

## Why Europe must cap Russian gas prices instead of reducing demand by 15%

### Executive Summary

- The interruptions of Russian gas flows on Nord Stream 1 shifted the mainstream policy approach in Europe overnight: if in June the discussion was about imposing a sanction on the Kremlin by capping import prices for Russian gas, currently various EU stakeholders are only considering the possibility of a complete halt of Russian gas flows by the Kremlin.
- In reality, Gazprom cannot stop the physical flows of gas to the EU at any time this year: it has limited flexibility to reduce production, store, export elsewhere or consume domestically the gas that is not shipped to the EU.
- Therefore, this paper argues that the EU should cap the Russian gas prices in order to stabilize its markets.
- This solution would at the same time solve other major policy challenges to keep energy prices in check in winter, e.g. without unnecessary, detrimental amendments to the electricity market model. The current discussion of decoupling the electricity prices from gas prices would be redundant; while the change of the current model (marginal pricing) puts in danger the EU's transition to "net-zero by 2050".
- A price cap sanction is also more politically feasible than a 15% reduction of gas demand that is planned now and comes with major incentives for defection.
- Given the practical restrictions, the option for the Kremlin to respond would not be to cut all gas supplies to Europe, but rather to inflict as much pain as possible to individual countries and seed division.
- To avoid this, a simple solidarity clause must be put in place: if Gazprom cuts deliveries to one country, all EU members make up for the shortfall.
- The plan proposed here – to introduce a price cap on Russian gas as sanction on Russia – is not in any way novel or original: it was the mainstream thinking in Brussels before the disruptions of gas supplies on Nord Stream 1 in July.

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**Why Europe must cap Russian gas prices instead of reducing demand by 15%****Introduction**

In May-June, the European Commission was investigating the option to impose an EU-wide gas price cap for imports of Russian gas.<sup>1</sup> Capping the prices for Russian gas was viewed at the time as the logical next step to curb Russia's revenues and ability to finance its illegal war, following the oil embargo that had just been adopted as a sanction. At the beginning of July, however, this option went off the table. The change of mind took place immediately after Gazprom curtailed gas supplies to Germany on the Nord Stream 1 pipeline, on the pretext of regular maintenance,<sup>2</sup> though the quantities could have easily been delivered via the older Ukrainian route. The delays in resuming supply, Gazprom's request for derogations from sanctions to ensure a speedy repair of the then missing turbine<sup>3</sup>, and the overall confusion sent Germany and the entire EU in a frenzy, as if expecting Russia to fully cut supplies at any given moment. The latest EU proposal, agreed upon on July 26, is that EU member states will voluntarily reduce their gas consumption by 15% over the next months, or mandatorily in a situation of emergency. However, in reality, Gazprom would practically not be able to cut the EU's gas. The real urgency is thus to return to the previous sensible conversation about a price cap for Russian gas.

This paper is divided into three subsections. First, it is argued that this recent shift of policy is based on a faulty assumption that Russia can just turn off the tap tomorrow for all EU countries, just as it has reduced its flows on Nord Stream 1 in the past weeks. In reality, Gazprom cannot stop the physical flows of gas to the EU at any time this year: it has limited flexibility to reduce production, store, export elsewhere or consume domestically the gas that is not shipped to the EU. Second, it is explained why a price cap sanction is more politically feasible than a 15% reduction of gas demand. A coherent EU policy on Russian gas requires strong cohesion of all EU stakeholders, more likely to happen if the individual incentives to cooperate are significantly greater than the incentives to defect. This is precisely the structure of incentives already built in

a policy of sanctioning Russia by a price cap on gas imports, and not the case of the 15% reduction of demand. Third, in conclusion, the recommendation to impose a sanction capping Russian gas prices is not even ground-breaking: it is simply a return to the mainstream thinking prior to July 2022. The measure only needs to be coupled with the already existing solidarity mechanism which would likely not even have to be activated. The benefits of this course for the EU – from slashing the Kremlin's revenues to reducing gas prices for EU consumers – were evident in June precisely to the same decision-makers who have meanwhile changed their minds, and Europe should not let misguided panic and the Kremlin's bluff of these past weeks shift it off-course.

**1. The physical constraints**

If the discussions in spring were about the EU possibly enforcing a total ban on imports of Russian gas,<sup>4</sup> or later about the proposal for a price cap on Russian gas,<sup>5</sup> since the shutdown of supplies to Germany via Nord Stream 1 in July the public mood has changed dramatically. Since July, there is virtually no media article, no public position of officials or stakeholders in Europe that does not start from the implicit assumption that Russia could permanently shut down all gas supplies to the EU for the rest of the year, with apocalyptic consequences for EU consumers, be they household or industrial. Somehow, everybody moved on from the rational calculus that Europe can wean itself off from Russian gas even in the short run (costly, but bearable) to a total panic that it is Russia, not Europe, who is calling the shots on the EU's survival during winter. The shift happened within a few days or weeks; even more astonishingly, this is happening as the EU's energy security is steadily improving, with gas storages filling rapidly.<sup>6</sup> There has been no in-depth analysis in the past weeks, no evidence-based judgement to justify such change in such a short time.

