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REPORT FROM THE COMMISSION TO THE COUNCIL

review on the functioning of Regulation (EU) 2022/1369 on coordinated gas demand reduction

{SWD(2023) 63 final}

I. Introduction

In the course of 2022, Russia used gas supplies as a political weapon. In this context, the EU adopted in August 2022 the emergency Council Regulation (EU) 2022/1369, to reduce gas demand by 15% in a coordinated manner to ensure security of supply.

According to Council Regulation (EU) 2022/1369, Member States must use their best efforts to reduce gas demand by 15%, which becomes mandatory in case a Union alert is declared. In addition, Member States shall update their emergency plans, as set out in Article 8 of the Regulation to reflect the implemented measures and report the demand reduction achieved bi-monthly to Eurostat. Article 9 provides that the Commission has to carry out a review, on the basis of which the Commission may propose to prolong the Regulation's application period. In the accompanying Staff Working Document SWD/2023/63, the Commission provides an analysis of the gas demand reductions since August 2022, a scenario-based analysis of storage filling projections under different potential demand reduction extensions and a deep-dive into past reductions and upside and downside risks for 2023-2024.

The matter has been discussed with the Gas Coordination Group[1], which includes representatives of Member States and European associations representing suppliers, infrastructure operators, traders and the main consumers of gas. The members of the Gas Coordination Group during its meeting of 16 February have voiced their understanding of the importance of a continued demand reduction as a particularly cost-effective measure to preserve and strengthen security of supply.

II. Measures taken and demand reduction achieved

Since the adoption of Council Regulation (EU) 2022/1369, the EU has been successful in diversifying away from Russian gas[2] and reducing its gas demand by 19% from August 2022 to January 2023, compared to the previous 5 years' average over that same period, which corresponds to 41.5 bcm. Table 2 (see Annex) shows that the demand reduction has varied from month to month, and from Member State to Member State, reflecting the different national circumstances. In the event of a Union alert, the exemptions of the mandatory demand reduction, as stipulated in Article 5 in the Council Regulation (EU) 2022/1369, also reflect these different national circumstances.

Current storage levels are relatively high for the time of the year, gas prices have steadily decreased since the peaks in August (while still being significantly higher than the long-term average), and security of supply is assured for the remainder of this winter 2022/2023. However, Section III will illustrate that the EU gas market remains tight, and that without any gas demand reduction beyond 31 March, the Member States are unlikely to fulfil their 90% storage obligation by 31 October,

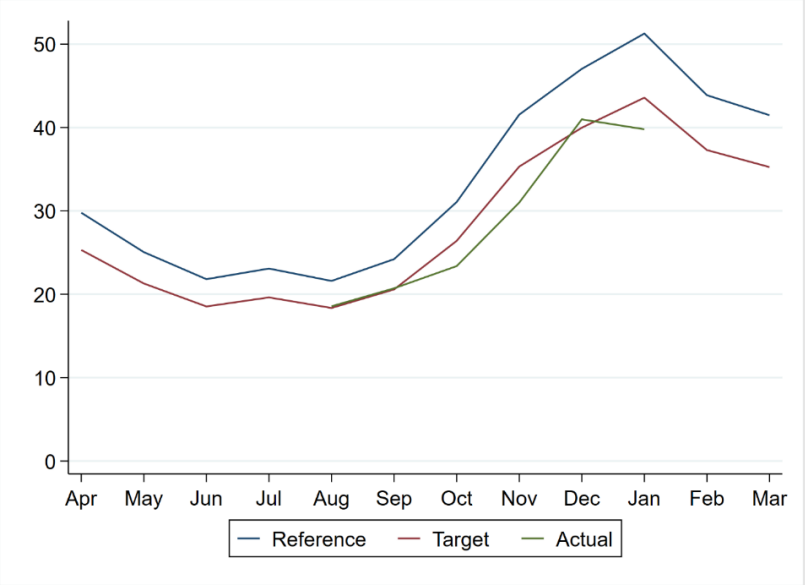
[1] Register of Commission expert groups and other similar entities (europa.eu)

[2] In 2022, Russian gas supplies to the EU decreased by 47% from 152 bcm in 2021 to 80 bcm. They were replaced mainly by the United States that increased its exports from 21 bcm to 50 bcm and the United Kingdom increasing supplies from 6 to 24 bcm. Further increases in gas supply to EU came from Norway (+10 bcm), Azerbaijan (+3 bcm), Qatar (+2 bcm) and Trinidad and Tobago (+1 bcm).

putting at risk the security of supply during the winter 2023/2024, with possibly gas shortages or a return of very high gas prices.

