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EU solidarity at a time of gas crisis: Even with a will the way still looks difficult

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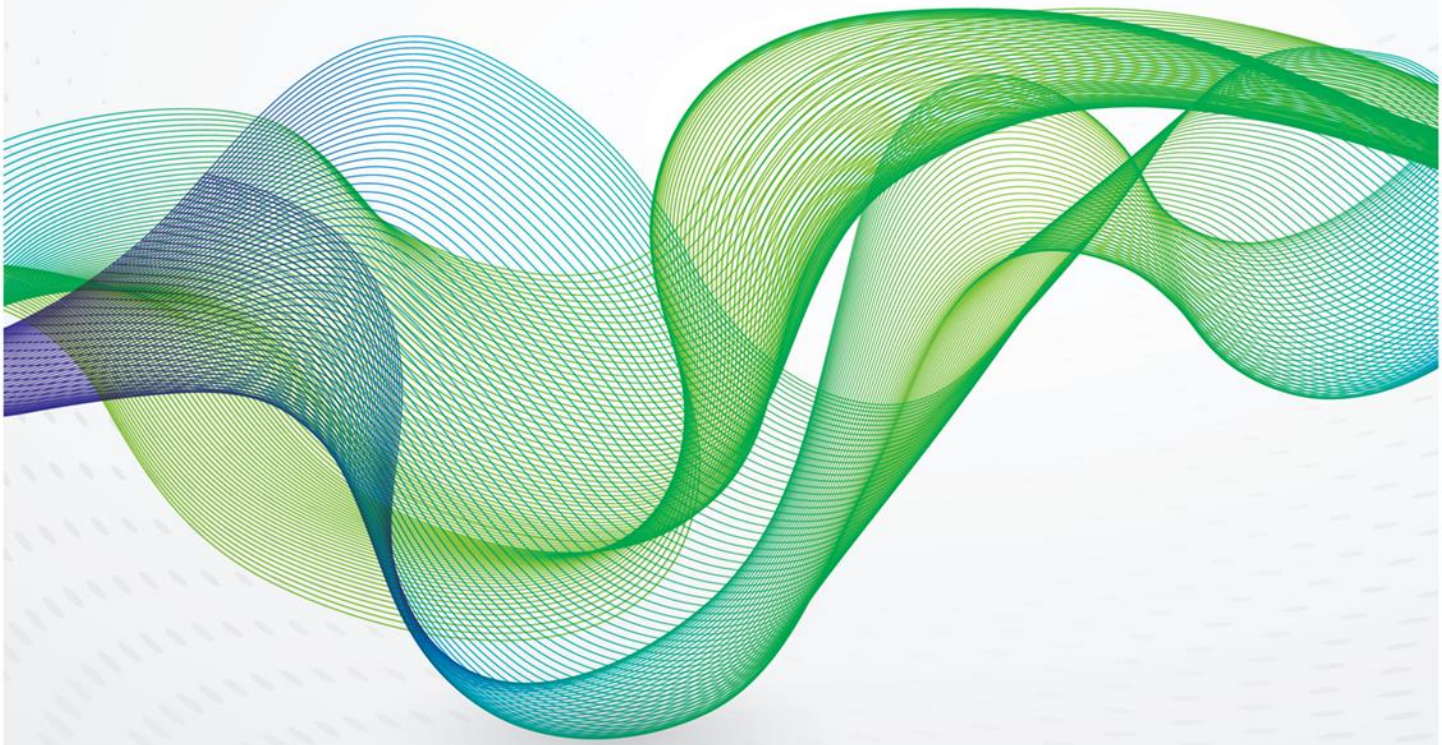
EU solidarity at a time of gas crisis: even with a will the way still looks difficult



OIES PAPER: NG 179

Katja Yafimava, Senior Research Fellow, OIES

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This paper analyses energy (gas) solidarity provisions of the EU *acquis* and examines the impact of their implementation during a severe gas shortage. I would like to thank Professor Jonathan Stern and Dr James Henderson for reading and commenting on various drafts of the paper as well as Mr Michael Fulwood and Dr Jack Sharples for helpfully clarifying data questions. Special thanks go to Mr John Elkins for his excellent editing and to Kate Teasdale for her administrative support. Responsibility for all the views expressed and all the conclusions reached is solely mine.

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Executive Summary

The EU has been engulfed in a serious gas (and energy) crisis since late 2021, caused by 'a perfect storm' of various factors negatively affecting global gas supply and demand fundamentals – including a sharp reduction of Russian gas supplies. The crisis has led to sharply increased (and volatile) gas prices but not (yet) physical shortages of gas. While the EU has made a political decision to eliminate its dependence on Russian gas 'well before 2030', it is not in control of either the scale or the timing of this process. Helped by anomalously warm temperatures to date, the EU appears increasingly likely to get through the current winter relatively unscathed. Next winter however could be significantly more challenging if Russian gas supplies were to decrease further or stop altogether, especially if accompanied by rising China LNG demand, interruptions of other supplies, and cold winter temperatures. In this case, sharing of limited gas supplies across the EU could become a necessity. The Security of Supply (SOS) Regulation, the Enhancing Solidarity (ES) Regulation, and the Gas Demand Reduction (GDR) Regulation, all contain various solidarity measures, aimed at helping the most affected Member States (Figure 1). The most important measures are:

- **a solidarity (sharing) obligation**, stipulating reduction of gas supply to all customers other than solidarity-protected customers in one Member State to enable another Member State, to which it is connected (directly or via a non-EU country) and which declared a national emergency and requested a solidarity measure, to supply its solidarity protected customers if it cannot do so on its own (SOS Regulation),
- **an amended solidarity (sharing) obligation**, stipulating reduction of gas supply, except (essential) supplies to solidarity protected customers, supplies of critical gas volumes for electricity security of supply, supplies for the electricity needed for the production and transportation of gas and supplies necessary for the operations of various critical installations and infrastructure in one Member State (directly connected, connected via a non-EU country, or a Member State with an LNG terminal) to enable a requesting Member State to cover (essential) supplies to its solidarity protected customers and supplies of critical gas volumes for electricity security of supply (ES Regulation),
- **mandatory gas demand reduction by 15 per cent** by each Member State (unless full or partial exemption is granted) in the event of a Union alert having been triggered by the Council (prioritizing reductions to non-protected customers but potentially also including protected customers), enabling the 'saved' gas to be stored and delivered to the most affected Member States thus making the gas shortage less uneven across the EU (GDR Regulation).

Despite the SOS Regulation's requirement to conclude bilateral solidarity agreements by 1 December 2018, by 1 February 2023 only nine EU Member States – Germany, Denmark, Austria, Italy, Slovenia, Finland, Latvia, Estonia, and Lithuania – have concluded such agreements with some – but not all – of Member States to which they are directly connected or connected via a non-EU country. In total, only six agreements have been concluded (although more are understood to have reached an advance stage). Even within the central and east European sub-region – which stands to be most affected by potential large-scale disruption of Russian gas flows – Slovakia, Czechia and Hungary have not concluded any solidarity agreements, whereas Germany has only concluded two such agreements – with Austria and Denmark but, critically, not with the Netherlands, Belgium or France (through which LNG could be imported to Germany) or with Czechia (for onward transport of this LNG to Czechia and Slovakia). Given that solidarity agreements are of paramount importance for implementing the SOS Regulation's solidarity obligation, as they stipulate corresponding technical, financial and legal arrangements, the lack of enthusiasm on the part of many Member States for signing them – likely reflecting ongoing disagreements over their content – is problematic, as it could undermine their implementation during an actual crisis. This has prompted the EC to propose default solidarity clauses to be made part of the ES Regulation. As this Regulation was adopted in December 2022 for one year, its default solidarity clauses will apply if no solidarity agreement has been concluded between two Member States by the time when – and if – the solidarity obligation is invoked.

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The GDR Regulation, adopted in August 2022 for one year, stipulated a voluntary 15 per cent reduction of 'winter' gas consumption (1 August 2022 – 31 March 2023) by each Member State (unless exempted), compared to their average 'winter' consumption during the preceding five-year period. Such reduction becomes mandatory when the Council, acting on a proposal from the EC and supported by a qualified majority of Member States, declares a Union alert. In doing so, the Regulation aims at making demand reduction spread more evenly across the EU territory. As EU gas consumption has already declined in 2022 by 15 per cent compared to the average for 2017-21, mostly due to very high prices (forcing industrial closures) and mild temperatures (leading to lower demand for residential heating), it is increasingly likely that a mandatory demand reduction requirement will not be triggered this winter – unless there is a severe late winter freeze and a complete cut-off of Russian supplies. If it were to be triggered next winter – provided the Regulation is extended for another year – Member States would have to decide whose supplies will be reduced or cut off, with very difficult trade-offs to be made between and within different categories of consumers. Implementation of this requirement could lead to disagreements (potentially followed by litigation) – within Member States, between Member States, and between Member States and the EC – which could undermine its effectiveness during an actual crisis.

There are significant difficulties associated with the process of agreeing and implementing the SOS, ES and GDR Regulations solidarity measures, as reflected by the lack of solidarity agreements and vagueness of Member States' prevention and emergency plans in respect of gas demand reduction and solidarity obligations. Even if they are implemented their impact on the gas supply situation of the central and east European sub-region – Germany, Czechia, Slovakia, Austria and Hungary – which stands to be most affected by the potential loss of Russian gas supplies, would likely be limited. This is because infrastructure and capacity constraints would limit the volume of gas, 'freed up' thanks to solidarity measures, that could flow to these countries from the other Member States. Thus, even if there might be a will to implement the GDR and SOS/ES solidarity provisions, there might not be a way, for less affected Member States to help significantly. Nonetheless the impact, particularly that of implementation of the SOS/ES Regulation solidarity obligation by central and east European Member States themselves (especially Germany, as a "gate keeper" for LNG and Norwegian pipeline gas into the sub-region) as well as by the other Member States, would not be negligible. It would provide the safeguard of (at least essential volumes of) consumption by solidarity protected customers (households, essential services (except education and public administration) and district heating installations supplying households and essential services (except eduction and publication administration)) and volumes critical for electricity security of supply.

Development of additional LNG import terminals and their connection to the grid would also help to alleviate any crisis next winter by enabling additional LNG imports into the central and east European sub-region. Two new FSRUs have already started operations in the Netherlands (September 2022) and two in Germany (December 2022 and January 2023). Four more FSRUs are planned to be completed in Germany before the end of 2023. Even so in the short-term – possibly until 2025, by which time more LNG supply and LNG import capacity is expected to become available – even with maximum assistance from the other Member States, Germany and other central and east European countries could have problems to cope with the consequences of any further significant reduction in Russian flows, particularly if combined with cold weather, rising China LNG demand, and/or other supplies being interrupted. Therefore, unless a recession triggers an even more significant gas demand reduction than is currently observed in Europe, there is a significant risk that rationing will be needed, with governments, regulators and possibly TSOs deciding who will get how much gas. This might not come to pass in winter 2022/23 but may be more difficult to avoid in winter 2023/24. Fortunately for the EU, it now has more time to add more LNG import capacity, concluding additional solidarity agreements, and strengthening preventive action and emergency plans ahead of next winter.

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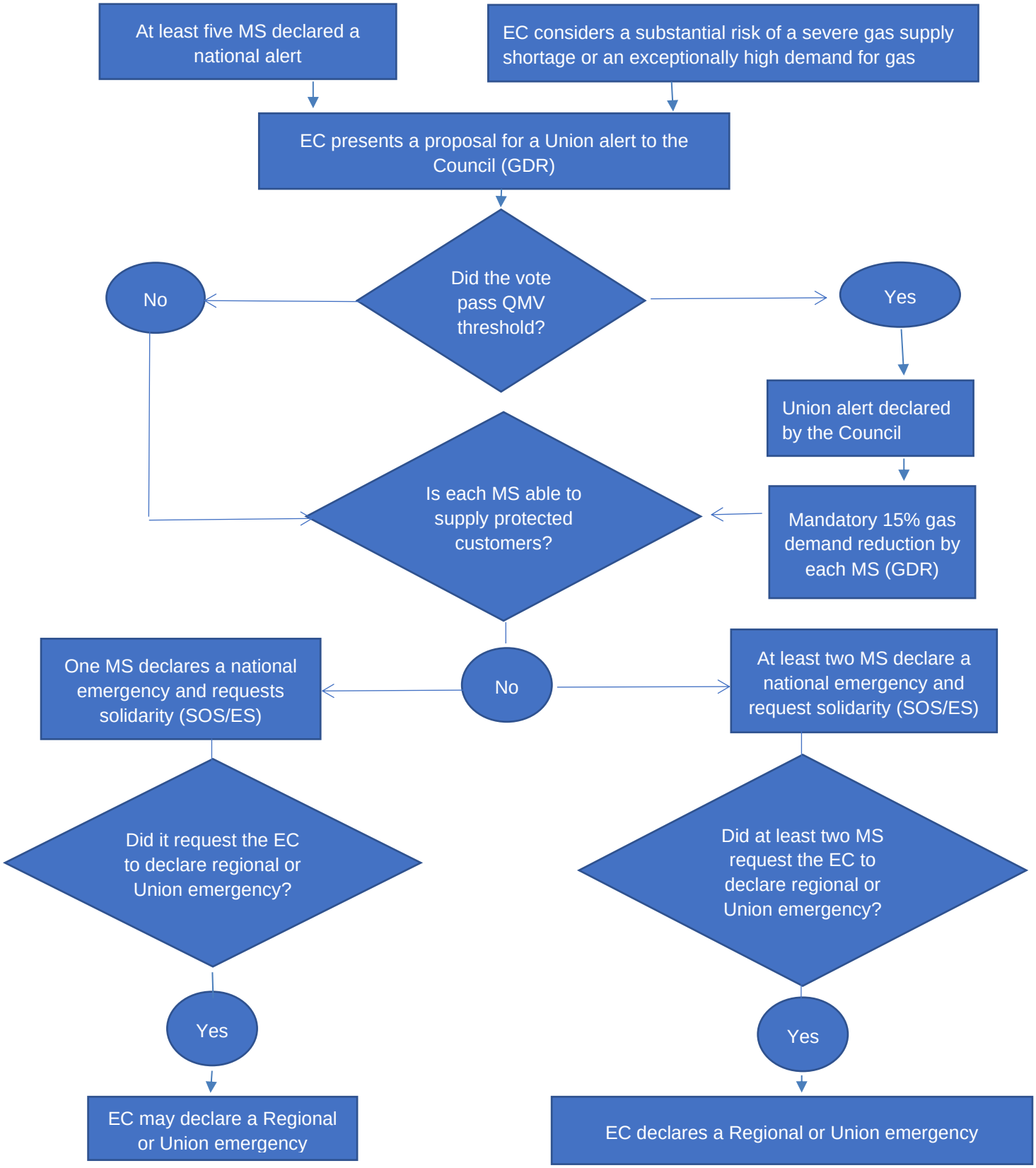
Figure 1: SOS/ES and GDR Regulations solidarity provisions: implementation sequencing