The main incorrect assumption that trashed the EU's latest idea of the price cap on Russian gas was that

1 Reuters (May 2022), "EU Commission has been given mandate to examine gas price cap – Italy PM", available at <https://www.reuters.com/article/ukraine-crisis-eu-draghi-idINR1N2WCo1E>

2 BBC (July 27, 2022), "Nord Stream 1: Why is Russia cutting gas supplies to Europe?", available at <https://www.bbc.com/news/world-europe-60131520>

3 BBC (August 3, 2022), "Nord Stream 1: The 12-metre turbine threatening Europe's gas supply", available at <https://www.bbc.com/news/world-europe-62408993>

4 Discussed at length, but in the end not successful because of opposition of countries such as Hungary. Euractiv (May 2022), "EU leaders downplay chances of rapid Russian gas ban", available at <https://www.euractiv.com/section/energy/news/eu-leaders-downplay-chances-of-rapid-russian-gas-ban/>

5 Euronews (June 2022): "Italy's Draghi Calls for EU Price Cap on Russian Gas", available at <https://www.euronews.com/next/2022/08/24/ukraine-crisis-italy-gas>

6 Currently (August 22), EU gas storage is close to 78% full, compared to a target of over 80% by end of the injection season at end-September. The EU will probably be well above target, more likely above 90%. Data from the Aggregated Gas Storage Inventory, available at <https://agsi.gie.eu/>

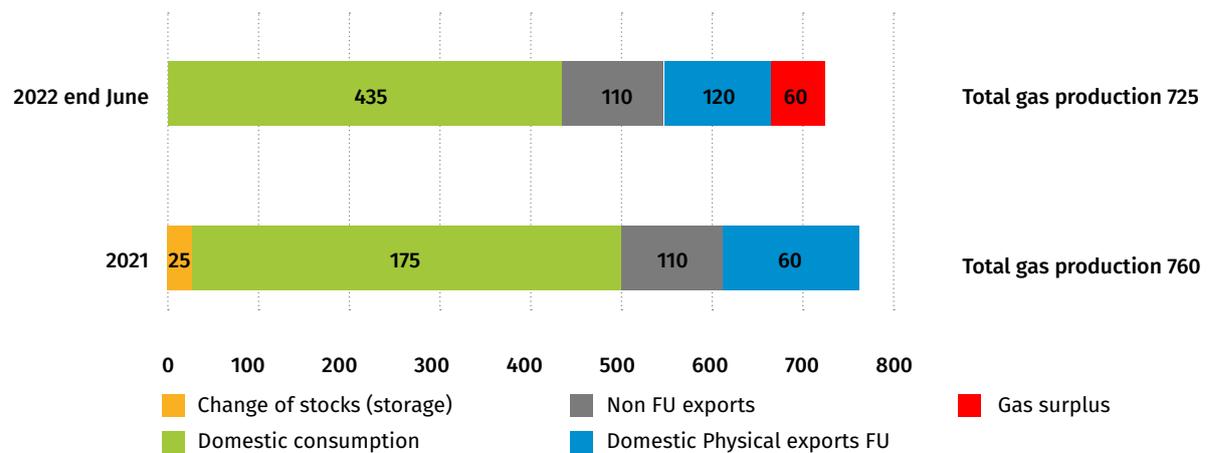
## Why Europe must cap Russian gas prices instead of reducing demand by 15%

Russia suddenly has unlimited options and flexibility to cut supplies to Europe. Europeans also focus excessively on the EU's dependence on Russian gas imports ("40% in 2021", though this has already been reduced to half in 2022), but forget that in the same year Russia and in particular Gazprom was even more dependent on the EU, which represented 30% of its production and 70% of its exports.<sup>7</sup>

In part, this miscalculation concerning Gazprom's flexibility is also because Russia has kept secret much

of the information that was publicly available before the invasion of Ukraine in February, while whatever statistics it publishes now must be taken with a grain of salt.<sup>8</sup> But this does not mean that we cannot make reasonable assumptions based on what we know from previous years about Russia's gas profile. Gas production has limited flexibility: whatever is produced must be either consumed, exported or stored. A simple calculation gives us at least 60 bcm of excess gas quantities that Russia needs significant efforts to find a solution for.

Figure 1. Production, use and alternative exports for Russian gas (simplified)



For 2021, we know that Russia's total gas production was just over 760 bcm.<sup>9</sup> Given the cold spring, Russia started the beginning of the storage season (end of spring 2021) with a historical minimum of 15 bcm stored gas, compared to 40 bcm in a regular year,<sup>10</sup> hence it had 25 bcm spare storage capacity that it used to curb the pipeline exports to the EU in the second

half of the year, with the pretext of prioritizing filling its own domestic storage first to 72.7 bcm.<sup>11</sup> It consumed 475 bcm, for industry and households and exported 110 bcm, via pipeline and LNG (liquefied natural gas), to non-EU countries: 30 bcm to Belarus and Kazakhstan,<sup>12</sup> 30 bcm to Turkey and 10 bcm to China by pipeline; and 40 bcm by LNG.<sup>13</sup>

