some principles to guide measures to reduce prices and rents. Various proposals for action have been made and we evaluate a number of these.

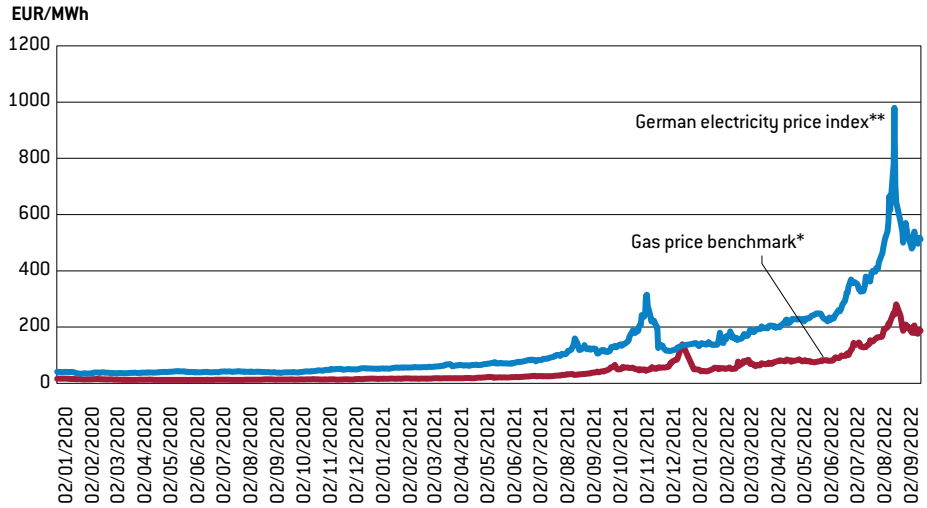
2 What is behind skyrocketing energy wholesale prices?

The primary cause for the massive increase in EU gas prices is that Russia, supplier of about 40 percent of EU gas consumption, has reduced its deliveries to the EU by 80 percent (up to September 2022). Fearing that these flows might stop completely, countries and companies accelerated their gas purchases to raise volumes in storage to satisfactory levels before winter 2022-23. It has only been possible to meet demand for immediate consumption and storage through large purchases of liquified natural gas (LNG). Weekly average LNG imports into the EU and the United Kingdom have risen to 3.0 billion cubic metres (bcm) in 2022[1] compared to 1.8 bcm in 2021. Europe's share of the global LNG market has risen to 30 percent, up from 20 percent in 2021 (IGU, 2022). Every additional cargo drawn to Europe has required another LNG buyer to be outbid.

The relatively few very expensive cargoes of LNG drive the gas price for most of Europe. This is because new demand (eg from companies that need to replace Russian gas) and additional supplies (eg from LNG) are traded at a price that ensures that all demand meets supply – so-called marginal pricing. Should the wholesale gas price be below the high LNG price of LNG, the LNG would not be supplied and the demand from consumers willing to pay that high price would not be met.

1 Based on the first 36 weeks of the year.

Figure 1: The EU's main gas price benchmark and Germany's baseload electricity index have increased up to 15-fold since the first half of 2021



Source: Bloomberg Intelligence. Note: * = Dutch Title Transfer Facility Natural Gas Year 1 Index, ** = German Baseload Power Year 1 Index.

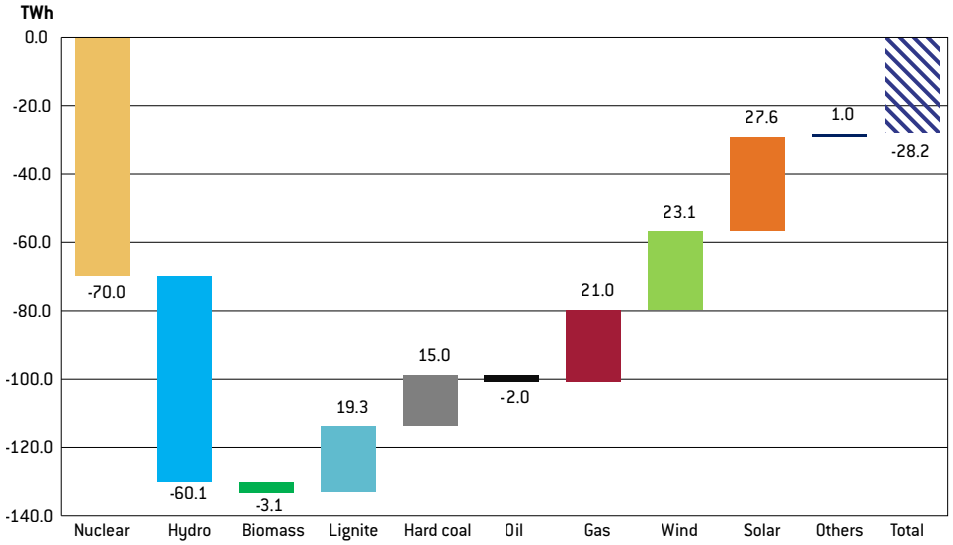
There are various regional short-term markets in Europe. Price differentials over time and between regions provide efficient signals to traders to store gas or bring it where demand is highest. In many cases, these prices are also passed on to consumers, even for gas that has been contracted for many years, because most long-term physical contracts do not set a fixed price, but only a fixed volume; the price changes depending on swings in the spot price. This implies that sellers whose contracts are linked to the spot price are currently making extremely high profits (unless they have locked in lower prices through forward hedging).

