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**COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN
PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL
COMMITTEE AND THE COMMITTEE OF THE REGIONS**

"Save gas for a safe winter"

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Russia's unprovoked and unjustified war of aggression against Ukraine has upended energy markets, triggering price volatility and energy insecurity, across the world, with particular impact on the EU and its immediate neighbourhood.

On 18 May 2022, the Commission put forward the REPowerEU Plan to end our dependence on Russian gas as soon as possible. While pursuing these actions and remaining fully committed to the objectives of the European Green Deal, Europe needs to accelerate its preparations for the immediate impact that potential further disruptions - including a complete cut-off - of Russian gas supplies could have. The European Council in its conclusions of 31 May and 23 June 2022 has asked for this preparation to be carried out as a matter of urgency, enabling closer coordination with and between Member States.

In the event of further disruptions of supply, or a full cut-off, Europe needs to be ready. In the spirit of European solidarity and cooperation, the EU needs to ensure that the gas flows where it is most needed, protecting both our domestic customers as well as our jobs and the economy as a whole.

This is why the EU has been preparing for such a disruption over the past months. In particular, the Commission, under the EU Energy Platform, and Member States, have worked with alternative suppliers of gas to ensure supplies. Building upon Green Deal proposals, REPowerEU aims to accelerate the instalment of renewable energy across the EU and the deployment of energy efficiency investments. The Commission and Member States have carried out an in-depth preparedness review. The EU co-legislators have adopted an EU storage regulation to establish a legal requirement for storage filling ahead of winter.

The Commission has worked diligently on securing additional alternative supplies and is continuing to do so. This Communication complements this approach by focussing on the demand side. It reviews the current situation and the steps that have already been taken, as well as outlining the tools that the EU has available to respond. It then proposes additional actions for a coordinated demand reduction, and a ramping up of the EU's joint efforts on supply. This is key to minimizing the chance and cost of disruptions later in the year and to ensure the necessary access to gas for European consumers and industries going forward by leveraging the weight of the Union.

To that end, the Communication proposes a new European Gas Demand Reduction Plan, drawing on best practices from across the Union, accompanied by a Council Regulation envisaging an immediate recommendation for a voluntary gas demand reduction of 15% in all Member States over at least the next 8 months, and introducing a process to trigger a binding demand reduction target should it become necessary, at any moment in the next weeks or months.

Gas substituted with other fuels and energy saved by all users during this summer is energy that will help us through winter. Acting jointly now is less disruptive, and costly, facilitates

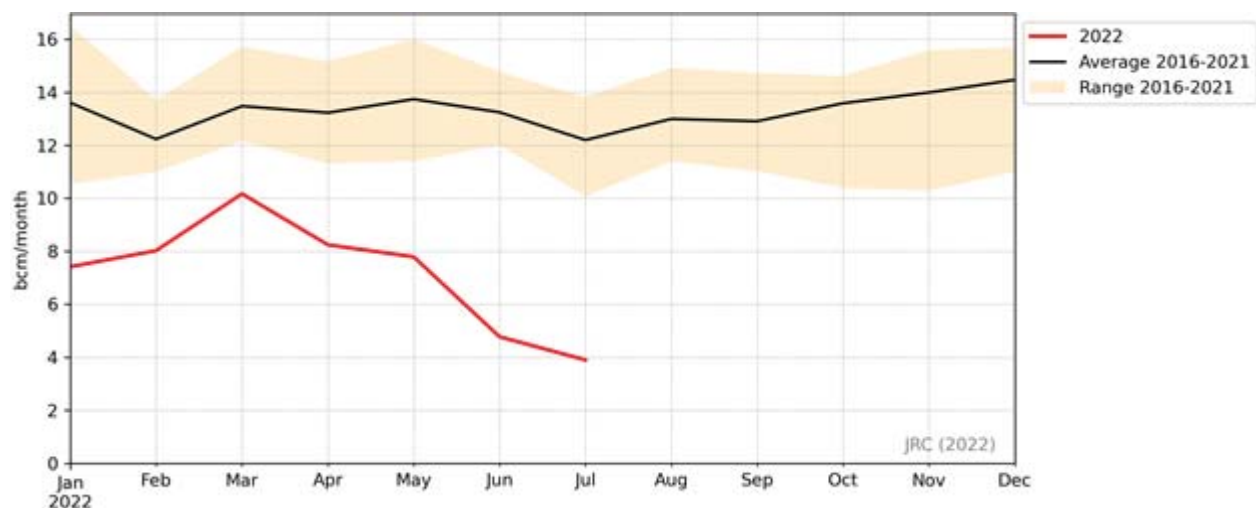
solidarity and avoids the need for unplanned and uncoordinated actions later in a possible crisis situation with gas reserves running low. We will also move expeditiously towards coordinated and ultimately joint purchase of gas and in the future renewable hydrogen to secure future energy needs with alternative supplies. Ultimately, implementing this gas demand reduction plan will create the conditions for a faster and complete phase out from Russian gas imports, in line with the RepowerEU objectives, and enhance the EU energy security and autonomy.