Figure 1 illustrates EU gas consumption from August 2022 to January 2023 (green line; "Actual") compared to the average of the same period during the previous 5 years (blue line; "Reference") and the 15%-reduction target (red line; "Target") as it has been defined for August 2022 to March 2023, and as it would apply according to this proposal to the other months. Figure 1 also shows that gas consumption in winter is significantly higher than in summer. In fact, demand in Q2 and Q3 is around one-half of the demand in Q1 and Q4.

Figure 1: Reference consumption, target consumption (i.e., reference -15%) and actual consumption (Aug. 2022 – Jan. 2023); EU27 (bcm)



Source: ENER/CET calculations based on Eurostat series NRG_CB_GASM, sub-series IC_CAL_MG in mcm as of 7 March 2023, 11:00.

Sectors

For an in-depth analysis of gas demand reduction, a frequent publication of sectoral gas demand is necessary. Currently, Eurostat reports gas consumption by demand sector[3] only on an annual basis, with a one-year delay. A reliable breakdown of gas savings by sector or a breakdown into structural versus non-structural reductions based on an official dataset covering all EU is therefore not possible.

The Commission[4], using auxiliary data, estimates that in the period August-December 2022 the household reduction accounted for around 50% and the industry for 43%, while the power sector's

[3] Power generation is the only sector for which official Eurostat data are available; 2.1% reduction between August 2022 and January 2023 based on Eurostat series NRG_CB_GASM, sub-series TI_EHG_MAP in TJ (GCV) as of 7 March 2023, 11:00.
[4] DG Joint Research Centre

accounted for only 7% of the overall gas demand reduction, due to low availability of hydropower and nuclear capacity.[5] Industry was responsible for most of the demand reduction in summer and autumn, while households were responsible for most of the demand reduction (and consumption) in winter. We estimate that around one-sixth of the total reduction was temperature-induced, meaning that it can be attributed to a milder (early) winter than in the reference period, which corresponds to 5 bcm out of a total reduction of 30 bcm between August and December.

Member States' measures reported in the Emergency Plans

Articles 7 and 8 of Council Regulation (EU) 2022/1369 stipulate that Member States must notify demand reduction measures implemented, via an update of their emergency plans. The majority of Member States notified the Commission of their updated Emergency Plans.

According to the updated plans, short-term measures cover two main types of measures: (1) information campaigns on gas savings and (2) measures to reduce heating and cooling.

- Most Member States implemented communication campaigns. In some instances, the campaigns also raise awareness of existing subsidy schemes for energy efficiency, mostly targeting households and SMEs.
- Temperature limitation: most plans include heating and cooling restrictions in public buildings; some Member States extend this limitation to offices and shops.
- Several Member States imposed lighting limitations, usually concerning public buildings and monuments but in some instances also shop windows.

For medium-term measures, Member States notified fuel switching measures, subsidies for energy renovation of buildings or replacement of inefficient appliances. As long-term measures, Member States often provide direct support to customers involving subsidies or tax cuts to facilitate deployment of renewables, heat pumps or energy efficiency (also via e.g. audits).

III. Outlook for the next winter

While the EU successfully reduced demand between August 2022 and January 2023, and diversified away from Russian imports, this section explores whether this is sufficient to avert any supply risk in the winter 2023/2024 if the Regulation (EU) 2022/1369 expires on March 31, 2023. Table 1 shows the storage levels for October 2023 and March 2024, under different potential demand reduction extensions, based on the latest available market intelligence and data.[6] Figure

[5] While using different reference periods, preliminary analysis by Bruegel (2023) and the IEA (2023) , using auxiliary data, estimate similar magnitudes.