On top of this layer of physical contracts, various market players (importers/producers, traders, retailers, different types of consumers) hedge prices on financial energy markets. For example, a chemical plant might have sold its products forward for a year at a certain price, while locking in a certain gas price through gas futures contracts[2], to ensure a certain margin.

The increase in electricity wholesale prices likely has two major causes. First, the increase in natural gas prices (also coal and less prominently EU carbon allowances) has pushed up the cost of electricity production when those commodities are needed to meet electricity demand. An increase in more expensive coal and gas (34.3 TWh and 21 TWh respectively, see Figure 2), combined with a drop in total generation, has made up the difference (McWilliams *et al*, 2022).

2 Which promise to pay the difference between the desired price and the spot price at realisation.

Figure 2: Changes in EU electricity generation mix in 2022 vs 2021*



Source: Bruegel based on Energy Charts. Note: * = first eight months of each year.

In some situations, even increases in coal and gas generation have not been enough to meet demand. As a result, prices have increased even further, to levels at which consumers have stopped consuming. In the short-term electricity demand is very price inelastic, so prices are very high and small changes in volume can lead to volatile price swings (Box 1). Spot electricity markets operate according to the 'pay-as-cleared' principle, meaning that all sellers obtain the same price irrespective of what they offered, and all buyers pay the same price irrespective of their bid. Pay-as-cleared implies that the last power plant that is needed to meet demand sets the price for all transactions (marginal pricing). If this were not the case, market players might choose to offer/bid differently from their marginal-cost/willingness-to-pay, leading to inefficient dispatch[3].

Box 1: Crisis in energy markets

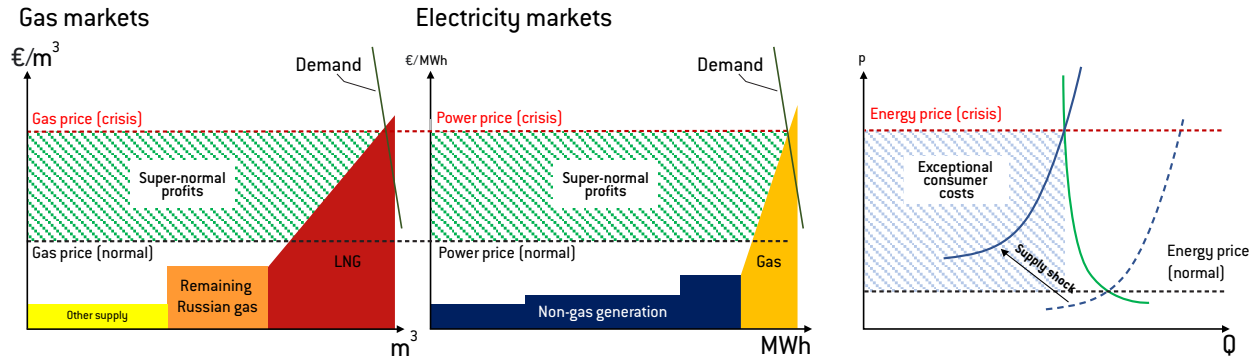
Figure 3 illustrates the crisis in the energy markets caused by rapidly increasing wholesale energy prices. The left and centre panels show how wholesale prices for gas and electricity are determined by the cost of the most expensive form of energy supply that is traded to meet short-run demand (the marginal cost). In the electricity market, this is often electricity produced by gas; in the gas market, it is expensive imported LNG, because home-produced gas and gas imported through pipelines are insufficient to satisfy demand after the 80 per-cent reduction in imports from Russia.

The extreme prices caused by the extreme reduction in gas supply have also led to very high profits for the producers of energy from cheaper ('inframarginal') sources, such as wind power. The right-hand panel shows why prices are both very high and volatile. After the supply curve has shifted left, demand intersects with supply in an area of the demand curve that is very steep. As a result, small shifts in the supply curve to the left or right lead to very large

3 Consider, for example, a market in which sellers offering electricity below the market-clearing offer received their offer price while buyers pay the average price. In that case, owners of expensive power plants could try to game the outcome by acting on both sides of the market: Offering their power generation at high prices and at the same time bidding for electricity. They might then fulfill their delivery obligation by buying electricity at the lower average price and selling it at the high offer price.

swings in prices. Proposals currently under consideration to reduce exceptional energy costs faced by consumers seek to tax or cap excess profits and use the revenues to reduce energy bills.

Figure 3: Addressing the crisis in the energy markets



Source: Bruegel.