7 Kardas, S. (2022): "Russia: the major gas sector indices of 2021", available at <https://www.osw.waw.pl/en/publikacje/analyses/2022-01-27/russia-major-gas-sector-indices-2021>

8 It is rather unbelievable that EU media and stakeholders also take at face value, without even mentioning the source, the official statistics published by Gazprom on actual gas production. E.g. it was Gazprom who originally announced a reduction of output by 13% over January-August 2022 compared to the similar period of 2021 – see AA Energy (August 16, 2022): "Gazprom's Jan-Aug 2022 gas production, export volumes fall", available at <https://www.aa.com.tr/en/energy/natural-gas/gazproms-jan-aug-2022-gas-production-export-volumes-fall/36055>, a figure that was largely spread by Western media as an objective fact. Gazprom's statement that prices would exceed 4000 USD/1000 cubic meter benefitted the same coverage. In the middle of a war, this may not be the wisest strategy.

9 Kardas, S. (2022): "Russia: the major gas sector indices of 2021", available at <https://www.osw.waw.pl/en/publikacje/analyses/2022-01-27/russia-major-gas-sector-indices-2021>

10 Marzec-Manser, T. (2022). "ICIS Analyst View: Gazprom's inability to supply or unwillingness to deliver?", available at <https://www.icis.com/explore/resources/news/2021/08/13/10674080/icis-analyst-view-gazprom-s-inability-to-%2520supply-or-unwillingness-to-deliver/>

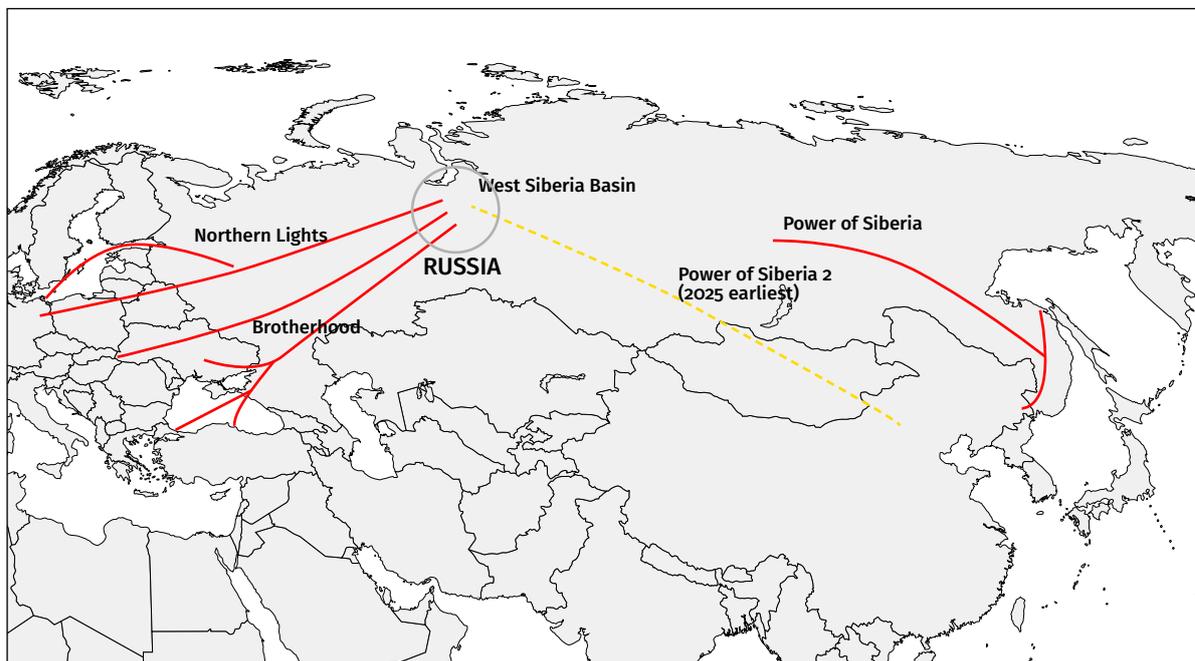
11 SPGLOBAL (2022), "Gazprom aims to fill Russian gas storage sites to 72.662 Bcm ahead of winter", available at <https://www.spglobal.com/commodityinsights/en/market-insights/latest-news/natural-gas/042222-gazprom-aims-to-fill-russian-gas-storage-sites-to-72662-bcm-ahead-of-winter>

12 Horton, J., Palumbo, D., BBC (2022), "Russia sanctions: Can the world cope without its oil and gas?", available at <https://www.bbc.com/news/58888451>

13 Tsafos, N. (May 2022). "Can Russia Execute a Gas Pivot to Asia?", available at <https://www.csis.org/analysis/can-russia-execute-gas-pivot-asia>

## Why Europe must cap Russian gas prices instead of reducing demand by 15%

Figure 2. Russian gas routes



Note: The “gas pivot” to China, before the Power of Siberia 2 is built, means increasing production in South-East, not West, Siberia where the gas wells supplying Europe and most of the Russian gas storage are located. In the meanwhile, Gazprom would remain with excessive gas production even if it tried to increase exports to China.