Source: Yafimava/OIES

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Contents

Acknowledgements ii
Executive Summary iii
Contents vi
Figures and Tables vi
Introduction 1
1. Energy solidarity as a justiciable principle of the EU law 1
2. Energy solidarity provisions in the EU *acquis* 3
2.1 Security of Supply Regulation: reducing supplies to non-solidarity protected customers for a benefit of solidarity protected customers in another Member State 3
2.2 Enhancing Solidarity Regulation: amending the SOS Regulation's solidarity provisions 12
2.3 Gas Demand Reduction Regulation: mandatory gas demand reduction by all categories of consumers in all Member States 16
3. A likely impact of the SOS, GDR and ES Regulations' solidarity provisions during a severe gas shortage 23
Conclusions 26
Bibliography 30
Annex I 34
Annex II 35

Figures and Tables

Figure 1: SOS/ES and GDR Regulations solidarity provisions: implementation sequencing v
Figure 1: SOS/ES and GDR Regulations solidarity provisions: implementation sequencing 20
Table 1: Solidarity Agreements concluded by Member States by 1 February 2023 11

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Introduction

As an energy crisis, caused by 'a perfect storm' of various factors negatively affecting global gas supply and demand fundamentals – including a sharp reduction of Russian gas supplies – started to engulf Europe in late 2021, leading to sharply increased (and volatile) gas prices but not (yet) physical shortages of gas, the EU and its Member States have developed several policy and legislative initiatives, aimed at softening its impact on European consumers. In the wake of 24 February 2022 the EU made a political decision to eliminate its dependence on Russian gas 'as soon as possible' (as stated both in the Versailles Declaration[1] and in the Council's Conclusions[2]) and 'well before 2030' (as stated in the EC REPowerEU Communication[3]). This was followed by the EC assessment of investments and costs needed to do so by 2027.[4] But the EU is not in control of either the scale or the timing of this process. While helped by anomalously warm winter temperatures, Europe is increasingly likely to get through the current winter relatively unscathed. However, the energy crisis could become more acute during next winter if Russian gas supplies to Europe (excluding Turkey)– which had already fallen by ~56 per cent in 2022 compared to their 2021 levels[5] – were to decrease further or come to a complete halt, particularly if combined with cold weather, rising China LNG demand and/or other supplies being interrupted.

It is for this eventuality – which could make sharing of limited gas supplies across the EU a necessity – that the EU's recent legislative initiatives, including the Gas Demand Reduction Regulation ('GDR Regulation'[6]) and the Enhancing Solidarity Regulation ('ES Regulation'[7]), were proposed and adopted. This OIES paper reviews these documents, alongside the Security of Supply Regulation ('SOS Regulation'[8]), to understand whether their measures – if agreed and implemented – would have a material impact on the gas supply situation of the most affected Member States in the event of a severe gas shortage.

1. Energy solidarity as a justiciable principle of the EU law

While general solidarity is mentioned in several EU Treaties, *energy* solidarity was first introduced by the Treaty on the Functioning of the EU (TFEU), Art. 194(1), which stated that 'Union [EU] policy on energy shall aim, in a spirit of solidarity between Member States' to ensure the functioning of the energy market; ensure security of energy supply in the Union; promote energy efficiency and energy saving and the development of new and renewable forms of energy; and promote the interconnection of energy networks'.[9]

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[1] Versailles Declaration, 11 March 2022.
[2] European Council Conclusions, 24-25 March 2022.
[3] EC (2022a), REPowerEU: Joint European Action for more affordable, secure and sustainable energy, 8 March 2022.
[4] EC (2022c), Staff working document implementing the REPowerEU action plan, 18 May 2022. Interestingly, the aim of phasing Russian gas out by 2027 is not explicitly stated in any of the EU documents such as the Versailles Declaration, the Council's Conclusions, or the REPowerEU Communication, all adopted in March 2022. The EC President, Ursula von der Leyen, stated that the EC would set out a proposal in May 2022 on phasing out the EU dependence on Russian fossil fuels, including gas, by 2027, see 'EU plans proposal to phase out Russian fossils fuels by 2027: von der Leyen', *S&P Global*, 11 March 2022. However, whereas the EC Staff Working Document on the implementation of REPowerEU Plan, adopted in May 2022, provides an estimate for reducing dependence on Russian gas (and all energy) to zero by 2027, the EC REPowerEU Plan, also adopted in May 2022, does not mention 2027 as the date by which such dependence is to be phased out, see EC (2022b).
[5] Sharples/OIES based on ENTSOG Transparency Platform.
[6] *Gas Demand Reduction Regulation.*
[7] *Enhancing Solidarity Regulation.*
[8] *Security of Supply Regulation.* SOS Regulation was first adopted in 2017 and has since been amended to reflect changes in supply Risk Groups composition and add provisions on mandatory storage filling requirements.
[9] Treaty on the Functioning of the European Union (TFEU). It appears that the reference to 'energy solidarity' in Art. 194 of TFEU has been introduced in response to requests from the Polish government, primarily in relation to concerns over the security of supply of gas from Russia, see Pielow and Lewendel (2011) as referred to in Talus (2021).

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This wording was predominantly interpreted in such a way as to understand energy solidarity as a policy guidance rather than a justiciable legal principle, which would create legal consequences in respect of its application.[10] However, to the great surprise of energy and law communities alike and in sharp contrast with the recent case-law on the general solidarity principle,[11] in its ruling in *Case T883/16 Poland vs EC* of 10 September 2019, the General Court held that energy solidarity is a justiciable principle of EU law and annulled the 2016 OPAL exemption by the EC on the grounds that the decision had been adopted 'in breach of the principle of energy solidarity'.[12]

While there has been an acknowledgement that the General Court's judgement could have a positive impact such as 'a recognition of the increasingly interlinked nature' of EU energy markets and strengthening its ability to 'speak with one voice', the judgement has also attracted significant criticism. This criticism is mostly directed at the judgement's potential of opening up 'a Pandora's box' of events where the principle of energy solidarity could require 'new interpretation of existing rules and practices'.[13] In particular, this would pave the way for Member States and the EU to take legal action against fellow Member States 'for failure to act in the spirit of solidarity', and potentially jeopardize the rights of Member States to determine their own energy mix should their interests 'conflict with those of other Member States and the EU as a whole'.[14]

Nonetheless, in July 2021 the Court of Justice of the EU (CJEU) upheld the General Court's judgement (in the appeal brought by Germany),[15] while failing to assuage the aforementioned concerns. The CJEU held that the principle of solidarity is 'one of the fundamental principles of EU law' and that 'the spirit of solidarity', referred to in Art. 194(1) of TFEU, constitutes its 'specific expression, in the field of energy'. It confirmed that the application of the principle of energy solidarity creates legal consequences both for the EU and the Member States, including an obligation to adopt measures ensuring security of energy supply in the EU.

Specifically, the CJEU stated that

> "the principle of solidarity entails *rights and obligations* both for the European Union and for the *Member States*, the European Union being bound by an obligation of solidarity towards the Member States and the Member States being bound by an obligation of solidarity between themselves and with regard to the common interest of the European Union and the policies pursued by it."[16]

It has further stressed that

> "the EU institutions and the Member States must take into account the principle of energy solidarity … by ensuring security of energy supply in the European Union, which means *not only dealing with emergencies when they arise, but also adopting measures to prevent crisis situations*."[17]

---

[10] The nascent justiciability of energy solidarity - highlights from the event, FSR, 31 May 2021. Also see Buschle and Talus (2019).
[11] Talus (2021).
[12] Yafimava (2021). The 2016 OPAL exemption decision is a decision, adopted by the EC in October 2016, which exempted 50% of capacity in OPAL (one of the onshore pipelines in Germany connecting to Nord Stream 1) from third party access, and prescribed non-discriminatory access to another 50% of capacity via auctions where both Gazprom and third parties were able to participate, guaranteeing the latter's access to 20% of capacity. By annulling the 2016 OPAL exemption decision, the General Court re-installed the 2009 OPAL exemption decision under which Gazprom cannot have access to more than 50% of OPAL capacity.
[13] Talus and Buschle (2019) as cited in Talus (2021).
[14] Ibid.
[15] CJEU (2021a), CJEU (2021b).
[16] CJEU (2021b).
[17] CJEU (2021b).

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The CJEU judgement also stated that 'the principle of energy solidarity requires the EU institutions, including the Commission, conduct an analysis of the interests involved in the light of this principle, taking into account the interests both of the Member States and of the EU as a whole' and 'to balance those interests where there is a conflict'. However, it has not provided any guidance on how these interests could be balanced and by which criteria such balancing is to be measured.

The CJEU judgement means that the EU solidarity measures, aimed at preventing crisis situations and coping with emergencies – such as GDR Regulation's mandatory gas demand reduction obligation or SOS Regulation's solidarity obligation (both analyzed in Section 2 below) – would constitute the application of the energy solidarity principle, thus creating rights and responsibilities for the EU and for the Member States. However, the CJEU has not defined the exact criteria for, and is lacking guidance on, the application of the principle. In doing so it has left the principle abstract and 'open-ended' thus potentially undermining legal certainty.[18] Given the complexity of the SOS and GDR Regulations' solidarity provisions – and hence a significant scope for disagreements between the Member States, and between the Member States and the EU – the fact that the CJEU has not explained how Member States' interests could be balanced, as solidarity measures are being decided upon and implemented, left a possibility of future disputes – and therefore, litigation – open.

2. Energy solidarity provisions in the EU *acquis*

2.1 Security of Supply Regulation: reducing supplies to non-solidarity protected customers for a benefit of solidarity protected customers in another Member State

The SOS Regulation crisis levels: early warning, alert, and emergency

The existing Security of Supply Regulation 2017 ('SOS Regulation'), which entered into force on 1 November 2017, stipulates that the security of gas supply is the 'shared responsibility' of natural gas undertakings, Member States, and the EC (Art. 3.1).

The Regulation introduced three **crisis levels**, which could be declared by a Member State government or regulatory authority (Art. 11.1):[19]

- **early warning**, where there is 'concrete, serious and reliable information that an event which is likely to result in significant deterioration of the gas supply situation may occur' and is 'likely to lead' to the higher crisis levels – alert or emergency – being triggered;
- **alert**, where 'a disruption of gas supply or exceptionally high gas demand' occurs, which results in 'significant deterioration' of the gas supply situation, but the market measures are still sufficient to manage it;
- **emergency**, where there is exceptionally high demand, significant disruption of supply or other significant deterioration of the gas supply situation and all relevant market-based measures have been implemented but the gas supply is insufficient to meet the remaining demand so that non-market-based measures must also be introduced.

The Regulation also established 'transparent mechanisms concerning, in a spirit of solidarity, the coordination of planning for, and response to, emergencies' at national, regional and EU level.[20]

[18] Talus (2021).
[19] Also referred to as 'competent authority'.
[20] For detailed analysis of the SOS Regulation, see Yafimava (2018), pp. 131-136.

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The SOS Regulation solidarity obligation and its implementation mechanism

The Regulation's main novelty was that, in addition to preserving the infrastructure standard (Art. 5) and the supply standard (Art. 6) obligations[21] – both already present in its predecessor, SOS Regulation 2010 – it has introduced **a solidarity obligation,** under which:

> '[i]f a Member State has requested the application of the solidarity measure […], a Member State which is directly connected to the requesting Member State or, where the Member State so provides, its competent authority or transmission system operator or distribution system operator' are obliged 'as far as possible without creating unsafe conditions, take the necessary measures to ensure that *the gas supply to customers* <u>*other than solidarity protected customers*</u> *in its territory is reduced or does not continue to the extent necessary and for as long as the gas supply to* <u>*solidarity protected*</u> *customers in the requesting Member State is not satisfied*' (Art. 13.1).

The Regulation also requires a Member State to provide the solidarity measure to another Member State to which it is connected via a third (i.e. non-EU) country – unless flows through it are restricted, but notes that such solidarity obligation is 'subject to the agreement of the relevant Member States, who shall involve, as appropriate' the said third country. It is important to note that the solidarity obligation is only applicable inside the EU and, as such, does not oblige EU Member States to provide a solidarity measure to third countries. [22]

Clearly, the main beneficiary of solidarity obligation is **a solidarity protected customer** in all Member States, which is defined by the Regulation (Art. 2.6) as follows:

> a household customer who is connected to a gas distribution network, and, in addition, <u>may</u> include one or both of the following:
>
> > (a) a district heating installation if it is a protected customer in the relevant Member State and only in so far as it delivers heating to households (thus excluding small or medium-sized enterprises, SMEs) or essential social services other than educational and public administration services (thus including services related to healthcare, essential social care, emergency and security);
> >
> > (b) an essential social service if it is a protected customer in the relevant Member State, other than educational and public administration services' (thus including services related to healthcare, essential social care, emergency and security) (Art. 2.5.b).

Thus, while a household customer connected to a distribution network is <u>invariably</u> a solidarity protected customer in all Member States, district heating installations and essential social services can only be solidarity protected customers if they are protected customers in the relevant Member State and meet the listed conditions. District heating installations can only be protected customers to the extent that they deliver heating to households, SMEs, or essential social services, and only if such installations are unable to switch to other fuels than gas (Art. 2.5.c). Essential social services can only be protected customers if they are connected to a gas distribution or transmission network (Art. 2.5.b).

---

[21] Infrastructure standard is considered met when the necessary measures have been taken to ensure that in the event of a disruption of the single largest gas infrastructure, the technical capacity of the remaining infrastructure is able to satisfy total gas demand during a day of exceptionally high gas demand occurring with a statistical probability of once in 20 years as well as establishing permanent physical bi-directional capacity on all cross-border transmission interconnection points. Supply standard is considered met when the necessary measures have been taken to ensure the gas supply to the Member State's protected customers in all of the following cases: (a) extreme temperatures during a 7-day peak period occurring with a statistical probability of once in 20 years; (b) any period of 30 days of exceptionally high gas demand, occurring with a statistical probability of once in 20 years; (c) for a period of 30 days in the case of disruption of the single largest gas infrastructure under average winter conditions.

[22] See Fulwood, Sharples, Stern and Yafimava (2022a).

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The Regulation outlines a strict set of conditions that must be met for the application of the solidarity measure. Specifically, it states that the solidarity measure 'shall be taken as a last resort' and shall apply only if the requesting Member State

(a) has not been able to cover the deficit in gas supply to its solidarity protected customers *despite declaring an emergency* – the highest crisis level possible under the Regulation, preceded by an early warning and an alert (Art. 11.1);

(b) exhausted all market-based measures and all measures provided in its Emergency Plans (see below);

(c) made 'an explicit request' to the EC and to the competent authorities of all Member States, with which it is connected either directly or via a third country;

(d) undertaken to pay 'fair and prompt compensation'.