Electricity spot prices are in turn an important signal for the optimal dispatch of power plants in the European electricity system; they also serve as the benchmark for settling futures contracts. Hence, while the current high prices in the spot market affect only market participants that did not previously lock-in lower prices[4], expected high spot prices next year have led to increases in futures prices.

It might be argued that very high prices and high price volatility in the wholesale gas and electricity markets are transitory, because electricity and gas demand can be reduced over the longer term and markets will therefore soon find a new equilibrium at lower prices. However, what happens in the short term is crucial. High energy prices dent household purchasing power and industry competitiveness, as well as fostering inflation. The capacity of government budgets to soften the impact on consumers is limited by the magnitude of existing debt and the volume of the price increases. If governments were to fully cover the cost of a €100/MWh price increase for gas and a €200/MWh price increase for electricity, it would cost about €1 trillion, or about 6 percent of EU GDP. Moreover, wild energy price swings and prices much higher than those at which risk models were calibrated over past decades raise financial-stability concerns.

Policymakers must therefore find a solution to the problem and consequently prevent a severe recession. If no joint European solution can be found, EU countries might decide to go beyond measures taken so far and move towards much more intrusive measures that could undermine the integrity of the single market.

4 Bloomberg data suggests that utilities such as Engie and CEZ sold about 70 percent of their 2023 production already before July 2022 (according to this data, Verbund, Austria's largest energy provider, sold only 42 percent).

3 Principles against which to assess proposed interventions

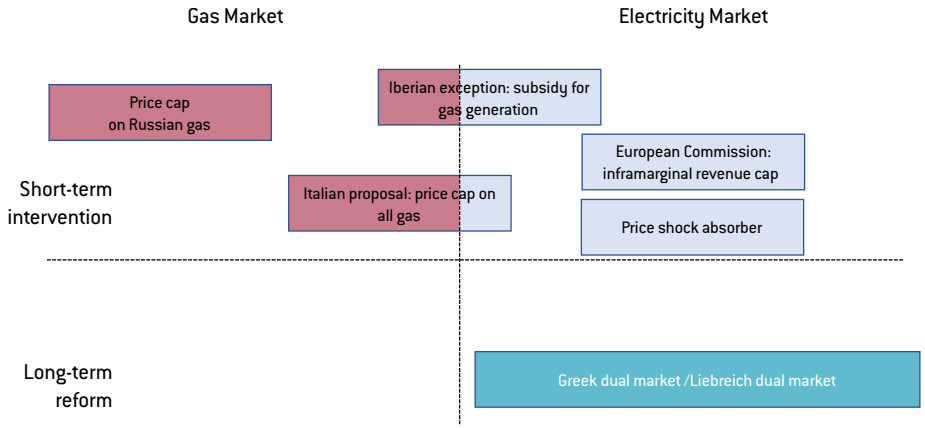
Several proposals have been made on intervening in markets to moderate prices. Any intervention should respect three principles:

- First, energy supply should meet demand at prices that do not cause major damage to the European economy. Interventions should not jeopardise security of supply by causing a mismatch between supply and demand. A situation in which system operators have to cut consumption would be chaotic, especially in the transnational European energy system.
- Second, protect the most vulnerable consumers. The primary aim is to reduce the energy cost for buyers. A critical question is how benefits should be allocated to different types of consumers (industry, rich/poor households) in different countries. A related question is which sellers (Russia or other gas exporters, European gas companies, selected types of electricity producers or companies that locked in low costs), and in which countries, should accept lower revenues.
- Third, intervention should be consistent with the case for investment in a sustainable energy system, to safeguard Europe's ability to decouple structurally from fossil-fuel imports. *Ad-hoc* market intervention in the cash flows of energy companies today will be reflected in the capital cost of future investment. If intervention is perceived as unduly aggressive, it will become very difficult to mobilise private capital at acceptable cost for the low-carbon transition.

Of course, the effectiveness and distributional impacts of any proposal to intervene in markets will depend on the specific details. For example, the level of a price cap, or the treatment of balancing markets can alter dramatically the outcomes of a general concept. For most proposals that have been made, specific details are not readily available at this stage, and this must be taken into account when evaluating those proposals.

We assess seven proposals for intervention, including proposals made by the European Commission and some national governments. They can be classified in terms of their timing and in terms of the market they seek to influence (Figure 4). Emergency interventions to reduce gas and electricity prices are short-term, while proposals to restructure the electricity markets would be long-term reforms. Proposals to reduce the gas price also affect electricity markets as gas-fired plants frequently set the marginal price in current electricity market design.

Figure 4: Energy market intervention proposals



Source: Bruegel.