What do we know for 2022? First, Russia (and Gazprom) indeed has some flexibility on production. We can expect it to be about 5–7%, as this was the reduction of Gazprom’s production during the pandemic, when it had objective reasons to reduce and little reason to lie about the figures. One can even expect Gazprom to have slightly higher flexibility, as the drop of demand currently is much higher than could be “tested” during the pandemic. However, it can definitely not be the “36% output reduction” announced in July year-on-year: this is more than the reduction of Ukraine’s own gas production, and one should bear in mind that in Ukraine significant infrastructure has been blown up in wartime.<sup>14</sup>

This is because shutting down gas production is generally not an easy task. Each well, regardless of whether the closure is temporary or permanent, needs to be sealed with cement and monitored carefully for leaks,<sup>15</sup> which requires effort and financial resources. This is not only out of environmental concerns, but to ensure that production can be resumed later at the

same site if the closure is meant to be temporary as in our case, and even for basic safety of the fields, e.g. to prevent pressure build up, cross flows or gas migration. In West Siberia alone, from where Russia supplies gas to Europe, there are some 12,000 wells.<sup>16</sup> Also, one can assume that the 5–7% flexibility of production observed during the pandemic consists of the natural decline of production in depleting gas wells by simply not undertaking new investments, plus the “lowest hanging fruit” – the capacities that are easiest to shut down, e.g. for regular maintenance. But this means that each additional closure, particularly if Gazprom intends to ever resume production, requires ever increasing marginal costs.

Despite Putin’s rhetoric, the “pivot to Asia” (mainly exports to China) remains modest at 10–15 bcm, less than 10% of Russia’s exports to the EU – the increase of non-EU exports this year is minimal. Such exports currently concern gas extracted from completely different fields than those supplying Europe and the pipeline is also not very well connected to Russia’s

14 EXPRO (August 2022), “Gazprom Reduced Gas Supplies to Europe by a Third in 7 Months”, available at <https://expro.com/ua/en/tidings/gazprom-reduced-gas-supplies-to-europe-by-a-third-in-7-months-of-2022>

15 See, for example, typical guidelines on well abandonment (permanent vs. temporary), such as available at <https://www.oisd.gov/in/Image/GetDocumentAttachmentByID?documentID=121>

16 Amaro, S. “George Soros says Russia’s gas storage is almost full – and Europe should hold its nerve”, CNBC (May 2022), available at <https://www.cnbc.com/2022/05/26/putin-george-soros-says-russia-is-blackmailing-europe-with-gas.html>

### Why Europe must cap Russian gas prices instead of reducing demand by 15%

storage, see Figure 2. Hence the much-touted increase of exports to China for now means extraction from new deposits and does not take away the pressure on Gazprom to reduce production in the West Siberian basin if supplies to the EU are halted. An additional pipeline (Power of Siberia 2) would be needed to tap into the deposits in West Siberia used for European consumption: however, the construction of this pipeline has not even started. It would be finalized at the earliest in 2025, and its completion is uncertain under sanctions and China's apparent loss of interest.<sup>17</sup> Possibly, Russia may try to increase some of the exports to Turkey if the EU consumes less from TurkStream. But this would require repurposing the 15 bcm TurkStream pipeline which now supplies Europe and connecting it to the Turkish grid. This means several months of work and the remaining supplies by the end of 2021, if any, would be negligible. **Adding up, it is simply impossible to redirect relevant quantities of excess gas by significantly increasing exports to non-EU countries by the end of the year.**

We also know that, even with the cuts of EU exports from contracts cancelled before the Nord Stream 1 interruption, the EU will already have a total demand reduction of 300 TWh for 2022, which is roughly 30 bcm.<sup>18</sup> Russia's consumption will very likely have gone down, because of the drop of GDP. Even if we assume just the conservative 10%<sup>19</sup> (the decline of industrial consumption must have been significantly more), the internal demand will likely have declined by at least 40 bcm. Indeed, the Kremlin is now pushing for an increase of output in industries such as fertilizers. However, even this option is constrained, considering it has pushed production to the maximum already in 2021<sup>20</sup> and additional increases would likely require new industrial capacities difficult to invest in under sanctions. In addition, having started the previous winter with storage full to the brink (almost 73 bcm) and given the mild winter, it is very likely that the lowest point of

storage in spring 2022 was much in line with the regular years, 40 bcm, hence there is no spare storage as in 2021.

Adding up all the figures, Russia had by mid-year an excess of 60 bcm, which is likely to increase further because of the gas cuts on Nord Stream 1 and the planned reduction of EU consumption by possibly 15% in the last months of the year. **If Russia further shuts down production to cut supplies to the EU, it only self-inflicts the gas embargo initially envisaged by the EU as a sanction**, with all its damaging effects in terms of costs and difficulty to ever resume production again.