In summary, the SOS Regulation has obliged a Member State to reduce supplies to its own customers, other than solidarity protected customers, to enable supplies to solidarity protected customers of another Member State, which declared emergency and requested the solidarity measure. A Member State can only request the solidarity measure after it has declared an emergency. and when the market can no longer deliver the gas supplies required.

While the EC *may* (but is not obliged to) declare a regional or Union emergency at the request of one Member State that has declared an emergency, it is *obliged* to declare a regional or Union emergency at the request of at least two Member States that have declared an emergency (Art. 12.1). This means that the EC is unable to declare a regional or Union emergency unless *at least one Member State* has declared a (national) emergency and has consequently requested the EC to declare a regional or Union emergency. Irrespective of how many Member States have declared an emergency, none of them is obliged to request the EC to declare a regional or Union emergency.

Once a regional or Union emergency is declared, the EC is obliged to convene the Gas Coordination Group (GCG). The EC is obliged to consult the GCG and coordinate the action of (the competent authorities of) Member States, ensuring the exchange of information, the consistency and effectiveness of action at national and regional levels in relation to the EU level, coordinating the actions in respect of non-EU countries. The SOS Regulation's storage filling targets do not apply for the duration of a regional or Union emergency (Art. 6.a.9).[23] On their part, Member States are obliged to ensure that no measures are introduced which restrict the flow of gas within the internal market and in particular the flow of gas to the affected markets, or that are likely seriously to endanger the gas supply situation in another Member State, as well as to ensure that cross-border access to infrastructure is maintained in accordance with emergency plans. However, it is unclear whether Member States would be able to meet these obligations. The high level of generality of Member States' emergency plans in respect of anti-crisis measures (see Section '*EC Opinions on Member States' Preventive Action and Emergency Plans*'), suggests a significant scope for disputes. As the EC has pointed out, many Member States' Emergency Plans either do not spell out specific measures capable of preventing or alleviating the crisis or contain measures that could come in conflict with Member States' obligations (see below). Therefore, it is not unlikely that Member States may have disagreements between themselves and with the EC on whether these obligations can be carried out or whether exemptions (derogations) should be sought. By the time any disagreements are resolved, the critical crisis events may have passed while the crisis exacerbated without being addressed adequately.

[23] Under the SOS Regulation, as amended in June 2022, EU Member States are obliged to meet the following filling targets: 80% by 1 November 2022, 90% by 1 November 2023. On 15 November 2022 the Energy Community Secretariat adopted a decision, obliging Serbia and Ukraine (two non-EU EnCT Contracting Parties with storage facilities) to adhere to the following filling trajectories: 50, 15, 45, and 70% by February, May, July, and September 2023 for Serbia; 33. 23, 47, and 58% by February, May, July, and September 2023 for Ukraine, see Energy Community Secretariat (2022).

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It is important to note that the SOS Regulation, incorporated and adapted to be made part of the *acquis* applicable in Energy Community Treaty (EnCT) Contracting Parties (Albania, Bosnia and Herzegovina, Kosovo[24], North Macedonia, Georgia, Moldova, Montenegro, Serbia and Ukraine[25]),[26] differs from the SOS Regulation applicable inside the EU. Although the adapted SOS Regulation spells out the three levels of a crisis (early warning, alert, and emergency) and obliges EnCT Contracting Parties to prepare their national Risk Assessments (by 1 January 2024),[27] Preventive Action and Emergency Plans (by 1 May 2024), it does not contain a solidarity obligation. Therefore, there is no mechanism under the adapted SOS Regulation, incorporated to be made part of EnCT acquis, enabling an EnCT Contracting Party to request a solidarity measure in an emergency and obliging another EnCT Contracting Party to provide it. Also, as noted above, EU Member States are not obliged to provide a solidarity measure to non-EU countries, including EnCT Contracting Parties. Several EnCT Contracting parties (Serbia, Bosnia and Herzegovina, North Macedonia and Moldova) are either fully or significantly dependent on Russian gas imports. All of them receive their Russian gas through TurkStream, except Moldova which receives it through Ukraine. Should there be a reduction or a halt in Russian gas flows either through TurkStream or Ukraine, these countries would be significantly affected while not being shielded by SOS Regulation solidarity provisions. It should be noted that although we consider Russian gas supply disruption through TurkStream to be less likely than through Ukraine, the consequences of TurkStream disruption would be very serious for several countries in the region, both EU (Hungary) and non-EU (Serbia, Bosnia and Herzegovina, and North Macedonia).

The SOS Regulation governance regime: Risk Assessments, Preventive Action and Emergency Plans

For coordinating the planning for, and response to, emergencies, the Regulation introduced an elaborate **governance regime**, requiring Member States to develop the following documents:

- **National and Common Risk Assessments** (within the relevant Risk Groups[28]), which include running various scenarios of exceptionally high gas demand and supply disruption, by 1 October 2018, to be updated every four years 'unless circumstances warrant more frequent updates' (Art. 7.7);
- **Preventive Action and Emergency Plans**, prepared on the basis of risk assessments, by 1 March 2019 (Art. 8.7), to be updated every four years or 'more frequently if circumstances so warrant' or at the EC's request (Art. 9.11 and Art. 10.2);
- **Agreements on technical, legal and financial arrangements** in respect of solidarity supplies and subsequent compensation – so called 'Solidarity Agreements', the description of which must be included in Member States' emergency plans – by 1 December 2018 (Art. 13.10).

The Regulation mandates regional cooperation between Member States in the process of preparing their common Risk Assessments as well as Preventive Action and Emergency Plans, both of which must include regional chapter(s) (Art. 8.3). Member States are obliged to cooperate within the relevant Risk Groups (Art. 3.7) – Eastern, North Sea, North African, and South-East Gas Supply Risk Groups – based on identified 'major transnational risks' to the security of gas supply in the EU. Because of EU's heightened concerns in respect of Russian gas flows to Europe,[29] which had already fallen by ~56 per cent in 2022 compared to their 2021 levels,[30] cooperation within the Eastern and South-East Gas Supply Risk Groups – particularly in respect of speedy conclusion of solidarity agreements – acquires

[24] This designation is without prejudice to positions on status and is in line with UNSCR 1244 and the ICJ Opinion on the Kosovo declaration of independence.
[25] All EU Member States are Participants whereas Norway, Turkey and Armenia are Observers.
[26] Energy Community Secretariat (2022a).
[27] It only requires Contracting Parties to notify their national (as opposed to common) Risk Assessments (Art. 7.5).
[28] The original composition of Risk Groups as stipulated by SOS Regulation has been amended by the EC Delegated Regulation 2022/5017 in November 2021, see the original and amended Risk Groups composition in Annex II of this paper.
[29] EU-27 and the UK.
[30] Sharples/OIES based on ENTSOG Transparency Platform.

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special importance. More specifically, the Ukraine Sub-Group of the Eastern Risk Group and the Southern Corridor Sub-Group of the South-East Risk Group are the most important Sub-Groups because it is their Member States which would be most affected in the event of further decrease or loss of Russian supplies through Ukraine or (less likely) TurkStream.

According to the SOS Regulation, Member States, which had to submit their first preventive action and emergency plans to the EC by 1 March 2019, are obliged to update their plans every four years – 1 March 2023 being a regular deadline for a 'second generation' of plans – or 'more frequently if circumstances so warrant' or at the EC's request. The GDR Regulation, adopted in August 2022, has introduced a gas demand reduction requirement and requested Member States to update their emergency plans by 31 October 2022 to ensure that they reflect the voluntary or mandatory demand-reduction measures, and to consult other Member States on the updates.[31] By the time this paper goes into print in early February 2023, just over half of all Member States are understood to have submitted their updated emergency plans.[32] This suggests that if there were to be a severe gas shortage during winter 2022-23, it would have to be addressed through the mix of updated and old emergency plans, concluded in 2019. As discussed in Section '*EC Opinions on Member States' Preventive Action and Emergency Plans'* below, Member States' original plans have been criticised by the EC for their vagueness in respect of anti-crisis measures, including gas demand reduction and solidarity obligations. Thanks to mild temperatures and full storages, the EU is increasingly likely to avoid a severe gas crisis during winter 2022-23 and has more time to ensure that all Member States' emergency plans are adequately updated ahead of next winter.

EC Opinions on Member States' Preventive Action and Emergency Plans

While the SoS Regulation provides the means for ensuring uninterrupted supply of solidarity protected customers across the EU at the expense of cutting supplies to non-protected customers (i.e. industry and power sectors), it has never been tested. The clarity of the anti-crisis market and non-market measures in Member States' preventive action and emergency plans, the designation of roles and responsibilities in invoking those measures, the level of coordination at the national, regional and EU levels envisaged therein, would be the key factors determining the plans' effectiveness in addressing an actual gas crisis.

As required by the SOS Regulation, the EC published its Opinions on Member States' Preventive Action Plans and Emergency Plans during 2019 and 2020. It identified several significant shortcomings, which are common for many Member States' Plans, and can be divided into two groups:

- at the **national level**, it is the failure to assign responsibilities and outline (market and non-market) measures to be taken at each level of a crisis and to demonstrate their impact on alleviating the crisis as well as to consult gas undertakings, consumers and regulators on these measures;
- at the **regional level**, it is the failure to agree on regional anti-crisis measures as well as on technical, legal and financial arrangements necessary to put the Member States' solidarity obligation ('solidarity agreements') into operation, as well as the inclusion of measures that could potentially lead to undue restriction of cross-border gas flows inside the EU.

The nature of these shortcomings, centred around the lack of national and regional cohesion and cooperation in respect of market and non-market measures to be implemented during a crisis, undermines the plans' effectiveness. The fact that merely planning for these measures had proved so difficult, suggests that Member States would likely find it challenging to implement these measures in a coordinated and cohesive way – both at the national and regional levels – during an actual crisis.

[31] *GDR Regulation*, preamble (23).

[32] Only three updated emergency plans are available on the EC website (Denmark, Sweden and Belgium), all of which were submitted before the gas demand reduction requirement was introduced.

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This paper analyses these shortcomings below, focusing on the plans of those Member States which are more likely to be affected by a serious gas shortage, Member States directly connected to them, and Member States with LNG facilities (Czechia, Slovakia, Hungary, Austria, Germany, Italy, Belgium, and the Netherlands).

(a) lack of regional measures to be deployed in a crisis

The EC Opinions conclude that, despite the Regulation's heavy emphasis on the importance of regional cooperation in the process of PAPs and EPs preparation, it appears to have been limited and the Plans are lacking regional measures.[33] For example, the EC observed that following the risk assessment carried out for each of the risk groups, 'no regional measures were agreed' in Austrian, Italian, and Slovak PAPs. It has requested an explanation as to why no such measures were considered necessary and also requested for them to be added.[34] The EC also observed the lack of regional measures in several Member States' EPs. For example, it noted that while the Hungarian, Slovak, Czech, Austrian, and Italian EPs all contain 'a brief chapter on the regional dimension', the information provided is superficial, does not include cross-border measures, and 'does not provide the level of detail on measures, procedures, and expected contributions of the measures' for each crisis level.[35]

(b) lack of measures (procedures) for each crisis level and assessment of their impact

The Regulation requires Member States to identify in their emergency plans the possible contribution of market measures for addressing a crisis at an alert level and mitigating it at an emergency level (Art. 10.1.h). It also requires them to identify the potential contribution of envisaged non-market-based measures[36] for the emergency level, assess their impact and the degree to which their use is necessary (Art. 10.1.i). However, the EC noted that many Member States' plans fail to meet these requirements. For example, although the German and Belgian preventive plans contain 'a description of potential market and non-market based measures' and explain when such measures could be deployed, they do not elaborate on 'the contribution of particular measures' in coping with the crisis and fail to identify their effects, including on other Member States.[37] Similarly, the Italian plan, while referring to the adoption of non-market based measures, does not quantify their expected contribution.[38] The Czech plan includes qualitative information on market and non-market measures, but fails to provide quantitative information on those measures.[39] Similarly, the Polish plan, includes 'high level and general' qualitative information, but does not include quantitative information on the contribution of market and non-market measures.[40]The Slovak plan does not describe 'actors, roles, responsibilities and actions' to be taken at each crisis level. It fails to provide 'any identification or assessment of the contribution of market-based and non-market-based measures'. While it refers to the gas system's 'restrictive delivery levels', 'restrictive heating curves' and 'contingency delivery levels' (declared by the DSO), it does not quantify their expected contribution.[41] Similarly, the Austrian plan lacks 'concrete and quantified' non-market based measures, and states that its measures aiming at the 'activation of additional supply' and measures resulting in the curtailment of final customers could not be quantified.[42]

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[33] EC Opinions on Member States Preventive Action and Emergency Plans
[34] EC Opinion on the Austrian plans; EC Opinion on the Italian plans; EC Opinion on the Slovak plans.
[35] EC Opinion on the Hungarian plans; EC Opinion on the Slovak plans; EC Opinion on the Czech plans; EC Opinion on the Austrian plans.
EC Opinion on the Italian plans.
[36] E,g, use of strategic gas storage, enforced use of electricity generation from sources other than gas, enforced increase of gas production levels, enforced storage withdrawal, various forms of compulsory demand reduction.
[37] EC Opinion on the German plans; EC Opinion on the Belgian plans.
[38] EC Opinion on the Italian plans.
[39] EC Opinion on the Czech plans.
[40] EC Opinion on the Polish plans.
[41] EC Opinion on the Slovak plans.
[42] EC Opinion on the Austrian plans.

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(c) lack of information on stakeholder consultation for PAPs and EPs preparation

Another shortcoming common for many Member States' plans is their failure to describe the mechanism used for, and the results of, the consultation with various stakeholders such as gas undertakings, organisations representing the interests of households and industrial gas customers (including electricity producers), electricity TSOs, and national regulatory authorities, prior to establishing both preventive action and emergency plans, as required by the SOS Regulation (Art. 8.2). (These include gas undertakings, organisations representing the interests of households and industrial gas customers (including electricity producers), electricity TSOs, and national regulatory authorities.) The German, Belgian and Dutch plans contain information on stakeholders which have been informed or consulted, but provide no information on 'whether and how' possible comments have been considered.[43] The Austrian, Italian and Slovak plans contain 'basic information on consultations with certain stakeholders', but give no information on consultations with the specific groups of stakeholders, such as organisations representing households and industrial customers.[44] The Czech plan does not contain information on 'whether and if, how' relevant stakeholders have been consulted.[45] The Polish plan 'only incidentally refers to views of some stakeholders', while not mentioning a wider consultation.[46] The absence of information on the consultation of stakeholders suggests that Member States' plans may have been prepared either without or with very limited consultation, and that stakeholders' comments may have been insufficiently taken account of, thus leading to the development of sub-optimal and potentially inexecutable plans, and therefore inadequate response during an actual gas crisis.