1. Preparing for the winter

What is the situation today?

Gas demand represents 24% of overall gross inland energy consumption in Europe. For many years, Russia has been the main gas supplier of the EU. As of last year, the EU relied on Russia for more than 40% of its gas supplies, and therefore for about 10% of its overall energy needs.

Since last year, Russian gas supplies to the EU have been declining markedly in a deliberate attempt to weaponise energy. Overall, in June 2022 gas flows from Russia to the EU were less than 30% of the average of 2016-2021. The EU has faced a series of sudden, unwarranted, and unilateral actions by Russia to reduce or stop deliveries to European customers, disrupting economic activity and driving prices upwards. Pipeline flows of gas from Russia across Belarus have stopped and have steadily decreased through Ukraine. Supply to the Baltic States, to Poland, to Bulgaria, to Finland has also stopped. Supply to several countries, including Poland, Germany, Austria, Denmark, Slovakia, the Netherlands and Italy has been reduced. Since mid-June 2022, flows through Nord Stream 1, one of the largest import routes to the EU, have been cut by 60%.



(Graph: Flows from Russian gas in 2022 compared with previous years.)

This sequence of supply reductions has led to historically high and volatile energy prices, contributing to inflation and increasing the risk of an economic downturn in Europe as well as significant negative employment effects and distributional impacts. These are likely to trigger a rise in energy poverty and also risk deepening inequalities between Member States and regions.

There is no reason to believe this pattern of behaviour which creates supply uncertainties and accompanying soaring prices will change. Rather, a number of signals, point to a likely deterioration of the gas supply outlook.

Anticipating such a risk, the EU has already started to prepare for a protracted and possibly full cut of gas from Russia at any moment. Ensuring alternative supplies of gas and replacing natural gas by clean energy whenever possible and by other energy sources when necessary, are essential components of the the REPowerEU plan which were taken up by Member States, and notably, the EU Energy Platform.

As a founding principle of our Union, solidarity must be at the basis of EU preparedness. In addition, Member States are all interlinked through the single market, which drives economic growth, innovation, job creation and investments. For such a solidarity to function, all actors should endeavour to take all the measures at their disposal to prevent the effects of a possible full Russian gas disruption.

Because of this mutual dependence, a fully-fledged crisis would produce in each Member State significant negative impacts, whether directly or indirectly. While some Member States are more vulnerable to the direct impact of a significant or full disruption of Russian supplies, letting these countries face this impact alone would have serious ripple effects for other economies. Strong economic decline in any Member State will have a direct negative economic impact on its neighbours and other export partners. This requires immediate steps to anticipate further disruptive actions and strengthen EU resilience.

This Communication, including the European Gas Demand Reduction Plan in annex focuses on the necessary actions on the demand side, building on RePowerEU and the EU Energy Savings Plan. These actions to reduce demand complement ongoing work to secure alternative supplies as set out in the EU External Energy Strategy, and accelerating the clean energy transition. They should be undertaken immediately by Member States in close coordination with each other to considerably reduce the risks of an excessive imbalance between supply and demand next winter and beyond. This course of action can significantly reduce the risks associated with gas shortage, including for industries that are critical for supply chains in the EU, for jobs and growth, for overall competitiveness and the European economy.

The accompanying proposed Regulation to provide the framework for this demand reduction is described in more detail in Section 3 of this Communication.

A strong and credible EU coordinated action will provide greater certainty in an unstable market situation, increase the EU's resilience and limit supply driven impacts on prices. It will help fill more storage ahead of the winter where capacities are available. Unilateral actions by Member States would be sub-optimal for the EU as a whole and thus for each individual Member States as well. EU coordinated actions can help preserve functioning industrial supply chains and the integrity of the Single Market in case of major supply shocks.

What tools does the EU already have at its disposal and what actions have been taken before the current crisis?