3.1 The European Commission proposal

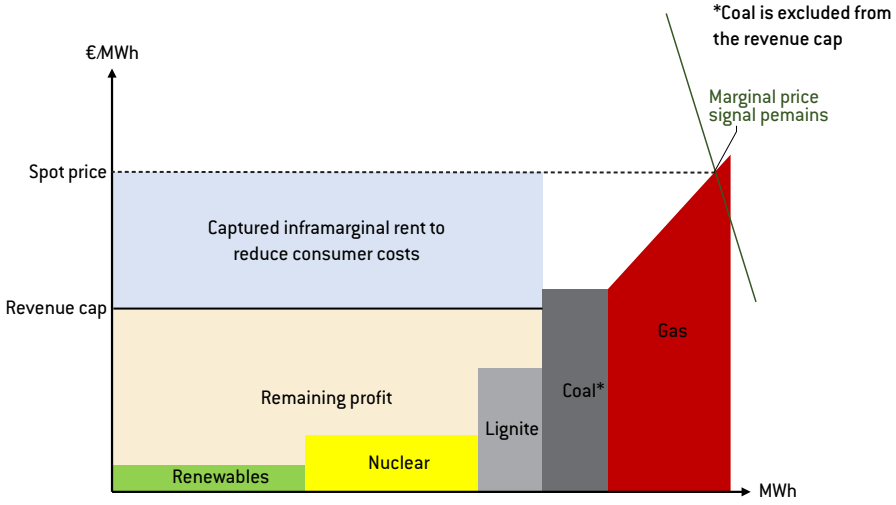
On 14 September 2022, the European Commission proposed a regulation "*on an emergency intervention to address high energy prices*" (European Commission, 2022). It rests on four main pillars: coordinated electricity demand reduction, a revenue cap for inframarginal generation (with the exception of coal), a "*solidarity contribution*" from fossil-fuel companies, and consumer support measures. At the core of the proposal is the electricity demand reduction plan, which proposes a mandatory 5 percent peak hour electricity demand reduction, together with a cap on the revenues non-gas generators (excluding coal) can earn in the electricity markets. Revenues above the cap would be used to support vulnerable consumers. The proposed cap is €180/MWh, intended to balance recovery of excess revenues with the need to provide a continued investment case for renewable generation.

A major advantage of the proposal is it would retain the price signal for demand reduction because consumers would continue to pay the marginal price for electricity. Signals for efficient cross-border exchange – preventing local energy shortages and/or locally extreme prices – would also remain. Policymakers would be free to choose which consumers they would support, and how exactly they would be supported (eg through direct income support or reduction of levies charged on energy bills).

Given differences in the electricity mix in different countries, the adequacy of this support will depend on whether revenues are collected and distributed to consumers at national or EU level. Countries with little inframarginal production, such as coal and gas-reliant Poland, will not be able to generate much revenue. Therefore, to offer Polish consumers the same protection as consumers in countries where significant revenues could be raised, there would need to be transfers from revenue-rich countries to consumers in revenue-poor countries.

One potential problem, as shown by previous experiences with similar measures (eg in Italy), is the difficulty of capturing inframarginal rents. The main challenge is dealing with forward contracts, which underlie much of the transactions in European electricity markets. The European Commission proposal states that the revenue cap should be on realised market revenues only. If contractual obligations related to power purchase agreements or forward hedges resulted in market revenues below the cap, they would not be affected by the measure. As it stands, there are scant details on how this key element of the measure might be implemented technically. As the emergency measures are further developed, consideration should therefore be given to relationship between spot-market interventions and forward contracts.

Figure 5: Illustration of the European Commission proposal



Source: Bruegel.

The German government[5] has proposed to implement domestically the European Commission's proposal (if agreed at EU level) through a levy on electricity producers. Administratively, this would organised by 'inverting' the existing renewables support scheme. The revenues should help to finance a €65 billion relief package to support consumers during the energy crisis (which, if added to previous measures, would bring the German's government fiscal intervention in this area to €120 billion since September 2021).

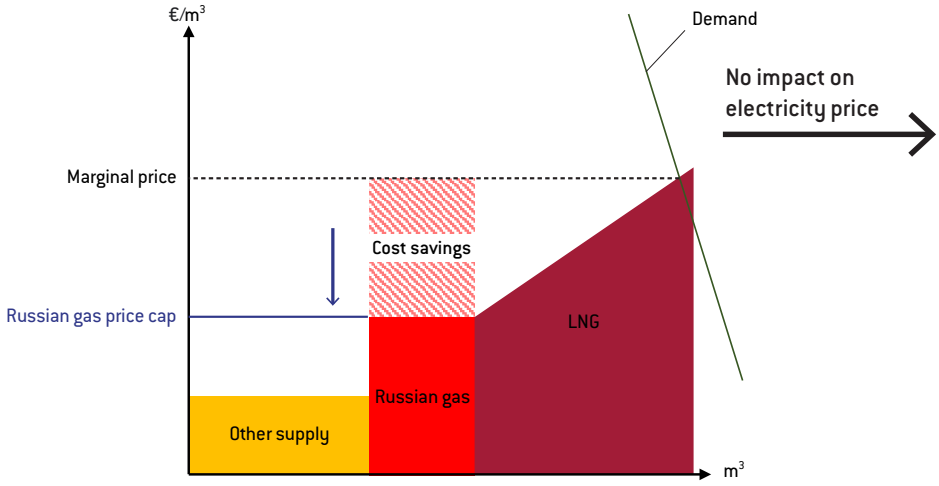
3.2 Gas price cap proposals

Gas price caps have been intensely debated over the last months. Different versions of gas price caps have been proposed.