[6] Assumptions:

- Storage levels as of 7 March 2023 (58.5 bcm at the end of 5 March).
- Non-Russian pipeline supply equal to the average of the last seven months of 2022.
- LNG supply equal to the average of the last seven months of 2022, plus 15 bcm/a (1.25 bcm/month) from Apr. 2023.
- No gas from Russia via pipeline.

2 projects the storage filling levels for the 4 scenarios. Table 1 shows that in case of no or a limited gas demand reduction after April 1 (Scenarios A or B), Member States are unlikely to comply with the storage filling obligation of 90% by 31 October 2023, as set out by Regulation (EU) 2022/1032, and, hence, security of supply for winter 2023-24 cannot be ensured. If the -15% gas demand reductions continue after 1 April until 31 October, at least, the 90% storage obligations are likely to be reached (Scenarios C and D). An extension of the gas demand reduction until 31 March 2024 reduced the security of supply risks in a decisive manner for the winter 2024/2025.

In its report of 12 December 2022[7], the International Energy Agency ('IEA') estimates that a supply gap could occur in 2023 unless additional actions to save gas are taken.

Table 1: Monthly storage levels depending on the extension of the demand reduction

Scenario assumptions **Storage (bcm) at the end of:**	**Oct. 2023**	**Mar. 2024**
A: No extension	69	0
B: Extension for August 2023 to March 2024	80	28
C: Extension for April 2023 to October 2023	95	9
D: 1-year Extension for April 2023 to March 2024	95	43

Source: ENER/CET calculations.

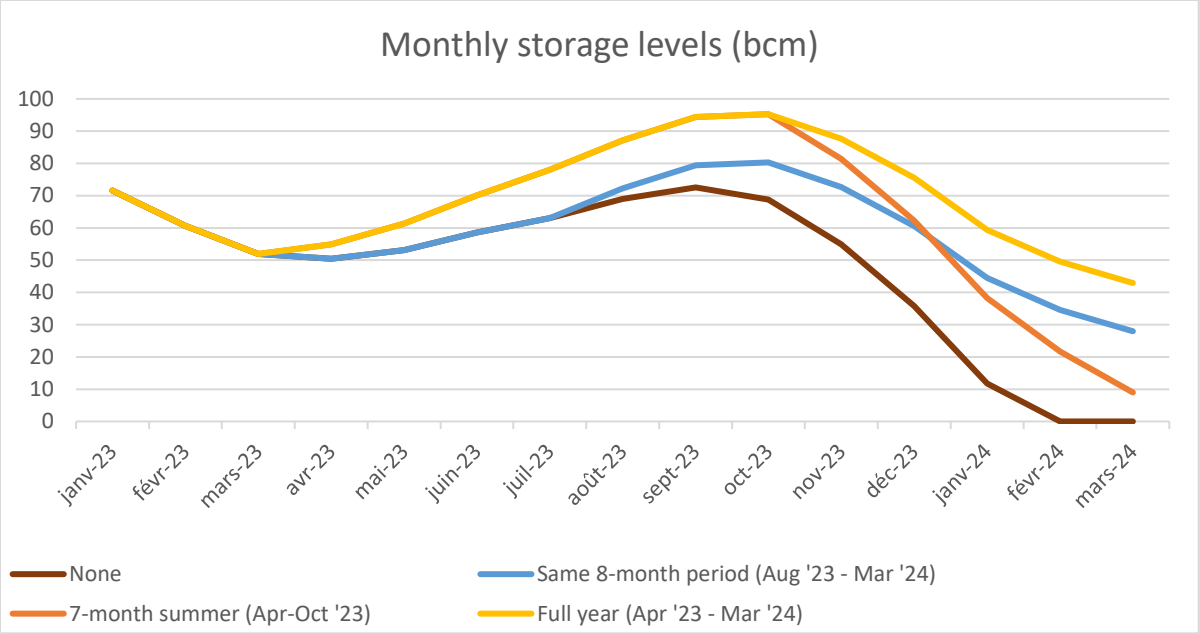
- **Scenario A**: No extension: If instead there were no demand reduction, storage levels would only reach 69 bcm by the end of October 2023, significantly below the 90% storage obligation (89.4 bcm). In addition, storage levels would be fully depleted by February 2024, implying very serious security of supply concerns for the winter 2024/2025.
- **Scenario B**: 8-month extension for August 2023 to March 2024: In this scenario, storages would be filled too slowly, reaching only 80 bcm by the end of October, significantly below the 90% storage obligation (89.4 bcm). In addition, storage levels would drop to below 30% (28 bcm) by the end of next winter (28% at the end of March 2024), causing serious security of supply concerns and making it difficult to fill storages sufficiently for the following winter 2024/2025.
- **Scenario C**: 7-month extension for April to October 2023: In this scenario, storages would be sufficiently filled by the end of this summer 95% (95 bcm) by the end of October 2023, reaching the 90% storage obligation (89.4 bcm). However, because demand even in a normal winter is twice as high as in summer, storages would be almost fully depleted by the end of next winter (9 bcm by the end of March 2024). This implies very serious security of supply concerns and makes it very difficult to fill storages sufficiently for the following winter 2024/2025.