First, the EU has a strong framework in place to reach climate neutrality by 2050 and cutting emissions by at least 55% by 2030. The clean energy transition and security of supply go hand in hand. By progressively eliminating our dependence on fossil fuel sources and by reducing the EU's overall energy consumption through increased energy efficiency, **the European Green Deal and Fit for 55 package strengthen the EU's security of supply**.

Second, the EU has developed a **regulatory framework to address certain situations of security of supply** drawing from lessons learned from previous energy crises and based on our actions taken after the annexation of Crimea and Sevastopol to the Russian Federation in 2014.

Under the Gas Security of Supply Regulation¹, Member States must have national preventive action plans and emergency plans based on common risk assessments carried out by regional groups organised along the supply routes. Three national crisis levels are defined: *Early Warning, Alert and Emergency*. The measures Member States can take in each of these levels are defined in the gas security of supply national emergency plans. The overarching principle is that gas flow restrictions, rationing, and curtailment are taken as a last resort, when all other options - such as alternative fuel switching options - have been exhausted.

The Commission can declare a Union Emergency or a Regional Emergency for a specifically affected *geographical* region upon the request of one or more Member States. In such cases, the Commission coordinates actions of concerned Member States and can act as a moderator if measures are introduced that can unduly restrict the flow of gas to other Member States and third countries, such as members of the Energy Community. This helps ensuring that gas flows to the countries and customers most affected in an emergency.

The Gas Security of Supply Regulation also includes a solidarity mechanism, which guarantees supply to 'protected customers' defined as households, district heating that cannot switch to other fuels and certain essential social services, such as healthcare. In a severe emergency during which the supply of protected customers can no longer be guaranteed in a Member State, directly connected Member States have an obligation to act in solidarity and supply gas to where it is most needed, even if this involves curtailment of their non-protected customers. This is subject to prompt and fair compensation framed by bilateral technical, legal and financial arrangements that Member States must agree upon beforehand.

A European Gas Coordination Group, an expert group chaired by the Commission and composed of experts from Member States, the relevant European associations and the Energy Community Secretariat, monitors closely the EU's security of supply and coordinates actions as necessary. The Group has been key to managing the security of supply situation since the start of the war against Ukraine, in particular by exchanging information and helping to coordinate Member State action in relation to early warning and alert declarations.²

The framework described above, however, is not fully fit for the current crisis as it is intended to address short-term disruption in relation to particular parts of the infrastructure or short-term extreme weather, rather than longer-term supply disruption from a major supplier affecting several routes at the same time. This is why this governance framework needs to be

¹ Regulation (EU) 2017/1938

² 11 Member States have issued an early warning and one, Germany, has declared an 'alert' level.

adjusted, and also features prominently the perspective of European and national industry ministries

Third, the EU has increasingly developed a network of energy interconnectors and an internal energy market capable of bringing gas and electricity to where it is needed. This active policy has helped to diversify gas supplies and just as importantly, gas routes, thanks to investments in cross-border gas infrastructure, reverse flow projects, such as the reverse flow capability on the Yamal pipeline between Germany and Poland and LNG terminals in the Baltic, Central-Eastern and South-East European region. Many Projects of Common Interest in the framework of the Trans-European Network for Energy have benefitted from EU financial support through the Connecting Europe Facility and Cohesion Policy.

Key projects of the last decade

- LNG terminals in Klaipeda, Świnoujście and Krk, the BRUA³ and the Baltic Pipe, reduced the historic isolation of specific regions.
- The EU opened the Southern Gas Corridor by completing TAP and TANAP pipelines which now flows gas from the Caspian Sea directly to Europe.
- Other important projects include the gas interconnector between Poland and Lithuania (GIPL), the Baltic connector between Finland and Estonia, the Poland-Slovakia interconnector, and the Greece-Bulgaria pipeline (IGB). These projects play a key role in allowing for the replacement of Russian gas.

The above developments have significantly improved or will improve the EU's security of supply situation enabling effective diversification of suppliers and routes. All individual Member States including the historically most exposed countries, such as Bulgaria and Finland, have ended single-source dependence on Russian gas imports.

What has the EU done to ensure security of supply since Russia's invasion of Ukraine?

Following the Russian invasion of Ukraine, the EU has set out the RepowerEU Plan with the aim to end the EU's dependence on Russian fossil fuels, as soon as possible. To achieve this, the REPowerEU Plan sets out measures related to diversification of energy suppliers, energy savings and energy efficiency, and proposes an accelerated roll-out of clean energy to replace fossil fuels in homes, industry and power generation, notably through renewable electricity and hydrogen. In addition Member States and local authorities⁴ are well placed to promote energy savings actions adapted to local circumstances.