One version, floated by European Commission president Ursula von der Leyen[6] but not part of the European Commission proposal covered in section 3.1, is a price cap on Russian gas only[7]. This measure would represent a semi-sanction on Russia and would be aimed at cutting Putin's gas rent while lowering the cost of Russian gas supplies to Europe. However, since Russia has already cut its gas supplies to Europe by 80 percent, this measure might not be as impactful as it could have been some months ago. If the Nord Stream pipeline were re-opened and overall flows increased again, the measure would lead to significant cost savings for Europe. How those gains would be distributed would depend on how the price cap is engineered. For example, permitting only a European public entity to buy gas from Russia might make it easy to capture the rent and distribute it as politically desired.

However, the cap may not result in lower wholesale prices. If Russia reacts by fully cutting supplies, EU countries that still rely on the flows would be worse off and the wholesale price in Europe might increase further. This is why those EU countries oppose the measure.

Figure 6: Illustration of a price cap on Russian gas



Source: Bruegel.

These arguments do not imply that the EU should not attempt to lower the price at which gas is supplied externally. It makes sense to attempt to pool the market power of EU members by acting as a single buyer (McWilliams *et al*, 2022). But at the same time, the EU needs to engage collaboratively with friendly or politically-neutral external gas suppliers. While the EU needs to secure gas at

5 See the 3 September 2022 agreement between the coalition government: https://www.bundesfinanzministerium.de/Content/DE/Downloads/Schlaglichter/Entlastungen/ergebnispapier-des-koalitionsausschusses.pdf?__blob=publicationFile&v=4.

6 Kate Abnett, 'EU to propose price cap on Russian gas, von der Leyen says', *Reuters*, 7 September 2022, https://www.reuters.com/business/energy/eu-propose-price-cap-russian-gas-von-der-leyen-says-2022-09-07/.

7 Martin and Weder di Mauro (2022), among others, have also made such proposals.

a reasonable price, gas suppliers need long-term market visibility to better plan their investments. The EU must prepare to live with very low or zero Russian supplies, entailing the replacement of most of the 150 bcm per year that Russia previously exported to Europe. The EU has a chance to pool this demand and to negotiate long-term, secure and affordable contracts with its main suppliers. While it is unlikely that Europe will organise joint purchasing of gas anytime soon, it could be the occasion to use the EU Energy Platform – established in April 2022[8] – to better coordinate Europe's position (Boltz *et al*, 2022). A first step is to set up a dedicated EU-Norway task-force[9].

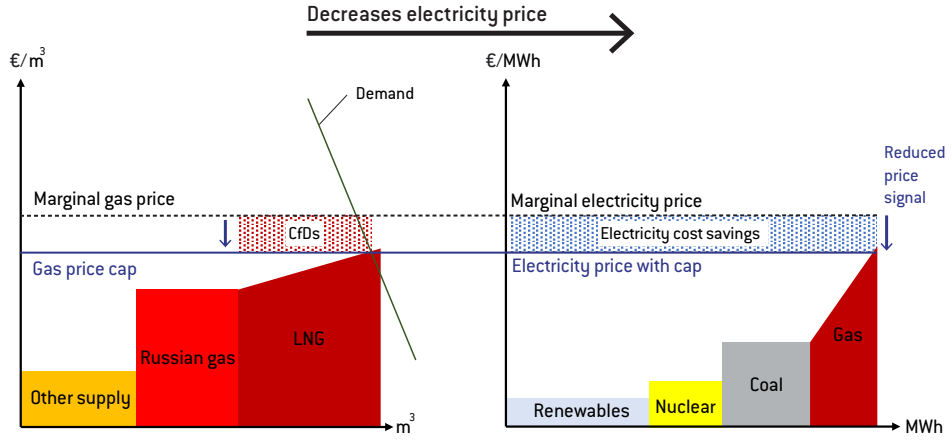
A second gas price cap proposal, reportedly championed by Italy[10], would be to place a cap on all physical and financial transactions at Europe's gas hubs, including the Dutch Title Transfer Facility (TTF) – Europe's primary gas trading hub – and on over-the-counter (OTC) trading and exchanges (for similar proposals, see Neuhoff, 2022, and Conti and Pototschnig, 2022). Such a cap would apply to many longer-term contracts – including those with Gazprom – that are indexed to the TTF. To ensure the cap does not compromise Europe's ability to attract LNG, the proposal envisages a contract-for-difference (CfD) mechanism that would return to importers the difference between the international price and the price cap – with resources from the EU budget. This would result in lower wholesale gas prices and thus lower electricity prices. Moreover, lower prices and lower volatility might reduce margin requirements for futures contracts, reducing the liquidity needs of energy companies. Taxpayers would have to pay for the CfDs, but should be more than paid back by lower prices and hence lower subsidies.

There are two main problems with this proposal. The first relates to implementation and the second is more fundamental.