(d) potential undue restrictions to cross border gas flows

The Regulation requires Member States to ensure that no measures are introduced that would 'unduly restrict' the gas flow within the EU or be likely to seriously endanger the gas supply situation in another Member State and to maintain cross-border access to infrastructure during a crisis. Nonetheless, many Member States' plans contain measures that could potentially conflict with these requirements. For example, the Slovak plan states that in the event of a gas emergency, 'the storage system operator must, on the basis of and to the extent specified in a decision of the ministry of economy, suspend gas withdrawal from the storage' for those gas market participants who store gas for consumers outside Slovakia. The EC is concerned that, particularly because of 'the multiple interconnections between Slovakia and its neighbours' and the resulting 'mutual interdependencies', such provision 'may have an impact on neighbouring countries', thus potentially violating the Regulation's requirement not to introduce measures that could seriously endanger the gas supply situation in another Member State. It also requires the plan to analyze the possible effects of its proposed measures 'carefully' and 'take full account of risks for the security of supply in other Member States.[47] Similarly, the EC is concerned that the measures envisaged in the Hungarian legislation such as 'the possibility to reduce transit flows and limit export sales' in emergency 'may have effects on neighbouring countries which could be in conflict with the Regulation's requirement not to introduce measures, seriously endangering the supply situation in another Member State. Therefore, the EC required the Hungarian plan to explain this measure and indicate its extent and its impact on neighbouring countries as well as demonstrate its compliance with the Regulation.[48]

(e) lack of solidarity agreements governing provision of solidarity in an emergency

One major shortcoming, which is present in <u>all</u> Member States' emergency plans is the lack of information on the technical, legal and financial arrangements in place to apply the solidarity obligation under the SOS Regulation – the solidarity agreements. Provision of such information is one of the SOS Regulation's key requirements. The EC has called for 'detailed provisions' for the application of

[43] EC Opinion on the German plans.
[44] EC Opinion on the Slovak plans.
[45] EC Opinion on the Czech plans.
[46] EC Opinion on the Polish plans.
[47] EC Opinion on the Slovak plans.
[48] EC Opinion on the Hungarian plans.

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solidarity obligations to be developed and made part of emergency plans. As this paper goes into print in February 2023, only six solidarity agreements have been concluded, although more agreements are understood to have reached an advanced stage but have not been signed yet.

Solidarity Agreements

The SOS Regulation mandated Member States to conclude solidarity agreements with those Member States to which they are connected either directly or via a non-EU country, by 1 December 2018. These agreements must specify technical, financial and legal arrangements, governing the implementation of the SOS Regulation's solidarity (sharing) obligation.[49] Solidarity agreements are one of the key components of the SOS Regulation's governance structure, ensuring that gas is supplied to solidarity protected customers in the Member State requesting the solidarity measure. Such arrangements must be agreed 'among the Member States which are directly connected or […] via a third country' and must be described in their respective emergency plans (Art. 13.10). According to the Regulation, they 'may cover, among others':

(a) the operational safety of the network;

(b) gas prices to be applied and/or the methodology for their setting, taking into account the impact on the functioning of the market;

(c) the use of interconnections, including bi-directional capacity and underground gas storage;

(d) gas volumes or the methodology for their setting;

(e) categories of costs that will have to be covered by a fair and prompt compensation, that may include damages for curtailed industry;

(f) an indication of the method of calculating the fair compensation.

According to the Regulation, preventive action and emergency plans had to be notified to the EC and made public by 1 March 2019 (Art. 8.7), whereas solidarity agreements had to be prepared by 1 December 2018 and described in the emergency plans (Art. 13.8).[50] However, when the Member States' plans had been published in 2019, they contained very little information in respect of the technical, legal and financial arrangements governing the implementation of solidarity obligation, as the Member States failed to conclude the underlying solidarity agreements.

Despite the Regulation's requirement to conclude Solidarity Agreements by 1 December 2018 and their key role in implementing a solidarity obligation in an emergency, not a single solidarity agreement had been concluded by the time of the EC issuing its Opinions on Member States' emergency plans in 2019 and 2020. By the time of this paper going to print in February 2023, only nine EU Member States (Germany, Denmark, Austria, Italy, Slovenia, Finland, Latvia, Estonia, and Lithuania) have concluded their solidarity agreements with some but not all Member States to which they are connected either directly or via a non-EU country. Only six solidarity agreements have been signed – most of them during 2022 – which is far fewer than the several dozens of such agreements that needed to be signed in line with the Regulation (Table 1).[51]

Germany and non-EU Switzerland have also been negotiating a solidarity agreement since May 2022. However, in January 2023 the German government suggested instead that a trilateral solidarity

[49] Denmark and Sweden are exempted from the Regulation's obligation to conclude technical, legal and financial arrangements for the purpose of Sweden providing solidarity to Denmark, as Sweden has access to gas via interconnections exclusively from Denmark as its only source of gas and its only possible provider of solidarity. The Regulation does not apply to Cyprus (as no gas is supplied into its territory) but became applicable to Malta (which started to import LNG in 2017) after a transition period. The solidarity obligation does not apply to Malta as it is not connected to the EU gas transmission network (the 2 bcm Melita Transgas pipeline, which would connect Malta and Italy, is under consideration, see https://melitatransgas.com.mt/)

[50] EC Opinions on Member States Preventive Action and Emergency Plans.

[51] EC, Secure gas supplies: solidarity arrangements; BMWK (2020), 'Germany and Denmark sign first ever agreement on solidarity gas deliveries in Europe', press-release, 14 December 2020; BMWK (2021), 'Germany and Austria sign agreement on solidarity gas deliveries', press-release, 2 December 2021.

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agreement, which would also include Switzerland and Italy, should be concluded. While discussions on this matter are understood to be ongoing, the Swiss government issued a statement saying that the outstanding issues between Switzerland and Germany can be clarified at a technical level and that as such there was 'no need' for a bilateral solidarity agreement.[52]

Table 1: Solidarity Agreements concluded by Member States by 1 February 2023

EU Member States	Signature Date
Germany – Denmark	14 December 2020
Germany – Austria	2 December 2021
Italy – Slovenia	22 April 2022
Latvia – Estonia	4 January 2022
Latvia – Lithuania	10 March 2022
Estonia – Finland	25 April 2022

Source: EC, BMWK

Notably, even with the central and east European sub-region, which would be most affected by a large-scale disruption, not all Member States have concluded solidarity agreements either with one another, or with their neighbouring Member States. For example, while Germany has a solidarity agreement with Denmark and Austria, it has no such agreement with France, Poland, Belgium, the Netherlands, or Czechia. Austria does not have a solidarity agreement with Hungary, Italy, Slovenia or Slovakia. Several Member States potentially most affected by a disruption of Russian gas via the Ukrainian corridor – Czechia and Slovakia – have no solidarity agreements with any of their neighbouring Member States. Hungary, which would be most affected by a disruption via TurkStream, also has no solidarity agreements signed.

As noted in the previous section, the absence of descriptions of solidarity agreements in Member States' emergency plans was one of the main criticisms expressed by the EC in respect of all Member States emergency plans. Clearly the main reason for the lack of descriptions is the absence of solidarity agreements themselves: as this paper goes to print, a majority of Member States has yet to conclude their solidarity agreements. Those Member States which concluded their solidarity agreements over the course of 2020-21, have not yet published their updated emergency plans.

While the updated emergency plans of these Member States are lacking, their original plans – as commented on by the EC (see Section '*EC Opinions on Member States' Preventive Action and Emergency Plans*') – provide a useful insight into the possible content of their recently concluded solidarity agreements.

For example, the German plan lists the following pillars of its proposed solidarity agreements:

- solidarity measures must be applied as a last resort for the following gas day;
- the Member State requesting solidarity directs its request simultaneously to all neighboring Member States (burden-sharing principle);
- solidarity should be ensured by market-based measures for as long as possible;
- the Member State requesting solidarity is obliged to reimburse the Member State providing solidarity and/or the market participants in the Member State providing solidarity with all costs arising in connection by the solidarity measures taken by the Member State providing solidarity.

The 2019 Danish emergency plan stated that Denmark

[52] 'Switzerland and Germany seek to conclude gas solidarity deal', *Swiss Info*, 23 May 2022; 'Germany rules out bilateral gas solidarity agreement with Switzerland', *Swiss Info*, 17 January 2023; Federal Council (2023): WEF Annual Meeting: Switzerland and Germany hold talks on energy and economic issues, 16 January 2023; 'Gas agreement with Berlin: Switzerland will also talk to Italy', *SRF*, 17 January 2023.

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> ‘shall enter into agreements with Germany for delivery of solidarity gas in both directions and an agreement with Sweden for delivery of Danish solidarity gas to Sweden’, and

that it was working on

> ‘a legal and a practical track in order to set up the needed national legal system and develop an integrated transport, allocation, and nomination system to ensure delivery of solidarity gas to Germany and Sweden’.[53]

The German-Danish agreement, signed in December 2020, was the first solidarity agreement concluded under the SOS Regulation.

Default rules in absence of solidarity agreements

Witnessing poor progress on part of the Member States in concluding their solidarity agreements, the EC has outlined a default procedure for implementing a solidarity measure ('default solidarity procedure’) that would have to be followed in the event of two Member States failing to conclude a solidarity agreement by the time a solidarity measure is requested by one of them. Initially, the EC proposed a default solidarity procedure in December 2021 as part of its proposal for a Renewable and Natural Gases and Hydrogen Regulation (‘RNH Regulation’).[54] This procedure has established mandatory templates for formulating a solidarity request and a solidarity offer as well as determining compensation for the provision of solidarity supplies (see Annex I). However, it was becoming increasingly clear that the RNH Regulation, still under discussion in the Council, would be unlikely to enter into force until late 2023,[55] thus rendering its proposed default solidarity procedure irrelevant, should the solidarity mechanism be triggered during winter 2022-23. Therefore, the EC has also proposed a similar default solidarity procedure as part of its proposal for an Enhancing Solidarity Regulation in October 2022. This procedure has established harmonized clauses on solidarity, which are analyzed in Section 2.2. These clauses are broadly similar to those stipulated by the RNH Regulation although there are some important differences, particularly in respect of determining compensation for the provision of solidarity. As the ES Regulation entered into force on 30 December 2022, its default solidarity procedure currently applies. Where a bilateral solidarity agreement between two Member States is in place, it prevails over harmonized clauses established by the ES Regulation.

2.2 Enhancing Solidarity Regulation: amending the SOS Regulation’s solidarity provisions

On 18 October 2022, the EC proposed a new Enhancing Solidarity Regulation (‘ES Regulation Proposal’).[56] The Regulation was agreed on 19 December and entered into force on 30 December 2022 (‘ES Regulation’).[57] It will apply for one year in the first instance, but the EC would be able to propose its prolongation to the Council, on the basis of a report summarizing the main findings of a review to be conducted by the EC by 1 October 2023 (Art. 30). The Regulation stipulates the measures for:

- better coordination of gas purchases in the EU, including through joint purchasing (Chapter II of the Regulation);
- prevention of ‘excessive’ gas prices and ‘excessive’ intra-day volatility in energy derivatives markets (otherwise known as ‘the market correction mechanism’ or ‘the wholesale gas price cap’, Chapter III);
- a gas emergency (Chapter IV).

[53] To date, no solidarity agreement has yet been concluded between Denmark and Sweden.
[54] RNH Regulation is one of the three constituent parts of Renewable and Natural Gases and Hydrogen acquis, which also includes Renewable and Natural Gases and Hydrogen Directive RNH Directive) and Methane Regulation.
[55] European Parliament (2022), Legislative Train Schedule: revision of the EU Gas Regulation, 15 December 2022.
[56] Enhancing Solidarity Regulation Proposal.
[57] *Enhancing Solidarity Regulation*.

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This paper analyses the ES Regulation's gas emergency measures, adjusting and amending the SOS Regulation's solidarity mechanism.[58] As explained in Section 2.1, the SOS Regulation stipulated a solidarity mechanism – obliging a Member State directly connected to a Member State, which has requested a solidarity measure, to reduce or stop supplies to its own customers, other than solidarity protected customers, to enable supplies to solidarity protected customers in the requesting Member State. The ES Regulation has amended this solidarity mechanism in several important respects. These amendments, which will be in force for at least one year, are analysed below.

Extending solidarity protection to critical gas volumes for electricity generation

Whereas the SOS Regulation stipulated that a solidarity measure must be applied only if a Member State has been unable to cover its solidarity protected customers (Art. 13.3), the ES Regulation has extended solidarity protection to critical gas volumes for security of supply of electricity (Art. 23.1). It stipulated that a solidarity measure must be applied only if the requesting Member State has been unable to cover (essential volumes of) its solidarity protected customers *and* to supply the critical gas volumes (not exceeding pre-defined limits set in Regulation's Annex I for each Member State) for electricity security of supply.[59] A Member State which is obliged to provide a solidarity measure is allowed to deduct from its solidarity offer the volumes for its own solidarity protected customers (within the limits of their essential consumption), critical volumes for security of supply of electricity, volumes for the electricity needed for the production and transportation of gas, and volumes necessary for the operations of various critical installations and infrastructure (Art. 23.2).

Allowing the application of demand reduction measures in respect of protected customers

The ES Regulation also allows for application of demand reduction measures in respect of protected customers. Specifically, it enables Member States 'exceptionally' to take measures to reduce the non-essential consumption of protected customers' (Art. 24.1), as defined in the SOS Regulation (see Section 2.1) except vulnerable customers (Art. 24.2), as defined by Member States in line with the Gas Directive[60], when in particular:

- a Member State declares one of the three possible crisis levels: early warning, alert, or emergency (under the SOS Regulation), or
- the EC declares a regional or Union emergency (under the SOS Regulation), or
- the Council declares a Union alert (under the GDR Regulation).

Safeguarding unrestricted gas flows within the EU during a regional and Union emergency

The ES Regulation has strengthened the SOS Regulation's emphasis on the importance of preserving the unrestricted gas flows within the EU internal market during a regional or Union emergency. The SOS Regulation requires the Member States to ensure that

- no measures are introduced which 'unduly restrict the flow of gas within the internal market at any time, in particular the flow of gas to the affected markets', or 'are likely seriously to endanger the gas supply situation in another Member State'
- cross-border TPA to infrastructure is maintained as far as technically and safely possible.

However, under the SOS Regulation a Member State could be able to take an action that would be considered by the EC to be in violation of these requirements, and yet not change the course despite a request from the EC to do so, if its national regulatory authority's decision on the matter differs from that

[58] Joint purchasing platform and market correction mechanism have been analysed in other OIES publications, e.g. Fulwood (2022b), Barnes (2022).

[59] Critical gas volumes for electricity security of supply are defined as 'the maximum gas consumption needed in the power sector to ensure adequacy in a worst-case scenario simulated in the winter adequacy assessment, prepared by ENTSO-E by 1 December, as required by *Electricity Sector Risk-preparedness Regulation*, 5 June 2019.

[60] Gas Directive does not provide a definition of 'a vulnerable customer and only states that each member State must define 'the concept' of vulnerable customers which 'may refer to energy poverty and, *inter alia*, to the prohibition of disconnection of gas to such customers in critical times', Art. 3.3.