Under the REPowerEU plan, the EU has taken measures to reinforce its security of supply and resilience, tackling both the supply and the demand side. In particular:

³ The Bulgaria, Romania, Hungary, Austria gas interconnector

⁵ Regulation EU 2022/1032 on gas storage

- New EU legislation was proposed in March 2022 to ensure the filling of EU underground storages for the coming winter, adopted by the European Parliament and the Council in May and entered into force on 1 July.⁵ Gas storage levels were worryingly low during the last winter – 10 percentage points lower than in 2016-2018 – but despite reduced levels of Russian imports and high prices which reduce the incentive for storage, levels are now again in line with the historic average – currently at above 64%, equalling 46 days of winter consumption.
- In the first semester of 2022, the Commission has carried out an in-depth review all the national gas security of supply emergency plans, allowing Member States to reinforce their preparedness for possible wide scale disruptions. The Commission has also carried out in depth monitoring of the security of supply situation and risk assessment, both with regard to gas and electricity, in close cooperation with Member States, ENTSOG and ENTSOE - the European association of transmission system operators for gas and electricity.
- The Commission has set up the EU Energy Platform to aggregate energy demand at the regional level and facilitate voluntary joint purchasing, to ensure the best use of infrastructure so that gas flows to where it is most needed, and to reach out to international supply partners such as the US⁶, Norway, Azerbaijan, Qatar, Egypt, Israel, Algeria and many others. The outreach is carried out in line with the EU External Energy Strategy⁷. Thanks notably to these actions the EU has received unprecedented amounts of LNG since the beginning of the year and additional pipeline gas to make up for losses of Russian gas – see box below.
- The Commission has established five regional groups of Member States within the EU Energy Platform, to replace Russian gas supplies and improve the security of supply in each region, for example by developing action plans for rapid implementation - as has been carried out very successfully in the regional group for South East Europe. These groups complement the work of existing regional High Level Groups (HLG) that focus on accelerating key energy interconnections and renewable energy projects and important energy market reforms, such as the CESEC HLG in Central and South Eastern Europe.
- The Commission has engaged with industry experts to identify the potential for fuel switching and voluntary demand reduction and assess the possible repercussion of un-coordinated actions of reducing gas demand from industrial users.

Diversification since the beginning of 2022

The EU is succeeding in diversifying away from Russian gas imports, notably thanks to higher LNG and pipeline imports. In the first half of 2022, thanks to EU outreach efforts with LNG producers in third countries, non-Russian LNG imports rose by 21 bcm as compared to

⁵ Regulation EU 2022/1032 on gas storage

⁶ At the end of March 2022, the EU and the US agreed in a joint statement to envisage an increase of 15 bcm of EU LNG imports from the US in 2022. LNG imports from the US amounted to 30 bcm in the first half of 2022, in comparison to the total of 22 bcm in 2021. The share of the US in the EU LNG imports was around 46% in June.

⁷ EU external energy engagement in a changing world {SWD(2022) 152 final}

the same period last year. Non-Russian pipeline imports grew by 14 bcm from Norway, Caspian Sea, UK and North Africa.

Conversely, within that period, the Russian pipeline imports fell by 28 bcm to a total of 44.6 bcm, while Russian LNG imports rose by 3 bcm. By these increased supplies, the EU is currently offsetting the decrease in total Russian gas imports. In the same period, LNG imports from all sources (including Russia) were up 24.3 bcm (59%) with respect to 2021. At the same time, LNG imports from the US amounted to 30 bcm, in comparison to the total of 22 bcm in 2021 (and only 11.6 bcm in the first half of 2021).

On 25 March 2022, the joint statement by President Von der Leyen and President Biden announced an increase of 15 bcm of US LNG imports to the EU in 2022, a target that is on course to be filled by increasing supplies from the US. The share of the US in the EU LNG imports was around 46% in June.

The range of measures taken since February, including those aimed at strengthening the EU security of supply framework, are geared to manage a progressive full phase out from Russian gas as soon as possible.

However, the latest disruptions of the gas supply from Russia suggest a sizeable risk that a complete unilateral halt of Russian gas supplies may materialise already this year in an abrupt way. The EU needs to be prepared for this scenario and take additional measures commensurate to the challenge this entails. Reducing gas consumption in an orderly fashion now will mitigate future costs for society. Moving towards joint purchasing under the Energy Platform is a necessary complement to pursue both stronger demand-side and supply-side coordination, and the Commission will accelerate its work in operationalising the Platform until the end of the year. In parallel, joint purchase of gas could for example give smaller gas companies a stronger role and enable better purchasing leverage for the EU, the world's biggest importer of natural gas, including at a regional level, improving our energy resilience and longer term energy security.