On implementation, there is a risk that trading at the capped trading hub will dry out, as sellers might prefer to offer their gas over-the-counter at higher prices. While the proposal seeks to cap the whole market, capping OTC trading would be much more difficult than capping hubs such as the TTF, where a technical cap already exists.

Second, from the perspective of preventing energy shortages, the proposal may prove counterproductive. Demand for gas and electricity will increase if prices are substantially capped. Foreign sellers (especially Russia) might push back against the cap, reducing or stopping supply. Foreign LNG buyers (eg Japan) might react by also subsidising LNG imports with CfDs to protect their consumers, leading to higher competing demand from outside the EU. Demand would then outpace supply and rationing would be required to rebalance the market.

Figure 7: Illustration of the Italian proposal to cap the price of gas



Source: Bruegel.

8 See https://energy.ec.europa.eu/topics/energy-security/eu-energy-platform_en.

9 The European Commission and Norway will establish a taskforce; see https://ec.europa.eu/commission/presscorner/detail/ov/speech_22_5493.

10 *Reuters*, 'Italy proposes any gas price cap should be applied in all EU hubs', 7 September 2022, https://www.reuters.com/article/ukraine-crisis-eu-energy-idINL8N30E54D.

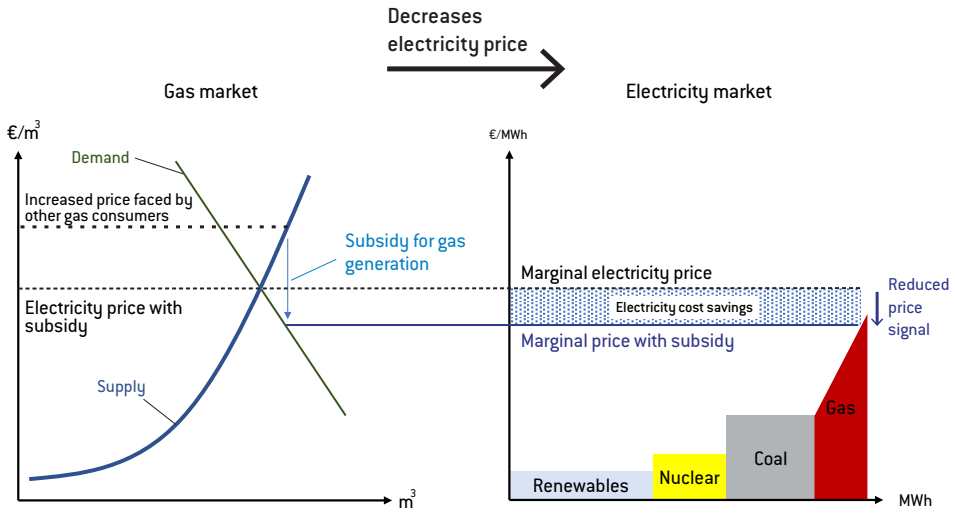
A third type of cap, the so-called 'Iberian exception'[11] adopted in Spain and Portugal since June 2022, is a cap on the price of gas used for electricity generation. This effectively caps the electricity price in periods when gas-fired power plants are the marginal generator. While the measure is in theory financed by a charge on the electricity producers that benefit from the measure, the costs of capping the fuel price are substantial and may ultimately require a public subsidy.

The Iberian exception has been effective in containing wholesale electricity costs in Spain and Portugal. However, it suffers from two problems.

First, analysis has shown that the Iberian exception has incentivised gas burn during a gas supply crisis (Eicke *et al*, 2022). As a result, a broad application of the Iberian approach to the EU would likely increase gas prices, to the detriment of industrial consumers that use gas directly rather than via electricity. As electricity-intensive and gas-intensive industries are distributed unevenly throughout the EU, the mechanism would also have distributional consequences between member states.

The second problem is that the Iberian approach could lead to the export of subsidised electricity to countries that are not paying for the subsidy. Within the EU, this problem could be somewhat mitigated if all member states jointly subsidised the gas. However, a cap that leads to the export of substantial amounts of subsidised electricity outside the EU (for example, to the UK) would unlikely be politically palatable.

Figure 8: Illustration of the impact of the Spanish and Portuguese energy market intervention



Source: Bruegel.

3.3 Price shock absorber proposal

Another price-cap related proposal is a "*price shock absorber*", proposed by Hogan *et al* (2022). The shock absorber would be triggered if the accumulated inframarginal rent for a basket of zero-carbon resources reaches a pre-determined multiple of the levelised cost of electricity of those resources[12]. A cap is then placed on the wholesale electricity price for a given period, say, a month. Gas generators would continue to bid at their marginal cost and would recover excess operating costs above the price cap from the system operator. Existing scarcity price