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of the EC. In contrast, the ES Regulation has removed the Member State's ability to reject the EC's request and obliged it to comply (Art. 25).

Extending the SOS Regulation's solidarity obligation on Member States with LNG facilities

The ES Regulation has temporarily extended the SOS Regulation's solidarity obligation, previously applicable only to Member States that are connected (directly or via a non-EU country) to a Member State that has requested a solidarity measure, to Member States with LNG facilities, 'provided the necessary capacity in the relevant infrastructure, including the LNG vessels and carriers, is available' (Art. 26.1). This means that if a Member State has requested a solidarity measure under Art. 13 of the SOS Regulation, then any Member State, which has an LNG terminal and where such necessary capacity is available, will be bound by the solidarity obligation and obliged to provide the solidarity measure. For example, if Chechia were to request a solidarity measure, then the Netherlands and Belgium could be obliged to provide it, whereas Spain would not be because of the lack of infrastructure. Similarly, if Slovakia were to request a solidarity measure, then Germany, where one LNG terminal has started receiving gas in December 2022, another – in January 2023, and several other LNG terminals are under development, could be obliged to provide a solidarity measure, despite not being connected to Slovakia. This also means that Germany, while no longer importing any Russian gas since all Nord Stream flows stopped on 1 September 2022, would be negatively affected should Russian gas flows also stop to those central and east European countries that are still receiving it, as it would be under obligation to share its gas with them.

The ES Regulation allows Member States with LNG facilities that are not directly connected to a requesting Member State to 'agree bilaterally with any other Member State' to conclude their bilateral solidarity agreements, specifying technical, legal and financial arrangements related to the provision of solidarity (Art. 26.3). If no such solidarity agreement has been concluded by the time when a request for a solidarity measure is received, the default rules, established by the ES Regulation and analyzed below, would apply (Art. 26.4).

Establishing default rules in absence of solidarity agreements

The ES Regulation established default rules governing the provision of a solidarity measure which would apply if Member States have not concluded their bilateral solidarity agreements, as required by the SOS Regulation (Art. 27).

As far as the **compensation** for the provision of solidarity measure is concerned, it must not exceed 'reasonable costs', must be paid directly by the Member State requesting solidarity to the Member State providing solidarity or the entity both Member States indicate in their response to the solidarity request. Compensation for the solidarity gas – irrespective of whether it has been provided based on voluntary or mandatory measures[61] – must include:

- the price for gas in the Member State providing solidarity,
- the storage and transport costs, including possible fees 'resulting from the deviation of LNG cargoes to the interconnection point requested',
- litigation costs for related judicial and arbitration proceedings involving the Member State providing solidarity,
- other indirect costs that are not covered by the price of gas (such as damages resulting from enforced firm load shedding) provided that those costs are not higher than the price of gas. If these costs are higher than the price of gas, the EC is obliged to decide whether higher

[61] Default solidarity procedure outlined in the draft Renewable and Natural Gases and Hydrogen (RNH) Regulation (see Section 2.1 and Annex I of this paper) differentiates between compensation to be paid for the solidarity gas provided based on voluntary and mandatory measures. The draft RNH Regulation stipulated that the solidarity gas provided based on voluntary measures would be paid at the price 'resulting from contract clauses, tenders or other market-based mechanism applied', whereas the solidarity gas provided on the basis of mandatory measures would be paid at the price corresponding to 'the last available spot market price … at the date of the provision of the solidarity measure'.

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compensation is appropriate, taking into account 'specific contractual and national circumstances […] and the principle of energy solidarity'.[62]

The ES Regulation allows a Member State providing solidarity and a Member State requesting solidarity to agree bilaterally on the price of solidarity gas, and stipulates that in absence of such agreement the price of solidarity gas shall correspond to the day-ahead market price on the day preceding the request for solidarity (Art. 27.4):

- in the Member State providing solidarity, or
- at the closest accessible exchange, or
- at the closest accessible virtual trading point, or
- at an agreed hub.

As far as the **timing of the provision of solidarity** is concerned, the Regulation requires the solidarity measure to be provided 'as soon as possible and no later than 3 days after the request'. The only grounds for a Member State to refuse provision of solidarity are:

- not having enough gas for the volumes excluded from the solidarity obligation (that is supplies to solidarity protected customers, critical volumes for electricity production, volumes for the electricity needed for the production and transportation of gas, and volumes necessary for the operations of various critical installations and infrastructure), or
- not having sufficient interconnection capacity available and not having the possibility to provide sufficient volumes of LNG.

As far as **the procedure for the provision of solidarity** is concerned, the Regulation requires that **a solidarity request** must

- indicate requested gas volumes, gas quality, delivery and interconnection points, delivery period (including timing of the first possible delivery and the anticipated duration of deliveries), contact details;
- to be sent 'simultaneously to Member States potentially being able to provide solidarity measures', the EC, and to the national crisis managers;
- to be submitted at least 72 hours before the indicated delivery time.

It also requires that **a solidarity response (offer)** must

- indicate the volume and quality that can be supplied to the interconnection point at the time requested, including the volume resulting from possible curtailment, or where it is strictly indispensable, release of strategic stocks if the volume that can be supplied by voluntary measures is insufficient,
- be sent within 24 hours.

It is worth noting that the final ES Regulation, adopted in December 2022, differs from the EC ES Regulation Proposal made in October 2022 in several important respects. The most important differences concern compensation for the provision of solidarity. While the final Regulation stipulates that the solidarity gas is to be paid at the day-ahead market price on the day preceding the request for solidarity, the Proposal stipulated this gas to be paid at the average market price over a 30-day period preceding the request for solidarity, which is more onerous for a Member State providing solidarity as its compensation would be lower. Also, while the final Regulation stipulates that litigation costs for related judicial and arbitration proceedings involving the Member State providing solidarity as well as

[62] This wording appears to suggest that although a higher compensation could not be ruled out, it is difficult to expect the difference to be significant.

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other indirect costs (provided the latter is not higher than the price of gas) must be covered by compensation, the Proposal excluded any compensation to third parties in the providing Member State for losses incurred as a result of mandatory measure application, thus being more onerous for the Member State providing solidarity. Overall, the final ES Regulation stipulates more beneficial terms for the Member Sate providing solidarity thus potentially reducing the scope for disagreements with the Member State receiving solidarity and therefore making the provision of solidarity more likely.

The Regulation confirmed that bilateral solidarity agreements, concluded between Member States by the time a solidarity request is made, will prevail over the default solidarity rules in the Regulation. As noted in Section 2, by January 2023 only six bilateral solidarity agreements have been concluded although more such agreements are understood to have reached an advanced stage.

2.3 Gas Demand Reduction Regulation: mandatory gas demand reduction by all categories of consumers in all Member States

The SOS Regulation was adopted in the aftermath of the 2014 EC communication on the short-term resilience of the European gas system, which concluded that 'purely national approaches are not very effective in the event of severe disruption' and recommended 'a more cooperative approach'. [63] The SOS Regulation was designed with a view to managing a potential loss of Russian supplies via one transportation route for a relatively short period of time, rather than a loss of all Russian supplies through all routes for a prolonged period. In 2022 Europe lost ~56 per cent of its Russian gas supplies compared to their 2021 levels because Gazprom prioritized filling its storage in Russia ahead of winter 2021-22, did not offer additional gas on the Electronic Sales Platform, and halted supplies to those countries which rejected its new 'gas for rubles' payment procedure. Nonetheless, it is understood that Gazprom had been meeting all contractual nominations of its European buyers up until mid-June, when it declared a *force majeure* on several supply contracts with European buyers receiving their Russian gas via the Nord Stream pipeline, due to technical inability to utilize the pipeline.[64] If Russian gas supplies to Europe – currently arriving only through Ukraine and TurkStream – were to decrease further or stop completely, the SOS Regulation (and its solidarity mechanism) alone would be insufficient to avert large-scale gas rationing – if not this winter then potentially next – in several Member States, which receive Russian gas through these corridors, because of the very significant role that Russian gas still plays in their energy balances, both in relative (share) and absolute (volume) terms. This paper analyses the likely impact of a potential disruption on these Member States in Section 4.

On 20 July 2022, just over a month after gas flows through Nord Stream had been cut by 50 per cent (because of a turbine maintenance problem, attributed by Gazprom to Western sanctions but disputed by Western governments), the EC issued a communication 'Save Gas for a Safe Winter',[65] which outlined an EU plan for action in the event of 'further disruptions of supply, or a full cut-off', of Russian gas supplies to Europe. The EC has subsequently proposed a new Regulation on Coordinated Demand Reduction Measures for Gas (Gas Demand Reduction (GDR) Regulation) – aimed at reducing gas consumption of each Member State by 15 per cent – voluntarily and (under certain conditions)

[63] EC (2014), EC (2014), Communication from the Commission on the short-term resilience of the European gas system.
[64] On 14 July Gazprom announced that it was reducing the flows through Nord Stream, from 167 mmcm/d to 100 mmcm/d and on 16 June further down to 67 mmcm/d, resulting in flows dropping by more than half over just a few days; flows stopped completely on 1 September 2022. Gazprom justified this by technical problems at Portovaya – a giant compressor station feeding Nord Stream with gas. According to Gazprom, as gas turbine maintenance and repair schedule was jeopardized by the Western sanctions, which resulted in a situation when a gas turbine has not come back from Canada (where it was contracted to undergo maintenance) while other compressors were also taken offline for repair and maintenance. An OIES Comment, published in July 2022, discussed the technical issues at Portovaya, in order to understand whether Gazprom's decision to reduce flows through Nord Stream was aimed at establishing a sanctions-proof regime for turbines repair and maintenance thus ultimately safeguarding rather than undermining its future gas flows to Europe – or whether this was a pretext for reducing gas flows to Europe with a view to forcing it into geopolitical concessions over Ukraine, see Fulwood, Sharples, Stern and Yafimava (2022), 'The curious incident of the Nord Stream turbine'.
[65] EC (2022d), Save Gas for Safe Winter Communication, 20 July 2022.

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mandatorily – between 1 August 2022 and 31 March 2023, so that the impact of any further loss of Russian gas supplies on individual most vulnerable Member States would be less dramatic.

The GDR Regulation was adopted on 5 August and entered into force uncharacteristically fast on 9 August 2022.[66] This could be explained by widespread fears that flows via Nord Stream could stop completely, and the new Regulation was meant to provide Member States with a legally-binding instrument that – if needed – could be utilized quickly and soften the blow.[67] In the event, flows via Nord Stream were halted on 1 September 2022. Furthermore, even if there were any lingering expectations that Russian gas flows through Nord Stream could re-start in late 2022 or early 2023 – even if not at full capacity – pending a resolution of the turbine maintenance problems, these were dashed when both Nord Stream lines (and one line of Nord Stream 2) were badly damaged in an explosion on 26 and 27 September 2022 – since ruled an act of sabotage – and would require lengthy and complex repairs before they could flow gas again.

The Regulation will apply for one year in the first instance, but the EC would be able to propose its prolongation to the Council, based on a report summarizing the main fundings of a review to be conducted by the EC by 1 May 2023 (Art. 10).

Gas Demand Reduction provisions: voluntary and mandatory

The Gas Demand Reduction Regulation stipulates voluntary gas demand reduction by obliging each Member State to 'use their best efforts' to reduce their gas consumption during 1 August 2022 – 31 March 2023 by 15 per cent compared to their average gas consumption from 1 August to 31 March during the preceding five years. According to the EC President, Ursula von der Leyen, the EC estimates that 'under certain assumptions' a 15 per cent reduction would allow the EU to 'make it safely' through winter 2022/23 'in case of a complete disruption of Russian gas'.[68]

According to the statistics, the European (EU27 and the UK) implied gas consumption in the full year 2022 fell by 14.3 per cent year-on-year, and by 15 per cent compared to the average for 2017-21.[69] This decline is mostly attributed to very high gas prices forcing industrial closures and mild temperatures leading to lower demand for residential heating. This suggests that the fall in European gas demand in 2022 was consistent with the Regulation's target gas demand reduction of 15 per cent, although the onset of colder weather could cause a divergence in the future.

The voluntary 15 per cent gas demand reduction requirement becomes mandatory when the Council, acting on a proposal from the EC, declares a Union alert (not related to any of the crisis levels – an early warning, an alert, or an emergency – pursuant to Art. 11.1 of the SOS Regulation), thus obliging each Member State to reduce its gas consumption accordingly (Art. 5.1). The Council may declare an alert only acting by a qualified majority and may amend the EC's proposal, also by a qualified majority. Conversely, the Council may declare an end to the alert, also acting on a proposal from the EC. The Regulation specifies that a Union alert should only be declared in the event that the voluntary demand-reduction measures are insufficient to address the risk of a serious supply shortage.

The Regulation states that for as long as the Union alert is declared, gas consumption in each Member State between 1 August 2022 and 31 March 2023 must be 15 per cent lower than its average consumption from 1 August to 31 March during the preceding five-years. The Regulation also specifies that '[a]ny demand reductions achieved by Member States during the period before the Union alert was declared shall be taken into account for the purpose of the mandatory demand reduction' (Art. 5.2).

For those Member States where gas consumption increased at least by 8 per cent during 1 August 2021 to 31 March 2022 compared to their average gas consumption in the preceding five years, the percentage of mandatory gas demand reduction is lowered from 15 to 8 per cent.

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[66] Council (2022).
[67] *Gas Demand Reduction Regulation*.
[68] EC (2022f), Statement by President von der Leyen, 20 July 2022. Also see EC (2022d).
[69] Sharples/OIES based on data from ENTSOG, GIE, Eurostat and UK Government.

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Union alert triggers

The Regulation is clear that only the Council, acting on a proposal from the EC, can declare a Union alert, mandating a 15 per cent gas demand reduction. (The EC's original proposal for the Regulation suggested that it should be the EC declaring a Union alert, but this idea had failed to secure sufficient support in the Council.)

While only the Council has the power to declare a Union alert, it can do so only after the EC has consulted the Risk Groups and the Gas Coordination Group and has presented a corresponding proposal. The Regulation obliges the EC to present such a proposal where:

- the EC 'considers that there is *a substantial risk of a severe gas supply shortage or where an exceptionally high demand* for gas occurs' for which voluntary demand reduction measures are insufficient and which results in 'a significant deterioration of the gas supply situation' in the EU, but where the market can manage the disruption without the need for not-market measures (Art. 4.2), or
- *five or more Member States'* competent authorities *have declared a national alert* (the second highest level out of three, an early warning being the lowest and an emergency – the highest) under the SOS Regulation (Art. 4.3).

Unlike a regional or Union emergency under the SOS Regulation, which the EC has a right to trigger following a request from a Member State that has declared a national emergency and which the EC has an obligation to trigger following a request from at least two Member States that have declared a national emergency, a Union alert under the GDR Regulation can only be triggered by the Council, provided there is a qualified majority in favour of doing so.