- Average demand of the reference period, applying percentage reductions as stated.
- Exports to Switzerland as in 2021 (latest data available; 2.2 bcm/a, of which 1/3 in summer and 2/3 in winter).
- Exports to Ukraine and Moldova of 0.5 bcm/month.

[7] IEA (2022): How to Avoid Gas Shortages in the European Union in 2023. A practical set of actions to close a potential supply-demand gap, How to Avoid Gas Shortages in the European Union in 2023 – Analysis - IEA

- **Scenario D**: 1-year extension for April 2023 to March 2024: With a continued 15% demand reduction, storage levels reach 95 bcm by the end of October 2023, reaching the 90% storage obligation (89.4 bcm). The storage levels would be around 43 bcm by the end of March 2024.

Figure 2: Monthly storage levels depending on the extension of the demand reduction



Source: ENER/CET calculations.

Moreover, and complementing the previous analysis in Figure 1 and Table 1, a number of factors and risks for this year and the next winter that may increase the gas consumptions[8]. These include a possible rebound in global LNG demand (limited as the EU remains the premium market[9]), a rebound of industrial gas demand and a reversal of the gas-to-coal switch (both driven by lower gas prices in 2023), weather conditions which could affect heating demand in winter[10,] and low nuclear and hydro power generation (due to droughts), as well as further gas supply disruptions. French nuclear capacity is currently below the availability in 2022, water levels in Italy are at 2022 levels indicating similarly low hydropower generation and low gas prices already led to coal-to-gas switch in the first weeks of 2023 (see section IV.3 of the SWD/2023/63). If these risks further materialize, they will constrain the global and European gas market and this could affect the filling

[8] IEA (2022): How to Avoid Gas Shortages in the European Union in 2023. A practical set of actions to close a potential supply-demand gap, How to Avoid Gas Shortages in the European Union in 2023 – Analysis - IEA

[9] Other parties in the global market do not compete above a certain level of natural gas prices since they switch to other fuels.

[10] According to ENTSOG, a very cold winter occurring with a probability of 5% would increase demand by 24 bcm. See Figure 1 (with an assumed 15% demand reduction) in ENTSOG's winter supply outlook 2022/2023, available at: https://entsog.eu/sites/default/files/2022-10/SO0038-22_Winter%20Supply%20Outlook_2022-23_2.pdf. This is in line with ENER/CET calculations of 28 bcm additional demand for the entire year in case the 15% demand reduction is applied not to the average demand of the past 5 years but to the highest demand of the 2014-2021 period for each month (monthly data are not available for earlier years).

of underground storage facilities required for the winter 2023-2024, the gas price levels and the volatility of these prices.