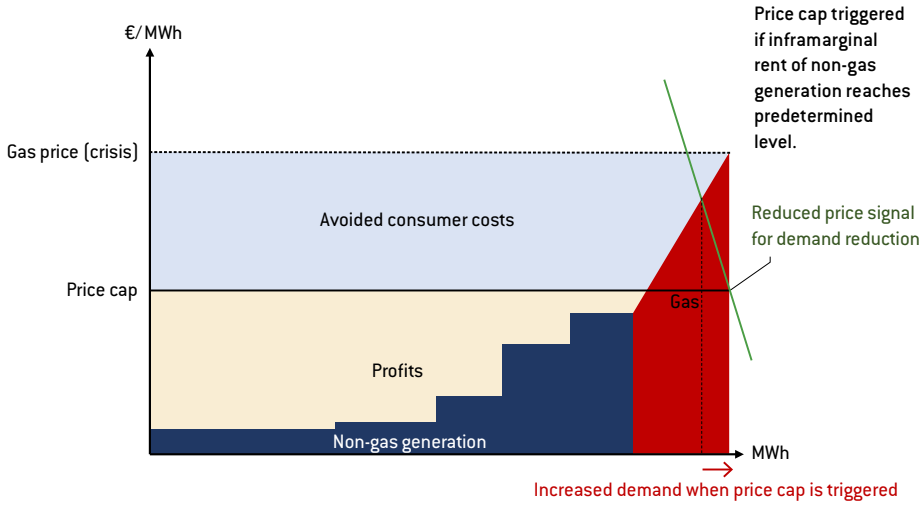
11 Fernando Heller, 'EU Commission approves Spanish-Portuguese plan to cap gas prices', *Euractiv*, 10 May 2022, https://www.euractiv.com/section/energy-environment/news/eu-commission-approves-spanish-portuguese-plan-to-cap-gas-prices/.

12 The LCOE is a measure of the net present cost of an electricity generation asset over its lifetime.

mechanisms would remain in place[13].

Similarly to the Spanish intervention, it is likely that this proposal would lead to higher consumption of electricity and gas (as the marginal resource), amplifying the energy crisis. Furthermore, the trigger mechanism might invite gaming – eg buying and storing gas to trigger the mechanism, and selling the gas after the cap kicks in and higher gas demand from higher gas-burn in powerplants pushes up gas prices.

Figure 9: Illustration of the price shock absorber proposal



Source: Bruegel.

3.4 Dual market proposals

Measures to segment energy markets have also been proposed in response to the crisis. The main issue with these proposals is that they are highly unlikely to be implemented in time to manage the crisis during winter 2022-23 as they represent a fundamental restructuring of the European electricity markets. Nevertheless, they are worth discussing briefly. Dual market proposals will be further discussed when long-term reform of the electricity market takes centre stage.

A proposal from the Greek government would split the wholesale market into resources that run when available (wind and solar, nuclear and fossil-fuel cogeneration) and resources that operate on demand (thermal generation, demand response and some hydropower) (Council of the European Union, 2022). Power in the *when-available* segment would be remunerated via long-term contracts, mainly private bilateral contracts, complemented by centralised auctions. The *on-demand* segment would continue to compete in a short-term spot market to meet the residual demand, revealing the marginal system cost. During periods with scarce energy supply, the price in the *on-demand* segment would rise to meet market demand, providing a signal for efficient cross-border electricity trade. The price faced by consumers would be a weighted average of the contract price for *when-available* resources and the market clearing price of *on-demand* resources.

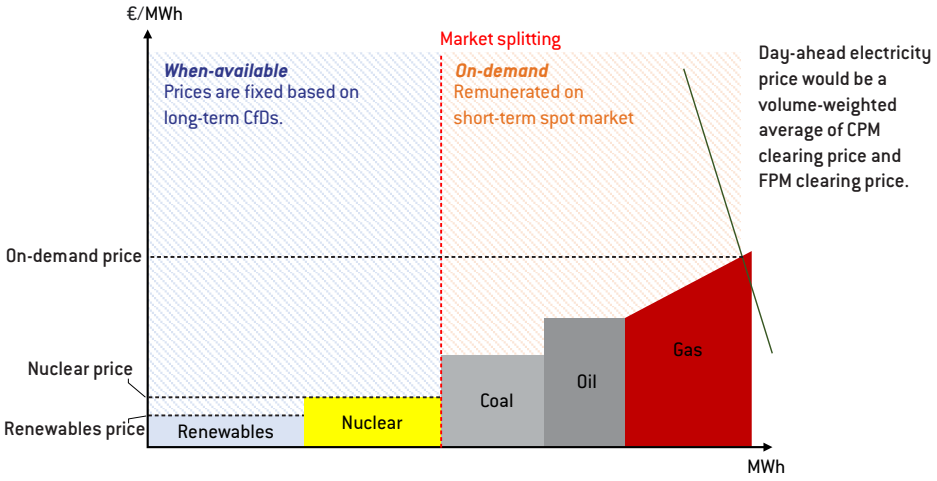
This radical proposal would have profound implications for how electricity generation is contracted and remunerated in the European market. As there is no market clearing price for the *when-available* resources, investors cannot expect to earn higher revenues from spot markets and would thus enter bilateral longer-term contracts to obtain project financing. The

13 For example, in the Single Electricity Market on the island of Ireland, an increasing price floor for the balancing market is administered if capacity reserves fall below predetermined levels. Presumably, price floors would override the price cap during periods of scarcity.

proposal is motivated by the fact that these contracts will likely be signed at a lower price – closer to the marginal cost of the *when-available* resources – than the marginal spot market price, and therefore consumers would be able to better access the average cost of electricity.