### But what if Russia simply releases its excess gas into the atmosphere or flares it?

One possible concern is that Russia, to further curtail supplies to Europe, could simply release the gas into the atmosphere or flare it, as we have seen with the flare observed at the border with Finland.<sup>21</sup> Here, the EU should not be intimidated: the flare visible from Finland is most likely demonstrative and the quantities are minimal, several million cubic meters at most, but not 60 bcm. It would be indeed possible to flare some quantities directly at the well sites. Gazprom certainly already has flaring capacity as it is producing in part gas associated with oil and Russia has always been among the top countries in the world at flaring.<sup>22</sup> Since Russia has reduced flaring in recent years, it may have spare capacity and most likely it already uses it to deal with the excess gas.

Releasing the gas (methane) into the atmosphere is also possible. Something like 60 bcm, however, would represent no less than 12% of the total anthropogenic emissions of methane: the IEA (International Energy Agency) estimates that 60% (342) of the 570 million tons of methane are anthropogenic,<sup>23</sup> and one bcm of gas is 678,000 tons<sup>24</sup> (or 60 bcm is over 40 million tons).

17 Sonnenfeld, J & al., (July 2022), "Business Retreats and Sanctions Are Crippling the Russian Economy", available at [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=4167193](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4167193)

18 Zachmann, G., McWilliams, B. (July 2022): "European Union demand reduction needs to cope with Russian gas cuts", available at <https://www.bruegel.org/2022/07/european-union-demand-reduction-needs-to-cope-with-russian-gas-cuts>

19 European Council (2022), "Infographic – Impact of sanctions on the Russian economy", available at <https://www.consilium.europa.eu/en/infographics/impact-sanctions-russian-economy/#:~:text=The%2520Russian%2520economy%2520is%2520shrinking,collapse%2520of%2520the%2520Soviet%2520Union.>

20 Even in 2021, Russian media reported the unprecedented increase of fertilizer production, e.g. Vedomosti (2021), "Аналитики прогнозируют дефицит азотных удобрений в Европе из-за высоких цен на газ", available at <https://www.vedomosti.ru/business/articles/2021/09/22/887823-analitiki-defitsit>

21 Newstimes (2022), "Russia apparently flares off Nord Stream gas during Ukraine war", available at <https://www.newstimes.com.ng/russia-apparently-flares-off-nord-stream-gas-during-ukraine-war/>

22 Reuters (2021), "Russian oil producers struggle to contain gas flaring – document", available at <https://www.reuters.com/article/russia-flaring-idUSL8N2M23Do>

23 International Energy Agency Methane Tracker 2022, available at

[https://www.iea.org/reports/methane-tracker-2020?fbclid=IwAR3FQxe3QW-dKe77UBcT\\_csdDIEDrzz5Ypdg7WPTm1Xpn6sGD7ysrPAa8PA](https://www.iea.org/reports/methane-tracker-2020?fbclid=IwAR3FQxe3QW-dKe77UBcT_csdDIEDrzz5Ypdg7WPTm1Xpn6sGD7ysrPAa8PA)

24 Energy conversion tables and calculations (2009), available at [https://www.hebrewenergy.com/energy-conversion-table-conversion-calculator-energy-calculator-one-bcm-of-natural-gas-one-billion-cubic-meters-of-gas-convert-1-bcm-of-gas-conversion-of-gas/?fbclid=IwAR3od3CMfeAOKthFu3ljxBSUE\\_4j4BQ\\_17F68ASzcYqJVO--maikiTVI#:~:text=1%20bcm%20is%20equal%20to,the%20Israeli%20Ministry%20](https://www.hebrewenergy.com/energy-conversion-table-conversion-calculator-energy-calculator-one-bcm-of-natural-gas-one-billion-cubic-meters-of-gas-convert-1-bcm-of-gas-conversion-of-gas/?fbclid=IwAR3od3CMfeAOKthFu3ljxBSUE_4j4BQ_17F68ASzcYqJVO--maikiTVI#:~:text=1%20bcm%20is%20equal%20to,the%20Israeli%20Ministry%20)

### Why Europe must cap Russian gas prices instead of reducing demand by 15%

Assuming that Russia is willing to cut supplies to Europe regardless of the climate disaster it may cause, it should not be a consideration to give in to Russia's blackmail, just as Russia's threat to the Zaporizhzhia power plant<sup>25</sup> does not mean giving in. On the contrary, it should only be viewed as yet another confirmation of the dangers to the global community posed by Putin's regime. The EU already intended to decouple from Russian gas supplies by 2027–2030.<sup>26</sup> As Russia will no longer be able to make investments under sanctions on technology and their crippling effect of its economy, plus due to its lack of interest in a rules-based international world order, it is even less likely to ensure proper closure of the West Siberia oil and gas production following the demand destruction in the EU by 2027. This cannot mean that the EU should remain dependent on Russian gas supplies just to avoid such development, but only that Russia must be viewed even more clearly as a threat. The risks for the climate can be monitored: flaring quantities comparable to total annual supplies on Nord Stream 1 or releasing them in the atmosphere will be visible from the ever more advanced satellites which are already monitoring methane-related emissions and climate risks.<sup>27</sup>

## 2. Self-defense ahead of winter: gas demand reduction by 15% or Russian gas price cap?

In July, the EC proposed an alternative path, a voluntary cut of 15% of gas consumption with additional powers for the Council to make the quota mandatory in case of an emergency. A significant shortcoming is that proponents of the 15% gas demand reduction have failed to grasp the structure of incentives of member states to cooperate. While the 15% reduction will only divide Europe more, the Russian gas price cap automatically pushes everyone back into the rank. It is much easier to cooperate when there are clear benefits of cooperation for each individual actor, regardless of what others are doing, and automatic penalties for defection, than when cooperation causes pain and sacrifices, and individual defection is rewarded. This is precisely what is happening right now.