IV. Outlook

Despite significant improvements since August 2022, the situation on the global gas market remains tight in 2023. Several factors (weather, remaining Russian imports, the availability of alternative electricity sources and further tightness in global LNG markets) could make the 2023 storage filling season difficult. Importantly, contrary to the preceding filling season, the 2023 storage filling cannot count on the 60 bcm of Russian pipeline gas that was still imported into the EU in 2022. In order to limit the risks for security of supply and the corresponding market impacts, a continued demand reduction is necessary. To decide whether and how to secure such reduction of gas demand in the Union, the following considerations are particularly important:

1) **Global supply of natural gas remains tight**. The share of Russian pipeline gas in total EU imports has decreased from 49% before January 2022, to less than 10% in January 2023. In 2022, during the refilling season Russian pipeline imports were significantly higher than those expected in 2023. Reducing demand is thus necessary in light of these reduced Russian supplies.
2) **Demand reduction would reduce the price volatility.** While the worst economic impacts have been averted in 2022, global gas markets remain very constrained in 2023. Gas prices have reached historical highs in 2022 with a maximum price over 320 €/MWh on 26 August and they are below 45 €/MWh, but still at a level twice as high as the historic norm. During the Gas Coordination Group meeting of 16 February 2023, Member States' representatives as well as gas associations acknowledged the fundamental role of demand reduction to **reduce the pressure on a tight market** and to **contain the gas price volatility**.
3) **The same spirit of solidarity** which has prevailed in the application of Regulation (EU) 2022/1369 should continue. The current legal framework for security of gas supply set by Regulation (EU) 2017/1938 remains insufficient to address disruptions of a major gas supplier lasting more than 30 days. Long-lasting disruptions could still lead to a risk of uncoordinated action by Member States, threatening to endanger security of supply in neighbouring Member States and to place an additional burden on the Union's industry, consumers, and functioning of the internal market. While some Member States are more exposed to the disruptions than others, any gas supply difficulties or shortages would cause harm to the economies of all Member States.
4) As set out in the Communication "Save Gas for a Safe Winter" of 20 July 2022, it is **cheaper for citizens and industry to continue proactively reducing demand** in a proportionate and demonstrably manageable manner rather than face uncoordinated curtailments later.
5) **A -15% demand reduction is in line with the 90% storage obligation:** Scenarios C and D show that a **-15% reduction** ambition level starting from 1 April 2023 is appropriate and necessary, and allows the EU to reach the 90% storage obligations at the end of October,

including the possibility of moderate downside risks to occur (e.g. less LNG supply, low hydro levels or a moderately colder-than-average weather).

6) **The continuation of the gas demand reduction is urgent to provide certainty to market participants**. The current regulation expires on 31 March 2023, at the end of the winter season. Continuing the reduction effort from 1 April provides clarity and avoids an on-off messaging on incentives.
7) **Only an extension of the gas demand reduction covering 12 months ensures sufficient storage filling over the summer to comply with the storage regulation and security of supply next winter, as presented in section III**. By contrast, an extension for reduction period August to March would leave insufficient time to fill storages at the appropriate 90% level, and lead to security-of-supply concerns towards the end of next winter. Cold weather alone would almost fully deplete storages by 31 March 2024. Alternatively, with an extension for April to October, storages would be almost completely depleted by 31 March 2024, even without cold temperatures and without any of the other downside risks materialising. In other words, extensions shorter than 12 months may lead to panic buys, Member States outbidding each other (without more gas supplies coming to the EU market), high prices and possible shortages. A more detailed analysis can be found in section VI of the SWD/2023/63.
8) **A longer period gives more flexibility to optimise the spreading of the demand reduction efforts over time. In particular it would reduce the possibility of price spikes and therefore limit the cost of gas purchases for Member States for the same volumes.** Hence an extension with a 12-month reduction period allows for more flexibility to cater for the different characteristics between Member States, as some Member States find it easier to reduce demand in summer (frontloading) and others find it easier to reduce demand in winter (backloading). In addition, it would allow flexibility between sectors: since residential demand is low in summer, an extension from April to October would put the burden disproportionately on industry and the less flexible power sector, which is dependent on the availability of alternative power sources.
9) **Because of the two-monthly monitoring and lack of a more sectoral reporting during the implementation period August 2022 to March 2023, the nature and sectoral distribution of these demand reductions are not fully understood. This limited the capacity of the Commission and the Member States to** identify the sectoral vulnerabilities and potential savings (power, industry, residents and services) and hence to design more cost-effective measures s.