In addition to being too fundamental a change to be implemented in time to address the present emergency, other issues with this dual-markets proposal will need to be resolved to make it fully workable. For example, *when-available* long-term contracts provide no short-term dispatch signals, creating an incentive for those resources to generate even at times that are not beneficial for the system. As currently formulated, the measure would dilute the price signal for demand response to scarcity events. The proposal does not specify how ancillary services would be remunerated, as well signals for low-carbon flexibility[14]. Mandating existing generators to enter long-term contracts would lead to legal challenges[15] (Maurer *et al*, 2022).

Figure 10: Illustration of the Greek market splitting proposal



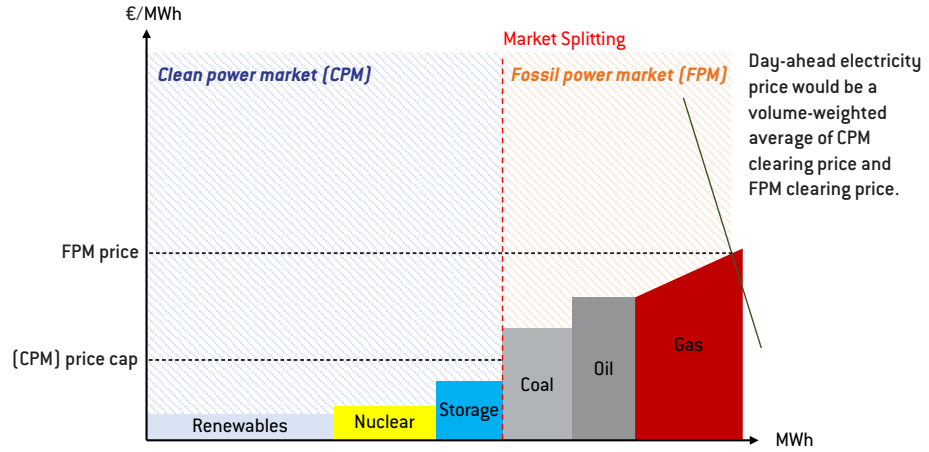
Source: Bruegel.

Michael Liebreich, a UK-based energy analyst, has put forward a different dual-market proposal (Liebreich, 2022). This approach would create a clean power market (CPM) for renewables and a fossil power market (FPM) for conventional generation. In contrast to the Greek proposal, the CPM would still work as a spot market, but with a price cap. The FPM would operate in the same way as current wholesale spot markets, with the price typically set by the marginal gas generator. The price paid by energy purchasers in these markets would be a weighted average of the CPM clearing price and the FPM clearing price. Market splitting in this way would allow consumers to access the cost savings of renewables while still allowing clean technology to compete with fossil fuels in the production of electricity on the spot market. Signals for demand reduction and cross-border trading would remain to a certain degree because the price would rise during periods of scarcity of energy supply, as the higher-priced FPM would meet a larger share of the total power demand. Like the Greek dual-market proposal, the Liebreich proposal would amount to a structural redesign of European electricity markets and so will not be implemented in time to address the ongoing energy crisis. Dual markets will require thorough analysis when the policy debate switches focus to long-term energy-market reform.

14 Ancillary services can include frequency control, voltage control and blackout restoration, for example, while flexibility can be provided by storage and batteries as well as thermal generation.

15 Christoph Maurer, Ingmar Schlecht and Lion Hirth, 'The Greek market design proposal would be the end of electricity markets as we know them', *Euractiv*, 28 July 2022, https://www.euractiv.com/section/electricity/opinion/the-greek-market-design-proposal-would-be-the-end-of-electricity-markets-as-we-know-them/.

Figure 11: Illustration of the proposal to split the UK electricity market



Source: Bruegel.

4 Responding to the crisis beyond emergency market interventions

Among the seven proposals, the European Commission's seems to achieve the best balance between protecting vulnerable consumers, retaining essential market signals, and – most importantly – prioritising demand reduction. Reduction of demand for both electricity and gas is indeed the critical element to solve the supply-and-demand mismatch problem, and will push down prices more effectively than any price cap.

While the European Commission goes in the right direction, we think that a more substantial and coordinated approach is required, which would address both the supply and demand sides (McWilliams *et al*, 2022). This would involve a grand bargain in which countries agree to bring forward all available supply-side flexibility, commit to gas and electricity demand reduction, maintain cross-border trades in energy markets and, crucially, pool demand to strike a better deal for external gas supplies. Combined with the measures developed by the European Commission, such a grand bargain would help the EU navigate the immense challenge of the energy crisis, while avoiding risky emergency intervention that might be counterproductive in terms of demand and have unintended long-term consequences for the functioning of energy markets in normal times.

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