First, many countries have opposed the reduction of demand: Poland, Spain, Portugal, Greece etc. have publicly criticized it before the adoption of the plan, while Hungary went to negotiate a new gas deal directly with Moscow.<sup>28</sup> The European Council finally adopted a decision on July 26,<sup>29</sup> hailed as a major breakthrough. However, as usual, the devil is in the details. These countries agreed to a voluntary reduction of gas demand by 15% compared to their average consumption in the past 5 years, and the European Council was given the right to trigger a "Union alert" which would make the reduction mandatory. Indeed, the increase of powers of the European Council in the matter is praiseworthy, but the effectiveness of the measure in actually reducing total gas demand is severely restricted. The decision contains so many possible derogations, that each and every one of the EU member states that opposed the decision may obtain at least a partial exemption. Each derogation has clearly been carved out to satisfy all opponents: they may be partially exempted if consumption has increased by 8% in the past year (Hungary); if they have LNG capacity for exports (Poland, Lithuania); if they need gas for electricity in power systems not synchronized with the EU continental grid (the Baltics); if their interconnectivity is limited (Spain, Portugal); if gas is needed in critical industries (Germany) etc. Every single member state would have at least some incentives to defect from the agreement.

By contrast, capping Russian gas prices would heavily penalize defectors and fully align the EU to behave as a single buyer in the relationship with Gazprom. With the full weight of the 27 members, the EU has a much stronger hand against Gazprom than the other way around, given the mutual dependence and the physical limitations of Russia's gas system explained above.

Capping the prices at the 2020 level, or at least at the level that even Gazprom specified in 2021 as "desirable as not to lead to EU demand destruction"<sup>30</sup> (300 USD/1000m<sup>3</sup>, compared to prices over 2000–3000 today) would simply be much better than any deal that each

of%20Energy

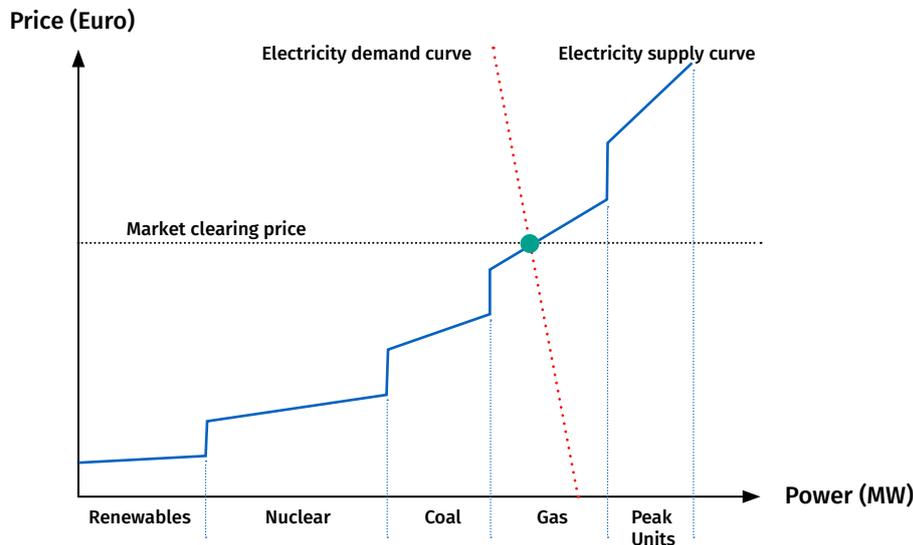
- 25 International Atomic Energy Agency – press statement (August 6, 2022), "IAEA Director General Statement on Situation in Ukraine", available at <https://www.iaea.org/newscenter/pressreleases/update-88-iaea-director-general-statement-on-situation-in-ukraine>
- 26 EC Press release (May 18, 2022), "REPowerEU: A plan to rapidly reduce dependence on Russian fossil fuels and fast forward the green transition", available at [https://ec.europa.eu/commission/presscorner/detail/en/IP\\_22\\_3131](https://ec.europa.eu/commission/presscorner/detail/en/IP_22_3131)
- 27 E.g. the capabilities to track methane by the European Copernicus satellite are available at <https://atmosphere.copernicus.eu/ghg-services>
- 28 Hernandez, A & al, Politico (July 2022): "Southern rebellion threatens to sink EU gas rationing plan", available at <https://www.politico.eu/article/poland-portugal-spain-syprus-greece-rebellion-eu-gas-rationing-rules/>
- 29 European Council, press release (July 26, 2022): "Member states commit to reducing gas demand by 15% next winter", available at [https://www.consilium.europa.eu/en/press/press-releases/2022/07/26/member-states-commit-to-reducing-gas-demand-by-15-next-winter/?fbclid=IwAR1\\_XHo-ZqFXk38oGGZwG5bd4bRFJboBzvBBIHlpGFKi1Dj7DWa03qHlQis](https://www.consilium.europa.eu/en/press/press-releases/2022/07/26/member-states-commit-to-reducing-gas-demand-by-15-next-winter/?fbclid=IwAR1_XHo-ZqFXk38oGGZwG5bd4bRFJboBzvBBIHlpGFKi1Dj7DWa03qHlQis)
- 30 Tanas, O., Khrennikova, D., Bloomberg (October 2021) "Russia Wants Gas Price 60% Lower to Keep Energy Grip on Europe", available at <https://www.bloomberg.com/news/articles/2021-10-26/russia-wants-gas-price-60-lower-to-keep-energy-grip-on-europe?fbclid=IwAR1KUIXkto1YcJrNoBzgLdV-ISuV-MOPUCWUQnPcVzFACijuhQyx61pUM#xj4y7vzkg>