This suggests that the EC would have no other choice than make a proposal to the Council to declare a Union alert, if at least five Member States have declared a national alert. For example, if Czechia, Slovakia, Hungary, Austria and Germany were all to declare a national alert, the EC would be obliged to make a proposal to declare a Union alert. However, it also suggests that if fewer than five Member States (or indeed none) have declared a national alert, the EC has significant discretion in respect of whether to make a proposal to the Council to declare a Union alert because no specific criteria for doing so are defined. The factors capable of prompting the EC to declare a Union alert could include a complete halt in Russian gas flows to Europe, a significant deviation from the 15 per cent demand reduction trajectory, lower LNG imports, and colder weather causing an accelerated storage depletion.

It is reasonable to assume that the EC would likely make a proposal to the Councill to declare a Union alert if Russian gas flows through Ukraine and TurkStream were both cut off, and could also do so if Russian gas flows were cut off through Ukraine but continued through TurkStream. (For discussion on TurkStream see Section 3). Notably the EC made no such proposal when Nord Stream flows came to a halt on 1 September 2022, possibly calculating there would be no necessary support in the Council as Member States most affected by the loss of Nord Stream flows – including Germany – have been able to handle the situation by attracting additional LNG cargoes.

Whereas the Council plays a decisive role in declaring a Union alert (provided there is a qualified majority) as it can reject the EC's proposal, its power to declare an end to the alert is more limited. It can only do so based on the EC proposal. In other words, Member States have more power to declare the alert than to end it. This consideration may limit the willingness of those Member States that are less vulnerable to the supply disruption to declare an alert in the first place.

Unlike a declaration of a regional or Union emergency by the EC under the SOS Regulation, declaration of a Union alert by the Council under the GDR Regulation does not suspend the requirement for Member States to meet their mandatory storage filling targets. Thus the gas that has been 'saved' – that is, not consumed – thanks to implementation of gas demand reduction requirement, could be added to storage.

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Implementation and sequencing of GDR and SOS/ES Regulations provisions

The GDR Regulation's solidarity provisions, requiring all Member States to cut gas demand by 15 per cent if a Union alert has been declared, are designed to act as 'a circuit breaker', potentially enabling the most affected Member States to avoid declaring a national emergency (Figure 1). If these measures prove insufficient – that is one or more Member States' gas supply is insufficient to meet the remaining gas demand and non-market-based measures have to be introduced to safeguard supply to protected customers - these Member States have a right to declare national emergency and invoke the SOS Regulation solidarity mechanism, obliging other connected Member States to reduce their gas demand further, to enable the requesting Member States to supply their solidarity protected customers.

Importantly, while the Council's approval is needed for declaring a Union alert and triggering a mandatory gas demand reduction under the GDR Regulation, the solidarity (sharing) mechanism under the SOS Regulation can be triggered by any single Member State, which has declared a national emergency. If at least two Member States declared a national emergency and requested the EC to declare a regional or Union emergency, the EC is obliged to do so. If only one Member State declared a national emergency and requested the EC to declare a regional or Union emergency, the EC may, but is not obliged to, do so. Notably, unlike for declaring a Union alert under the GDR Regulation, the EC does not need the Council's approval for declaring a regional or Union emergency under the SOS Regulation. Once/if a regional or Union emergency is declared, the EC becomes responsible for coordination of Member States' actions and ensuring that the internal market continues to function i.e. gas flows are not restricted and access to cross-border infrastructure is maintained.

Whose gas demand gets cut off if a Union alert is triggered?

The Regulation states that once the Union alert is declared, thus making gas demand reduction by 15 per cent mandatory, Member States are 'free to choose the appropriate measures to reduce demand', i.e. to decide whose gas demand gets reduced or cut (Art. 6.1). It does not prescribe any specific measures but requires them not to 'distort competition or the proper functioning of the internal market for gas', not to 'endanger the security of gas supply' of other Member States or the EU, and to comply with the SOS Regulation's provisions in respect of protected customers. However, it is difficult to see how these requirements could be met in practice as many difficult trade-offs would have to be made.

Implementation of gas demand reduction measures would also likely be accompanied by disagreements within and between Member States, as well as between Member States and the EC, on whether these obligations can be carried out or whether exemptions should be sought. By the time these disagreements are resolved, the crisis may have exacerbated further, having not been addressed adequately in a timely manner. As noted in Section 1, the CJEU has ruled energy solidarity to be a justiciable principle of EU law which creates rights and obligations for the EU and for the Member States both in respect of coping with and preventing energy emergencies. However, as it failed to provide any guidance – or indeed criteria – on how their respective interests should be balanced, the scope for disputes – and potentially, litigation – is significant.

While Member States are free to determine demand-reduction measures, they are naturally obliged to 'consider prioritising measures affecting customers other than protected customers' i.e. reducing demand from non-protected customers ahead of protected customers. The Regulation also enables Member States to exclude customers from gas demand-reduction measures 'on the basis of objective and transparent criteria' which 'takes into account their economic importance' as well as other factors including inter alia:

- the impact of a disruption on supply chains that are critical for society;
- the possible negative impacts in other Member States, in particular on supply chains of downstream sectors that are critical for society;
- the potential long-lasting damage to industrial installations;
- the possibilities for reducing consumption and substituting products in the EU.

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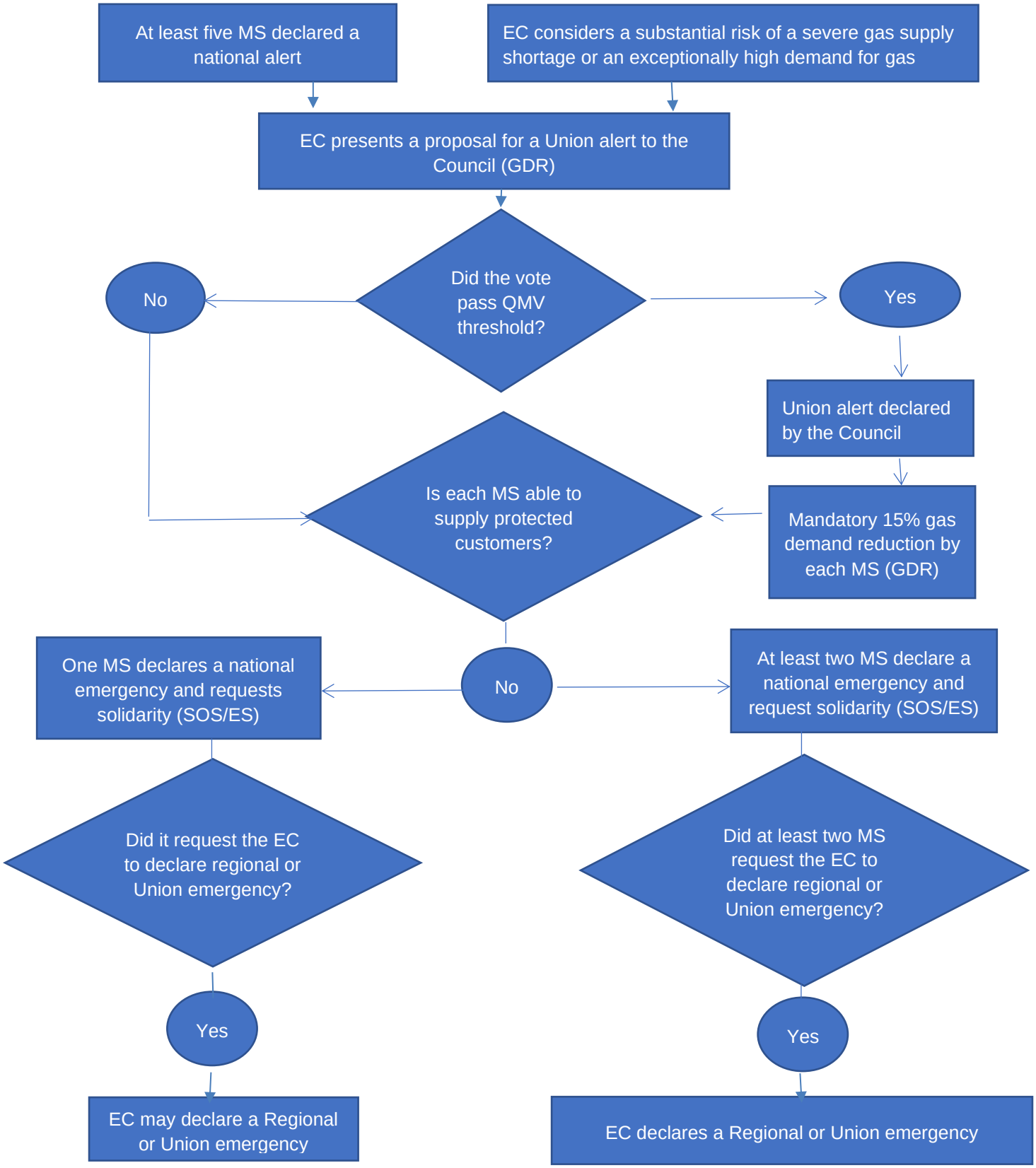
Figure 1: SOS/ES and GDR Regulations solidarity provisions: implementation sequencing



Source: Yafimava/OIES

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Therefore, Member States will have significant discretion over deciding which customers should have their gas supply reduced or cut off once the Union alert is triggered. Industrial consumers would likely be the first to experience reductions, and the list of criteria on the basis of which Member States would have to decide who is going to be cut, suggests that those enterprises which play a significant role in the national and intra-EU supply chains, whose output could not be easily substituted, and/or whose installations would suffer long-lasting (or non-recoverable) damage, could be spared from mandated gas demand reductions. Nonetheless, difficult trade-offs would have to be made. Some installations may be seen as more critical, others would be unable to re-start production and would have to shut down if disconnected. These trade-offs would also be country- and industry-specific and potentially subject to complex negotiations at a Member State, regional, and EU level. For example, steel and chemicals could be seen as more critical than ceramics and glass because of the impact their disruption would have on critically important supply chains. However, while ceramics and glass may be seen as less critical, if their furnaces are allowed to go cold the entire plant would be ruined and could not be re-started. It is also an open question whether those industrial enterprises whose gas demand would be mandatorily reduced or cut off, thus leading to partial or full closures, will return to production later on or choose to shut down or relocate (gas demand destruction). There would also be measures aimed at reduction of gas consumption by the electricity sector. It cannot be ruled out that some protected customers could be disconnected to leave more gas available for covering critical gas volumes for electricity security of supplies and possibly for supplies to industry. Notably, the ES Regulation allows for disconnection of protected (but not vulnerable) customers (see Section 2.2).

Those Member States that are least likely to be affected by the potential Russian gas supply cut off – and hence least interested in solidarity gas arrangements – might be least likely to support declaration of a Union alert in the Council, due to adverse political repercussions associated with industrial closures, caused by mandatory gas demand reduction measures that such an alert would trigger. As demonstrated below, even if there were to be sufficient support among Member States in the Council for declaring a Union alert and triggering gas demand reduction requirement, there would be a significant scope for disagreements between Member States as well as between Member States and the EC at the stage of implementing this requirement.

Exemptions: eligibility and monitoring

When the EC first proposed the Gas Demand Reduction Regulation in July 2022, it faced significant opposition from several EU Member States – particularly those that would be least affected by the potential Russian gas supply cut and least in need of solidarity – including Spain, Portugal, Greece, Italy, France, Poland, Hungary, Latvia and Malta.[70] While the Regulation was ultimately adopted, its final version differed significantly from the original EC proposal[71] – the sign of many compromises that had to be made. The final Regulation differs from the original EC proposal in two important respects:

- firstly, it stipulates that it is the Council, rather that the EC, that is empowered to declare a Union alert and hence a mandatory gas demand reduction requirement;
- secondly, it envisages a possibility of full and partial exemptions from mandatory gas demand reduction requirement being granted to Member States.

The Regulation's list of full and partial exemptions is very long (and hence has invited comparisons with the Swiss cheese which is equally full of holes).[72] Member States are <u>fully</u> exempted from mandatory gas demand reduction requirement if:

- a Member State's electricity system is synchronized only with the electricity system of a third (i.e. non-EU) country;

[70] Greece against 'mandatory' EU rationing plan, *Argus, European Natural Gas,* 22 July 2022, Blas (2022a), Blas (2022b).
[71] GDR Regulation Proposal.
[72] Porciello (2022).

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- a Member State is not directly connected to a gas interconnected system of any other Member State.

Member states are partially exempted i.e. are allowed to (temporarily or permanently) limit their mandatory gas demand reduction requirement by:

- the amount of gas stored in excess of a Member State's intermediate storage target for 1 August 2022;
- the volume of gas consumed during the reference period as feedstock;
- 8 per cent, if a Member State demonstrates that the ratio of its interconnection capacity to its annual gas consumption in 2021 is less than 50 per cent and that that interconnection capacity has been utilized at least at 90 per cent for at least one month before the exemption was notified (unless the Member State can demonstrate there was no demand and that capacity was maximized, and that its LNG terminals are ready to re-direct gas to other Member States up to the volumes required by the market);
- the amount necessary to mitigate the risk to electricity supply in a Member State facing an electricity crisis, if there are no alternatives for replacing the gas necessary for producing electricity without seriously endangering security of supply.

Where a Member State meets the criteria allowing it to limit the mandatory gas demand reduction, and has decided to do so, it is obliged to notify its decision to the EC, together with 'the necessary evidence' that the criteria have been met. In all instances, except where a Member State is facing an electricity crisis, such notification should be made as soon as the Regulation has entered into force (9 August 2022) and no later than two weeks after a Union alert has been declared. (This suggests that Member States would be expected to implement a mandatory gas demand reduction during the first two weeks after a Union alert has been declared. This would be extremely difficult, if at all realistic, to do in practice, particularly given the vagueness of Member States' emergency plan provisions on anti-crisis measures, See Section *'EC Opinions on Member States' Preventive Action and Emergency Plans'*). Where a Member State is facing an electricity crisis, a notification must be made no later than two weeks after the crisis has started (Art. 5.9). A Member State is also obliged to notify the GCG and the relevant Risk Groups (see Annex I).

The EC, having consulted with the Risk Groups and the GCG, is obliged to assess whether the conditions for limiting the mandatory gas demand reduction are fulfilled (Art. 5.10). If the EC determines that a limitation is not justified, it is obliged within 30 days to issue an opinion, explaining why the limitation should be cancelled or amended. It is obliged to monitor continuously whether the conditions allowing for limiting mandatory demand reduction are fulfilled. Where such conditions are no longer fulfilled, a Member State is obliged to implement mandatory gas demand reductions in full.

There would be a significant potential for disagreements between the EC and Member States on these obligations and how and whether they should be fulfilled. While the CJEU judgement has confirmed that energy solidarity is a justiciable principle (see Section 1) – thus obliging Member States to implement solidarity provisions stipulated by the *acquis* – it failed to provide any guidance as to how the different interests of Member States ought to be balanced in the process of doing so. This would likely make disputes unavoidable and their resolution too time consuming to be useful in the event of an actual gas crisis.