V. ANNEX

Table 2 summarises monthly gas demand reductions compared to the reference period. It shows that voluntary demand measures achieved the 15% reduction objective between August 2022 and January 2023. The EU's 19.2% reduction corresponds to approx. 41.5 bcm, compared to a 15% target of approx. 32.5 bcm for these 6 months and a target of approx. 45.3 bcm for August 2022 to March 2023.

Table 2: Gas demand reductions August 2022 to January 2023

Member State	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Aug.-Jan.
EU27	**-13.5%**	**-14.0%**	**-24.4%**	**-25.0%**	**-12.4%**	**-22.2%**	**-19.2%**
Austria	-26.7%	-11.3%	-24.0%	-16.9%	-13.6%	-23.9%	**-19.2%**
Belgium	-1.0%	-6.0%	-20.5%	-29.7%	-9.8%	-18.3%	**-16.0%**
Bulgaria	-14.9%	-17.8%	-32.7%	-21.2%	-21.8%	-29.4%	**-23.9%**
Croatia	-21.7%	-23.1%	-20.0%	-25.6%	-27.6%	-24.2%	**-24.1%**
Cyprus	-	-	-	-	-	-	-
Czechia	-15.0%	-9.1%	-22.9%	-18.8%	-10.9%	-24.0%	**-17.7%**
Denmark	-21.7%	-23.3%	-31.1%	-33.4%	-13.7%	-26.5%	**-24.9%**
Estonia	-37.1%	-31.7%	-46.9%	-32.3%	-32.4%	-38.0%	**-36.2%**
Finland	-35.7%	-57.4%	-62.6%	-58.3%	-65.1%	-63.1%	**-58.5%**
France	1.6%	-2.5%	-27.8%	-29.3%	-8.3%	-19.2%	**-17.1%**
Germany	-28.0%	-14.7%	-28.6%	-28.3%	-4.7%	-18.6%	**-19.4%**
Greece	4.5%	-26.3%	-42.0%	-23.0%	-12.6%	-36.7%	**-22.7%**
Hungary	-18.7%	5.0%	-33.9%	-19.8%	-17.5%	-27.4%	**-21.0%**
Ireland	11.3%	2.1%	-8.8%	-10.3%	9.5%	-4.3%	**-0.3%**
Italy	-5.2%	-14.0%	-19.8%	-22.7%	-18.5%	-22.7%	**-18.6%**
Latvia	-42.6%	-52.7%	-72.7%	-15.2%	0.9%	-37.0%	**-31.8%**
Lithuania	-43.6%	-45.0%	-50.8%	-46.0%	-11.9%	-51.5%	**-40.5%**
Luxembourg	-36.4%	-26.1%	-35.5%	-33.2%	-17.5%	-25.0%	**-27.7%**
Malta	4.6%	-1.1%	-11.2%	43.6%	27.0%	21.9%	**+12.1%**
Netherlands	-29.7%	-32.6%	-33.3%	-35.1%	-17.5%	-32.2%	**-29.5%**
Poland	-26.7%	-25.4%	-23.7%	-8.3%	-5.3%	-12.0%	**-14.9%**
Portugal	-10.7%	-17.0%	-12.0%	-8.9%	-18.6%	-34.9%	**-17.1%**
Romania	-25.2%	-20.7%	-27.5%	-21.8%	-15.9%	-21.0%	**-21.2%**
Slovakia*	10.6%	5.5%	2.1%	-2.7%	23.6%	-7.8%	**+4.6%**
Slovenia	-13.7%	-10.9%	-22.2%	-11.7%	-12.4%	-14.7%	**-14.2%**
Spain	2.6%	0.7%	-6.2%	-21.8%	-24.4%	-23.9%	**-13.7%**
Sweden	-27.3%	-35.7%	-41.8%	-51.0%	-38.0%	-41.9%	**-40.2%**

Note: Change in gas consumption 2022 cf. 2017-2021 average. Cyprus does not use natural gas.
Source: ENER/CET calculations based on Eurostat series NRG_CB_GASM, sub-series IC_CAL_MG in TJ (GCV) as of 7 March 2023, 11:00.
** Eurostat data for Slovakia is currently under review.*