## Why Europe must cap Russian gas prices instead of reducing demand by 15%

particular country may get on its own. As a bonus, it will be the best strike against Euroscepticism. How could populists such as Orban argue against a move

by Brussels which would slash the gas prices he now gets from Gazprom by up to 80%? What better deal could he promise his constituency?

Figure 3. The “marginal cost model” of the EU electricity market



Note: The latest entrants in the electricity market are gas-fired plants, the plants with the highest marginal costs where the demand curve meets supply. The area between the blue curve and the market clearing price level is the “windfall profit” – profits registered by each plant which would manage to supply an additional MWh at prices significantly below the market price because they have very low costs for the production of the additional MWh.

It should be remembered that both the gas and the electricity market models in the EU are the marginal cost model (a fancy expression to designate the normal way in which any liberalized market operates). The last entrant in the market and the price setter is the producer with the highest marginal cost who still finds demand, whereas all other producers with lower costs make killer profits (producer surplus), as illustrated in Figure 3. This is why nuclear, hydro, renewable energy etc. make high profits these days, and this is also why electricity prices are pushed up by gas-fired plants with significant costs. What Gazprom is doing is to manipulate the entire energy market. Whenever it announces an (even small) cut in supplies, it wreaks havoc in the spot gas exchanges such as the Dutch TTF (Title Transfer Facility), which immediately register huge spikes in prices. Gazprom then makes windfall profits in all its long-term contracts with EU consumers, which are at least partially linked to spot market prices. In the second round, such manipulations also

destroy the electricity market, by triggering the increase of marginal costs of gas-fired plants (mainly fuel costs) and hence the market-clearing prices for electricity. **All EU member states currently propose solutions to the energy prices crisis that simply risk to destroy the EU market in the long run.** Individual member states have started to penalize windfall profits<sup>31</sup> of energy producers with lower marginal costs (renewables, hydro etc). Greece proposes the change of the market model altogether, based on a weighted average cost<sup>32</sup> – a solution largely based on weighted average costs and quota allocations that has been applied, for example, in Romania in the gas market in the past, causing substantial distortions and inefficiencies. Instead, capping gas prices for Russian imports would immediately push down the gas prices and solve all these issues, without additional interference and distortions in the European energy market which risk damaging the sector for good. In essence, the problem with the EU energy markets is not that

31 E.g., Euractiv (July 2022), “Spain announces windfall tax on energy, finance firms to ease inflation pinch”, available at <https://www.euractiv.com/section/energy-environment/news/spain-announces-windfall-tax-on-energy-finance-firms-to-ease-inflation-pinch/>

32 Maurer, C., Schlecht, I., Hirth, L. Euractiv (July 2022), “The Greek market design proposal would be the end of electricity markets as we know them”, available at <https://www.euractiv.com/section/electricity/opinion/the-greek-market-design-proposal-would-be-the-end-of-electricity-markets-as-we-know-them/>

**Why Europe must cap Russian gas prices instead of reducing demand by 15%**

they do not work, but that we are all still under some illusion that Gazprom is a regular commercial company and that this is regular market behavior requiring market model correction. **What is worse, the EU is already considering the idea of changing the electricity market model, under pressures from the public opinion to take urgent actions.**<sup>33</sup> Such a decision should not be made in a rush, as the marginal market model is the one that allows for the experimentation of various technologies that one needs to ensure the transition to “net zero by 2050”. As we do not yet have the technologies that would eliminate cost-efficiently all emissions, the transition requires testing each new solution (renewable energy production, storage, flexible demand etc.) that will be invented from now by 2050 in a fully liberalized, well-functioning market.

The capping of the Russian gas prices could be introduced legally in the next round of sanctions and would apply immediately to all ongoing contracts. There is no legal impediment to do so: if the oil embargo could be introduced as a sanction slashing quantities regardless of what was written in the existing contracts, there is no reason why a cap on Russian gas prices cannot be introduced as a sanction slashing prices in the same manner. This would not be a “unilateral breach of contract”, being imposed as a sanction at EU level, a concern that is already exaggerated considering the unilateral breaches of contract from Gazprom so far (such as demand for payments in rubles) or that the threat to EU consumers is the expected unilateral breach of existing contracts on Gazprom’s side (the cut of deliveries from now on).