Potential difficulties in implementing the GDR Regulation

As is the case with the Security of Supply Regulation and its solidarity obligation, there are doubts about whether the Gas Demand Reduction Regulation's requirements could be fulfilled in practice and whether it is operationally manageable. In other words, will Member States be able to implement its mandatory demand reduction provisions – efficiently and quickly – should there be a serious and ongoing shortage of gas? Whereas the SOS Regulation has at least outlined a specific solidarity obligation and the protocols to be followed in the event of an emergency, the GDR Regulation only

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provides a very general guidance on how Member States should reduce their gas demand in the event of a Union alert. It does not specify any of the following:

- how Member States are going to reduce demand by 15 per cent;
- which customers Member States are going to cut down or cut off if that is not sufficient;
- which customers in other countries they are going to cooperate with in order to swap demand;
- how these measures will be implemented if supplies are progressively constrained or if demand is higher than anticipated due to lower temperatures,

leaving it to Member States to answer these questions themselves.

Clearly, it would be very difficult politically for Member States to agree to cut demand without more detailed guidance from the EC, especially as a significant degree of cross-border cooperation would be required and measures would have to be agreed and implemented by Member States very fast – literally days – in the event of a serious and ongoing shortage of gas. Implementation could be difficult and uncoordinated. Although the Regulation requires Member States to cooperate within the respective Risk Groups in the implementation of gas demand reduction, ultimately there is no arbiter, and in the event of a disagreement within the Risk Group or between the Risk Group and the EC (in the event the latter takes on the role of arbiter), implementation of gas demand reduction measures could be jeopardized.

3. A likely impact of the SOS, GDR and ES Regulations' solidarity provisions during a severe gas shortage

Previous OIES analysis has demonstrated that if there were to be a further reduction or a complete halt of Russian gas supplies to Europe, it would be mainly the central and east European sub-region – Germany, Austria, Czechia, Slovakia, and Hungary – that would be most affected.[73] This is due to infrastructure constraints preventing non-Russian gas – even if it were to be available in sufficient volumes – from flowing into this area from many adjacent Member States which have LNG import terminals or access to non-Russian pipeline gas supplies.

Because Russian gas supplies through the Yamal pipeline (Poland) stopped in May, and through Nord Stream – in September 2022, Germany's gas imports have been limited to pipeline gas imports from Norway and LNG arriving through the northern France, Belgium and Netherlands LNG terminals – with all the relevant import capacity being fully utilized, and more LNG via the British LNG terminals, with the gas being re-exported via the Interconnector and BBL. Infrastructure constraints prevented Germany from importing gas from LNG arriving in Spain and France. While there is significant available capacity on the border with Poland, the latter's contract for Russian gas expired in late 2021, and it is fully reliant on domestic production, imported LNG and, as of October 2022, on Norwegian pipeline gas delivered through the Baltic Pipe. Czechia, Slovakia, Austria and Italy were also impacted – to various degrees – by the stoppage of Nord Stream flows. If Russian gas supplies through Ukraine were also to stop – which cannot be ruled out – then those Member States importing Russian gas through Ukraine would be hit hardest – Slovakia, Austria, and (to a lesser degree) Italy.[74] Finally, if Russian gas supplies to European countries through one line of TurkStream were to stop – which seems the least likely scenario at present – several European countries would be affected, most seriously those without a coastline and an LNG terminal, such as Hungary and a group of non-EU countries (Serbia, Bosnia & Herzegovina, and North Macedonia). While Hungary, as an EU country, would be covered by the SOS Regulation's solidarity provisions, non-EU Serbia, Bosnia & Herzegovina, and North Macedonia would

[73] Fulwood (2022a), Sharples (2022).

[74] Italy ramped up its imports of LNG and pipeline gas from Algeria and had not imported any Russian gas since October 2022 but re-started its imports in January 2023. Hungary had previously received its Russian gas imports through Ukraine but flows have since been re-routed through one of the TurkStream lines.

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not. While these countries are Contracting Parties to the EnCT – which adapts and extends parts of the EU acquis to their territories – the adapted SOS Regulation does not contain solidarity provisions. However, it is highly unlikely that Gazprom will cut off supplies to European countries – unless they stop paying. (Supplies to Bulgaria stopped in April 2022 after it had rejected Russia's new ('gas for rubles') payment procedure but supplies to other countries in the region have continued).[75] As disputes between Russia and Turkey are highly unlikely, Gazprom would also continue supplying gas to Turkey through the second line of TurkStream and through Blue Stream. The first TurkStream line, which is used for supplies to European countries, is not fully utilized,[76] and could be used for deliveries to Turkey, increasingly so if European countries were to stop importing Russian gas.

The Gas Demand Reduction Regulation, the SOS Regulation, and the Enhancing Solidarity Regulation all contain measures aimed at helping the most affected Member States in the event of a severe gas shortage. However, because of infrastructure and capacity constraints, limiting the volume of gas that could flow into the central and east European sub-region from many adjacent Member States, if the Russian supplies were to stop, the impact of these measures is likely to be limited. Nonetheless, the impact, particularly that of implementation of the SOS/ES Regulation solidarity obligation by central and east European Member States themselves (especially Germany, as a "gate keeper" for LNG and Norwegian pipeline gas into the sub-region) as well as by the other Member States, would not be negligible. It would provide the safeguard of (at least essential volumes of) consumption of solidarity protected customers as well as volumes critical for electricity security of supply.

As explained in Section 2.3, the Gas Demand Reduction Regulation requires all Member States to reduce their gas demand by 15 per cent so that those Member States that stand to be most affected by the Russian supply disruption would not have to reduce their demand even more significantly. The Regulation aims at making demand reduction more evenly spread across the EU thus demonstrating solidarity between all Member States. However, although such measures – if agreed and implemented – would 'free up' some gas, only a small volume of it would reach the most affected Member States, as the topology of the European gas network is such that it only enables relatively small 'west to east' flows. The capacity from Norway, Netherlands and Belgium, and possibly a small amount from France only amounts to some 90 bcm on a full year basis – demand in 2021 was some 130 bcm for these five countries. As Fulwood argues in an earlier OIES paper, there is 'little or nothing' that Belgium and France or indeed Spain, Portugal, and Greece could do to assist Germany and other central and east European countries by cutting their own demand, as the infrastructure for moving large volumes of gas simply does not exist.[77] The Netherlands might be able to help due to lighter capacity constraints. A new onshore LNG terminal, EemsEnergy, comprising two FSRUs, totaling 8 bcma of capacity, started operations in September 2022[78]. Notably, the exemptions envisaged under the GDR Regulation, relieving those Member States that meet the criteria of their obligation to reduce gas demand by 15 per cent, would not materially change the physical gas supply situation in Germany and other central and east European countries during a crisis. Even if not exempted, many Member States would not be able to help the central and east European subregion, e.g. even if Spain were to reduce its demand by 15 per cent, this 'saved' gas could not flow into Germany via France.

As far as the SOS Regulation and the Enhancing Solidarity Regulation solidarity measures are concerned (Sections 2.1 and 2.2), their implementation would be relatively easier as there appears to be sufficient supply and capacity in the central and east European subregion at least for covering consumption of solidarity protected customers. The SOS Regulation stipulates that if any Member State in the affected sub-region is unable to supply their solidarity protected customers and declares a national emergency under the SOS Regulation, then Member States (both inside and outside this sub-region) that are connected to that Member State either directly or via a third (i.e. non-EU) country would

[75] For more detail on the 'gas for rubles' procedure, see Yafimava (2022) and Ason (2022).
[76] In 2021 reported flow through that line was 11.6 bcma, less than 15.75 bcma of capacity, see Bowden (2022).
[77] Fulwood (2022a).
[78] Gasunie, EemsEnergy Terminal,Dutch LNG terminal at Eemshaven to reach full capacity by end-Nov or early Dec: Gasunie, *European Gas Daily, S&P Platts*, 9 September 2022.

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be required to reduce gas consumption by their own customers (other than solidarity protected customers) to the extent that the 'saved' gas is sufficient to cover consumption of solidarity protected customers in the affected Member State. The Enhancing Solidarity Regulation has amended this requirement by obliging Member States to reduce gas supplies to its own customers (except protected customers) to the extent essential volumes are affected and supplies of (pre-defined) critical volumes for electricity security of supply. The same obligation has also been extended to all Member States with LNG facilities (in addition to Member States connected to the requesting Member State), provided that the necessary infrastructure is available. As Germany, Czechia, Slovakia, Austria and Hungary as well as the majority of Member States to which they are connected (either directly or via a non-EU country) or Member States which have LNG import terminals, would have sufficient infrastructure to deliver 'solidarity' gas, implementation of the solidarity mechanism would have a positive non-negligible impact. As by 1 February 2023 only six solidarity agreements have been signed, a stronger effort needs to be made to conclude many more solidarity agreements, especially with the most affected countries, which will give confidence that the solidarity mechanism will operate as planned if needed next winter.

This situation would improve once additional LNG import capacity is added in Germany, with imported LNG to contribute not only towards satisfying Germany's own gas consumption but also to that of other countries in the central and east European sub-region. In the aftermath of 24 February 2022, Germany – which until recently did not have a single LNG import terminal – has decided to build nine LNG import terminals – six FSRUs (two at Wilhelmshaven, two at Lubmin, one at Brunsbuttel, and one at Stade) and three onshore terminals, to substitute Russian pipeline gas imports with LNG from the global market. Out of these six FSRUs, two have already started operations at Wilhelmshaven in December 2022 and in Lubmin in January 2023, one more is expected to start operations in early 2023, and two others – before the end of 2023.[79] Total nameplate capacity of these six FSRUs is ~28 bcma, but only around half of this capacity could be available in 2023, while increasing further in 2024.[80] In addition, three onshore terminals are planned to be built in Germany by 2026. These new onshore and offshore terminals would provide Germany with direct access to LNG while also enabling it to provide solidarity gas to central and eastern European countries.

In the interim, it is all the more important to realize the full potential of the SOS/ES and GDR Regulations solidarity measures to alleviate the supply situation in the most affected countries. This is especially important in respect of the SOS Regulation solidarity obligation allowing to safeguard supplies to solidarity-protected customers. As explained in Section 2.1, bilateral solidarity agreements constitute a key factor for putting SOS Regulation solidarity mechanism into operation because they stipulate technical, legal and financial arrangements between a Member State that has requested, and a Member State that has provided, solidarity. As this paper goes to print in early February 2023, within a group of five countries potentially most affected by the loss of Russian supplies, only Germany and Austria have concluded a bilateral solidarity agreement. While Germany has also concluded solidarity agreements with Denmark, no such agreements yet exist with the Netherlands, Belgium or France.[81] The latter three would be of higher importance than the former as it is through Dutch, Belgian and northern French terminals that Germany was importing its LNG when Nord Stream flows stopped. Poland, which is directly connected to several potentially most affected countries – Germany, Slovakia, Czechia – has not concluded solidarity agreements with any of them. Given that it has an LNG terminal and receives Norwegian pipeline gas directly from Norway (via Denmark) it could potentially be called upon to provide

[79] First LNG regasified at Wilhelmshaven sent out into German grid: Uniper, *European Gas Daily, S& P Platts*, 22 December 2022; Deutsche ReGas officially opens Germany's second floating LNG import terminal, *European Gas Daily, S&P Platts*, 16 January 2023.
[80] Fulwood (2022a).
[81] There is an agreement signed by France and Germany in September 2022, under which France would supply Germany with gas in exchange for Germany supplying France with electricity, but this does not constitute an officially signed solidarity agreement in the meaning of SOS Regulation.

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solidarity to its neighbours. Slovakia, Czechia and Hungary have not concluded any such agreements with each other or other Member States.

As noted in Section 2.1, all Member States were obliged by the SOS Regulation to conclude solidarity agreements by December 2018, but none of them did so by the deadline. Only nine Member States have concluded solidarity agreements by the time of this paper going into print in February 2023, with just six solidarity agreements signed in total. The EC included mandatory default solidarity clauses both in the Proposal for the Enhanced Solidarity Regulation and in the Proposal for Renewable, Natural Gas and Hydrogen Regulation. As the ES Regulation entered into force in December 2022, its default solidarity clauses will govern the implementation of SOS Regulation solidarity obligation in the absence of bilateral solidarity agreements between relevant Member States (Section 2.2).

Because they are only able to count on limited support from other Member States, even if the GDR and SOS Regulations measures are implemented, Germany and other central and east European countries would also have to help each other by sharing whatever gas they have. For example, should the Russian gas transit through Ukraine stop and a Union alert be declared under the GDR Regulation, a 15 per cent gas demand reduction in Germany and Czechia – the countries that would not be *directly* affected by the Ukrainian transit cut off – would enable more LNG imported into Germany to pass through their territories and reach Slovakia and Austria. This LNG could also benefit Hungary, if its Russian gas supplies coming through TurkStream were to be cut off or reduced. Six new German FSRUs, two of which are already operational and four are planned to be operational before the end of 2023, would help to alleviate the supply situation in Germany and other central and east European countries.

Even if the geographical scope of the crisis caused by the potential loss of all Russian gas supplies would be largely limited to the central and east European sub-region, this does not mean that other European countries would be immune. The EU gas market would tighten further, causing prices to rise. While physical gas supplies to Member States outside the most affected central and east European sub-region would not be *directly* affected by the Russian disruption, they would be *indirectly* affected as they could be obliged to implement the GDR Regulation and the SOS Regulation solidarity provisions, thus reducing their demand and providing ‘saved’ gas to the most affected countries to the degree that is possible under existing infrastructure and capacity constraints.

Conclusions

The EU has been engulfed in a serious gas (and energy) crisis since late 2021, caused by 'a perfect storm’ of various factors negatively affecting global gas supply and demand fundamentals – including a sharp reduction of Russian gas supplies. The crisis has led to sharply increased (and volatile) gas prices but not (yet) physical shortages of gas. While the EU has made a political decision to eliminate its dependence on Russian gas ‘well before 2030’, it is not in control of either the scale or the timing of this process. Helped by anomalously warm temperatures so far this winter, Europe appears increasingly likely to get through the current winter relatively unscathed – bar a sudden dramatic and prolonged drop in winter temperatures and a loss of all Russian supplies. However, Europe’s next winter could be significantly more challenging if Russian gas supplies were to decrease further or stop altogether, especially if accompanied by rising China LNG demand, interruptions of other supplies, and cold winter temperatures which limit Europe’s ability to refill its storage over the summer of 2023.

In this case, sharing of limited gas supplies across the EU could become a necessity. The Security of Supply Regulation (SOS Regulation, 2017), the Enhancing Solidarity Regulation (ES Regulation, 2022), and the Gas Demand Reduction Regulation (GDR Regulation, 2022), all contain solidarity provisions, aimed at helping the most affected Member States. This OIES paper reviews these documents to explain their solidarity provisions, understand whether they could be implemented, and, if so, what their impact on the gas supply situation in the EU would be in the event of a severe gas shortage, – particularly in the Member States potentially most likely to be affected by the disruption (Germany, Czechia, Slovakia, Austria, and Hungary).