**But what if Gazprom slashes gas deliveries as a response?**

Given the restrictions, the stake for the Kremlin is not to cut all gas supplies to Europe, but to inflict as much pain as possible to individual countries and seed division. A divided Europe means the end of unanimity for sanctions on Putin’s regime and for military, economic, or financial support for Ukraine. Volatile, high-energy prices switch the attention of the public from Ukraine’s tragedy to one’s own energy bills. This is the Kremlin’s only aim and effective power: the threat of a permanent, complete cut of gas supplies is more a matter for our collective imagination than a real possibility. The more Gazprom has played this game, the better the

EU’s preparation is now. With every cut of supplies, Gazprom’s excess increases and hence its leverage for further cuts gets slimmer. On the EU’s side, July marked the first moment when US LNG supplies exceeded imports of Russian gas.<sup>34</sup>

However, Gazprom could still play with individual cuts to individual member states for limited periods of time, e.g. for several days during a cold winter. To avoid this, a simple solidarity clause must be put in place: **if Gazprom cuts deliveries to one country, all EU members make up for the shortfall.** This would be an extension of the current solidarity mechanism covering only vulnerable consumers to all consumption. Such a measure would be perfectly feasible as the quantities that Gazprom can cut are indeed minimal compared to the EU’s current capacity to deal with a shortfall of Russian gas even at an aggregated level. The introduction of such a solidarity clause would discourage Gazprom from even trying. To ensure that individual countries do not default on their obligation, this measure should be clearly linked in a package with the big “carrot”: full compliance is the key condition to be able to cut gas prices to possibly up to 80% from current levels.

To understand how this measure would cut the prices overall in the market, it must be noted that the current prices are 5–6 times higher than a year ago, and most of the volatility in the past year has been speculative. There were large reductions after announcements of LNG shipments from the US and steep increases when market players perceived a risk of possible interruptions of supply, all of which does not necessarily illustrate the real availability of gas to cover demand in the market.<sup>35</sup> Slashing Russia’s prices would 1) send the signal to market players that there is no real danger of a substantial cut to the whole EU any time soon and 2) slash the prices charged by Gazprom in all of its long-term contracts (the bulk of its gas supplies to EU customers) and which are currently linked to spot prices.

Last but not least, the Russian gas price cap is the moral thing to do: it will immediately slash Gazprom’s revenues resulted from the gross manipulation of European markets, while in the process also limiting the Kremlin’s ability to finance the war in Ukraine. It is a solution for the very short run, to keep the EU united

33 Liboreiro, J., Euronews (August 2022): “Energy crisis: Ursula von der Leyen calls for ‘emergency intervention’ in electricity market”, available at: <https://www.euronews.com/my-europe/2022/08/29/energy-crisis-ursula-von-der-leyen-calls-for-emergency-intervention-in-electricity-market>

34 Shyriaevskaya, A., Bloomberg (July 2022): “For the First Time, US Is Sending More Gas to Europe Than Russia”, available at <https://www.bloomberg.com/news/articles/2022-07-01/us-lng-supplies-to-europe-overtake-russian-gas-iea-says>

35 See, for example, the price statistics for the Dutch TTF gas exchange, available at <https://www.statista.com/statistics/1267202/weekly-dutch-ttf-gas-futures/>

**Why Europe must cap Russian gas prices instead of reducing demand by 15%**

ahead of the winter while further taking apart the Russian war machine. Slashing Gazprom's revenues and decoupling the EU from doing "business as usual with Russia" would also be one of the most successful anticorruption campaigns in Europe, limiting the abilities of Putin's friends and retainers to shape the European path.

**3. Conclusion**

To summarize, Russia cannot simply cut off the EU from its gas supplies this winter without wrecking an enormous damage to its own gas industry both in the short and long run and huge costs even in 2022 – or, effectively, applying to itself the sanction that the EU found too difficult to agree on in spring. The only "objective" power that the Kremlin has is the EU's internal vulnerability to threats of selective, temporary cuts and the information warfare we are totally unprepared for. The plan proposed here – to introduce a price cap on Russian gas as sanction on Russia – is not in any way novel or original: it was the mainstream thinking in Brussels before the disruptions of gas supplies on Nord Stream 1 in July. Nothing of essence has changed in the meanwhile, and there has not been any analysis between June and July to suggest a deep rethinking of the hypotheses in the early part of the year. The major shift of viewpoint occurred as a result of panic, of alarmist messages from large German industrial consumers which incidentally have formerly been strong supporters of higher Russian gas imports, and of the media thoughtlessly spreading Gazprom's own propaganda, such as unverifiable statistics or Gazprom's "opinions" on the future prices of gas in Europe. The real threat is a further division among EU stakeholders in dealing with Russia and support for Ukraine, but also the possible destruction of the EU's energy market models following this panic. The only recommendation of this paper is to put panic aside and return to the reasonable discussion that was taking place in Brussels just two months ago, when the European Commission was given a full mandate to examine the possibility of a price cap on Russian gas. It is perfectly doable, as a sanction, coupled with a minor adjustment to the existing solidarity scheme.