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The most important solidarity provisions, stipulated by the SOS, ES and GDR Regulations, are as follows:

- **a solidarity (sharing) obligation**, stipulating reduction of gas supply to all customers other than solidarity-protected customers in one Member State to enable another Member State, to which it is connected (directly or via a non-EU country) and which declared a national emergency and requested a solidarity measure, to supply its solidarity protected customers if it cannot do so on its own (SOS Regulation),
- **an amended solidarity (sharing) obligation**, stipulating reduction of gas supply to all customers except (essential) supplies to solidarity protected customers, supplies of critical gas volumes for electricity security of supply, supplies for the electricity needed for the production and transportation of gas and supplies necessary for the operations of various critical installations and infrastructure in one Member State, which has an LNG terminal or is directly connected or connected via a non-EU country to a requesting Member State, to enable the requesting Member State to cover (essential) supplies to its solidarity protected customers and supplies of critical gas volumes for electricity security of supply (ES Regulation),
- **mandatory gas demand reduction by 15 per cent** by each Member State (unless full or partial exemption is granted) in the event of a Union alert having been triggered by the Council (prioritizing reductions to non-protected customers but potentially also including protected customers), enabling the 'saved' gas to be stored and delivered to the most affected Member States thus making the gas shortage less uneven across the EU (GDR Regulation).

The SOS Regulation, adopted in October 2017, mandated Member States to conclude solidarity agreements with those Member States to which they are connected either directly or via a non-EU country, by 1 December 2018. These agreements must specify technical, financial and legal arrangements, governing the implementation of the SOS Regulation's solidarity obligation. Despite this requirement, by 1 February 2023 only nine EU Member States – Germany, Denmark, Austria, Italy, Slovenia, Finland, Latvia, Estonia, and Lithuania – have concluded their solidarity agreements with some, but not all, of the Member States to which they are directly connected or connected via a non-EU country. In total, six agreements have been concluded (although more are understood to have reached an advanced stage). Even within the central and east European sub-region – which stands to be most affected by potential large-scale disruption of Russian gas flows – Slovakia, Czechia and Hungary have not concluded any solidarity agreements, Germany has only concluded two – with Austria and Denmark but, critically, not with France, Belgium or the Netherlands (through which LNG could be imported to Germany) or with Czechia (for onward transport of this LNG to Czechia and Slovakia). Given that solidarity agreements are of paramount importance for putting the SOS Regulation's solidarity obligation into operation, the lack of enthusiasm on the part of many Member States in signing them – likely reflecting ongoing disagreements over their content – is problematic, as it could undermine their implementation during an actual crisis. This has prompted the EC to propose making default solidarity clauses part of the ES Regulation. As the Regulation was adopted in December 2022 for one year, its default solidarity clauses will govern the provision of solidarity measures if no bilateral solidarity agreement has been concluded between the Member States by the time when – and if – the solidarity obligation is invoked.

The GDR Regulation was adopted in August 2022 for one year, following an EC estimate that a 15 per cent reduction of gas demand could be sufficient for a safe passage of winter 2022/23, even if all Russian gas supplies were to be cut off. It stipulates a voluntary 15 per cent gas demand reduction by each Member State from 1 August 2022 to 31 March 2023 (compared to their average August to March consumption during the preceding five years), while taking into account savings already made. Such a reduction becomes mandatory when the Council, acting on a proposal from the EC and supported by a qualified majority of Member States, declares a Union alert. In doing so, the Regulation aims at making the demand reduction spread more evenly across EU territory. The demand reduction requirement applies to each Member State, although full and partial exemptions are possible. The EC is obliged to make a proposal to the Council to trigger a Union alert only if:

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- at least five Member States have declared a national alert, or
- there is a substantial risk of a severe gas shortage or an exceptionally high gas demand resulting in a significant deterioration of the supply situation, but where the market is still able to manage the disruption.

As the criteria for the latter are not clearly defined, the EC has significant discretion about whether to propose triggering a Union alert. The factors capable of prompting it to do so include a complete halt in Russian gas flows to Europe, a significant deviation from the 15 per cent demand reduction trajectory, lower LNG imports, and colder weather causing an accelerated storage depletion.

As EU gas consumption has already declined by 14.3 per cent in 2022 compared to 2021, and by 15 per cent compared to the average for 2017-21,[82] mostly due to very high prices (forcing industrial closures) and mild temperatures (leading to lower demand for residential heating), it is increasingly likely that a mandatory demand reduction requirement will not be triggered this winter. As this paper goes in print in February 2023, European storages are still over 70 per cent full on average and temperatures are mild, thus suggesting a decreasing likelihood of serious security of supply problems this winter, unless there is a complete cut-off of Russian gas supplies and a late winter freeze, both of which are possible but not highly likely.

If a Union alert were to be triggered next winter – provided that the Regulation is extended for another year – Member States would have to decide whose supplies should be reduced or cut off, with very difficult trade-offs to be made between and within different categories or consumers. These trade-offs would be country- and industry-specific and potentially subject to complex negotiations at a Member State, regional, and EU level. While industrial consumers would likely be the first to experience reductions, deciding who to disconnect would be very difficult: some installations may be seen as more critical, others would be unable to re-start production and would have to shut down forever if disconnected. There would also be measures aimed at reduction of gas consumption by the electricity sector. Depending on the severity of the crisis it could not be ruled out that some protected customers (except the vulnerable) could be disconnected to leave more gas supply available for e.g. covering critical gas volumes for electricity security of supply. Implementation of mandatory gas demand reduction requirement could lead to disagreements – within Member States, between Member States, and between Member States and the EC – over who is going to be cut off and who is going to be exempted, thus potentially undermining its effectiveness during an actual crisis.

There are significant difficulties associated with the process of agreeing and implementing the SOS, ES and GDR solidarity measures, as reflected by the lack of solidarity agreements and vagueness of Member States' prevention and emergency plans in respect of gas demand reduction and solidarity obligations. But even if these can be overcome their impact on the gas supply situation of central and east European sub-region (Germany, Czechia, Slovakia, Austria and Hungary), which stands to be most affected by the potential loss of Russian gas supplies, would likely be limited. This is because infrastructure and capacity constraints would limit the volume of gas, 'freed up' thanks to solidarity measures, that could flow to these countries from the other Member States. Thus, even if there might be a will to implement the GDR and SOS/ES solidarity provisions, there might not be a way, for less affected Member States to help significantly. Nonetheless, the impact, particularly that of implementation of the SOS/ES Regulation solidarity obligation by central and east European Member States themselves (especially Germany, as a "gate keeper" for LNG and Norwegian pipeline gas into the sub-region) as well as by the other Member States, would not be negligible. It would provide the safeguard of (at least essential volumes of) consumption by solidarity protected customers (households, essential services (other than education and public administration), and district heating installations supplying households and essential services (other than education and public administration)) and volumes critical for electricity security of supply.

[82] Sharples/OIES, based on ENTSOG, GIE, Eurostat and UK government.

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Development of additional LNG import terminals and their connection to the grid would also help to alleviate the crisis next winter by enabling additional LNG imports into the central and east European sub-region. Two new FSRUs have already started operations in the Netherlands (September 2022) and two FSRUs – in Germany (December 2022 and January 2023), and four more FSRUs are planned to be completed in Germany before the end of 2023. But in the short-term – possibly until 2025 – by which time more LNG supply and LNG import capacity is expected to become available – even with maximum assistance from the other Member States, Germany and other central and east European countries could have problems coping with the consequences of any further significant reduction in Russian flows. The situation would be worsened by cold weather, rising China LNG demand, and/or other supplies being interrupted. Therefore, unless a recession triggers an even more significant gas demand reduction than is currently observed in Europe, there is a significant risk that rationing will be needed, with governments, regulators and possibly TSOs deciding who will get how much gas. This might not come to pass in winter 2022/23 but may be more difficult to avoid in winter 2023/24. Fortunately for the EU, as the crisis is increasingly likely to be avoided this winter – thanks to warm temperatures and near-full storage – it now has more time to add more LNG import capacity, concluding additional solidarity agreements, and strengthening preventive action and emergency plans ahead of next winter.

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Annex I

Original Risk Groups (Annex 1 SOS Regulation 2017/1938 of 25 October 2017)

ANNEX I Regional cooperation The risk groups of Member States that serve as the basis for risk associated cooperation as referred to in Article 3(7) are the following:

1. Eastern gas supply risk groups: (a) Ukraine: Bulgaria, Czechia, Germany, Greece, Croatia, Italy, Luxembourg, Hungary, Austria, Poland, Romania, Slovenia, Slovakia; (b) Belarus: Belgium, Czechia Republic, Germany, Estonia, Latvia, Lithuania, Luxembourg, Netherlands, Poland, Slovakia; (c) Baltic Sea: Belgium, Czechia, Denmark, Germany, France, Luxembourg, Netherlands, Austria, Slovakia, Sweden; (d) North-Eastern: Estonia, Latvia, Lithuania, Finland; (e) Trans-Balkan: Bulgaria, Greece, Romania.

2. North Sea gas supply risk groups: (a) Norway: Belgium, Denmark, Germany, Ireland, Spain, France, Italy, Luxembourg, Netherlands, Portugal, Sweden, *United Kingdom;* (b) Low-calorific gas: Belgium, Germany, France, Netherlands; (c) Denmark: Denmark, Germany, Luxembourg, Netherlands, Sweden; (d) United Kingdom: Belgium, Germany, Ireland, Luxembourg, Netherlands, *United Kingdom.*

3. North African gas supply risk groups: (a) Algeria: Greece, Spain, France, Croatia, Italy, Malta, Austria, Portugal, Slovenia; (b) Libya: Croatia, Italy, Malta, Austria, Slovenia.

4. South-East gas supply risk groups: (a) Southern Gas Corridor — Caspian: Bulgaria, Greece, Croatia, Italy, Hungary, Malta, Austria, Romania, Slovenia, Slovakia; (b) Eastern Mediterranean: Greece, Italy, Cyprus, Malta.

Revised Risk Groups (Annex 1 SOS Reg 2017/1398 of 25 October as amended by EC Delegated Regulation 2022/517 of 18 November 2021)

ANNEX "ANNEX 1 Regional cooperation The risk groups of Member States that serve as the basis for risk associated cooperation as referred to in Article 3(7) are the following:

1. Eastern gas supply risk groups: (a) Ukraine: Bulgaria, Czechia, *Denmark*,[83] Germany, Greece, Croatia, Italy, Luxembourg, Hungary, Austria, Poland, Romania, Slovenia, Slovakia, *Sweden*; (b) Belarus: Belgium, Czechia, *Denmark*, Germany, Estonia, Latvia, Lithuania, Luxembourg, Netherlands, Poland, Slovakia, *Finland, Sweden*; (c) Baltic Sea: Belgium, Czechia, Denmark, Germany, France, Luxembourg, Netherlands, Austria, Slovakia, Sweden; (d) North-Eastern: *Czechia, Denmark, Germany*, Estonia, Latvia, Lithuania, *Poland, Slovakia*, Finland, *Sweden,* (e) Trans-Balkan: Bulgaria, Greece, *Hungary*, Romania.

2. North Sea gas supply risk groups: (a) Norway: Belgium, Denmark, Germany, Ireland, Spain, France, Italy, Luxembourg, Netherlands, *Poland*, Portugal, Sweden; (b) Low-calorific gas: Belgium, Germany, France, Netherlands; (c) Denmark: Denmark, Germany, Luxembourg, Netherlands, *Poland*, Sweden; (d) United Kingdom: Belgium, Germany, Ireland, Luxembourg, Netherlands.

3. North African gas supply risk groups: (a) Algeria: Greece, Spain, France, Croatia, Italy, Malta, Austria, Portugal, Slovenia; (b) Libya: Croatia, Italy, Malta, Austria, Slovenia.

4. <u>South-East gas supply risk groups</u>: (a) Southern Gas Corridor — Caspian: Bulgaria, Greece, Croatia, Italy, Hungary, Malta, Austria, Romania, Slovenia, Slovakia; (b) Eastern Mediterranean: Greece, Italy, Cyprus, Malta."

[83] Countries written in *italics* have been removed/added from/to respective risk groups by EC Delegated Regulation.

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Annex II

Draft Renewable and Natural Gases and Hydrogen Regulation default solidarity procedure

The EC Proposal for a Regulation on Renewable and Natural Gases and Hydrogen Regulation has outlined a default procedure for implementing a solidarity measure in the form of mandatory templates which would have to be followed in the event of two Member States failing to conclude a solidarity agreement before the solidarity measure was requested by one of them.

Mandatory templates specified in the proposal include the following:

- **Solidarity request** – to be sent (by the Member State(s) requesting a solidarity measure) 20 hours before start of the delivery day, at the latest (unless there is force majeure) to all Member States obliged to provide the solidarity measure simultaneously, and undertaking to pay fair and prompt compensation in euros within 30 days of receipt of the invoice;
- **Solidarity offer** – to be sent (by the Member State(s) obliged to provide a solidarity measure) at the latest 11 hours before start of the delivery day (unless there is force majeure) and include primarily gas offers based on *voluntary* measures – primary offers – and, should such primary offers not be sufficient to cover the volumes stated in the solidarity request, the solidarity offer must include additional gas offers – secondary offers – based on mandatory measures. Should the primary offers from other Providing Member States (if relevant) be insufficient to cover the request for solidarity, the competent authority of the providing Member State is obliged to be ready to activate non-market based measures and supply the missing volumes;

As far as **compensation** for solidarity supplies is concerned, the proposal stipulates that

- the compensation for solidarity gas based on <u>voluntary</u> measures must include
    - the gas price (as resulting from contract clauses, tenders or other market-based mechanism applied) and
    - the transmission costs to the delivery point, and must be paid directly by the Requesting Member State to the gas supplier(s) of the providing party;
- the compensation (to be paid to the Providing Member State) for the provision of solidarity gas based on <u>mandatory</u> measures must include
    - the gas price, which corresponds to the last available spot market price for the relevant gas quality, on the exchange of the providing Member State at the date of the provision of the solidarity measure; if there are several exchanges in the territory of the providing Member State, the gas price is the arithmetic mean of the last available spot market prices on all the exchanges; in the absence of an exchange in the territory of the providing Member State, it corresponds to the arithmetic mean of the last available spot market prices on all exchanges in the territory of the Union;
    - any compensation to be paid by the Providing Member State to affected third parties on the basis of the relevant laws and regulations as a result of the mandatory measure, including, if appropriate, any related non-judicial and judicial procedural costs, and
    - the transport costs to the delivery point.

The providing Member State is obliged to bear the transport risk for the transport to the delivery point. The requesting Member State is obliged to ensure that the gas volumes provided at the agreed delivery points are taken off. The compensation for the solidarity measures will be due irrespective of the actual take-off of the gas volumes provided in line with the contract (Take-or-Pay solidarity clause).

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