What to expect?

Notwithstanding the good progress in filling storage to date, simulations carried out by the Commission and ENTSOG indicate that in case of a full disruption as of July until the winter 2023 would lead to a storage filling to fall short of the 80% target for November set out in the new EU Storage Regulation. The simulations suggest that storage could be as low as 65% to 71% by the beginning of the heating season.

Key findings of scenario analysis without additional preparedness

In a **first scenario** the gap to satisfy the gas demand during the winter would be 30 bcm under **average weather conditions** and continuously high LNG supply, compared to an average total EU August-March consumption of 300 bcm. In this scenario, the storage would run nearly empty at the end of March 2023, leaving therefore no buffer for the gas season 2023-2024.

In a **second scenario**, storage would remain at a minimal level of 15% at the end of March 2023, and the demand gap would correspond to 45 bcm during the winter.

Preparing for the following winter season, assuming persistently tight international gas markets, replenishing storage in the summer of 2023 is likely to be very challenging. Storage filling levels in October 2023 would only reach 41% in the first scenario and 56% in the second scenario.

An **unusually cold winter** or reduced gas imports from other sources (for instance due to a rebound in economic growth in a large market like China), would increase the risk of having to face the need for further drastic reductions at some point over this period.

Abrupt cuts would damage specific branches of those industries which have little room to switch to other fuels – for instance, where gas is used as feedstock for industrial processes – or to reduce production without heavy damage.

Availability of gas for protected customers, notably households, representing less than 37% of total EU consumption, would in principle not be impacted directly by large scale Russian disruptions. However, this assumes the absence of other unforeseen events.

Moving quickly and in a determined manner now is essential. Without meaningful substitution efforts and demand reduction in the coming weeks, a severe gas disruption in the winter 2022/2023 would have significant effects on the European economy and labour markets, and it would affect all Member States, directly or indirectly⁸.

Acting now would reduce the cost of a sudden supply disruption.

It would be significantly less costly to maximise the substitution potential and start to reduce demand of natural gas now and by a moderate amount thanks to a longer time lead, than having to drastically curtail demand suddenly at the peak consumption period (i.e. winter) and without proper preparation. By anticipating demand reduction, the network operators could optimise the capacity of the network, transport more gas from the West to the East in a timely manner and fill more storage where capacities are available in view of the next winter and the winter 2023/2024. Such an anticipated, distributed reduction of demand would overall eliminate or reduce any potential winter shortage by more than half. Anticipating reduction now would enable targeted incentives to those industries with the potential to reduce their consumption for instance by switching to renewable fuels, or in any event where possible to fuels with the lowest possible emissions content, subject to energy efficiency efforts and to avoiding long-term lock-in effects.

With regards to the overall macroeconomic impact of a possible major disruption, a solidarity-based EU coordinated response before the winter would limit the negative impact on GDP and jobs.

⁸ The impact in each Member State would depend on the current level of imports of Russian gas, the potential to diversify sources at short notice, the role of gas in the energy mix and the industrial fabric.

Building on the needs identified in the ENTSOG scenarios, and taking early action to reduce demand, a disruption from Russia in the case of an average winter could reduce GDP by at least **0.4% on average** for the EU as a whole and **to 0.6% in a cold winter scenario**.

However, waiting to act until the full supply disruption happens would increase the cost by at least one third, partly due to the lost opportunity of coordination and easier adjustment which adds further to this increase. Waiting to act in the case of an average winter would have **an impact between 0.6 and 1% of GDP**.

In the event **of a cold winter, these costs would increase further**. The cost of delaying action in a cold winter environment would multiply significantly the costs for the EU, with a GDP impact between 0.9-1.5% on average, and in particular for the most affected Member States

To avoid a gas gap in the coming months, the overall recommended gas demand reduction from 1 August to 31 March 2023 is 15%⁹.

⁹ in comparison to average EU gas demand in 2017-2021 – a range used to allow for different severities of winter weather in recent years

2. A plan to reduce gas demand while prioritising critical customers

The European Gas Demand Reduction Plan

The demand reduction of 15% described above can be achieved by acting now, implementing the Energy Savings Plan¹⁰ and taking additional gas saving measures in non-protected sectors, using the good practices and smart prioritisation criteria identified in the attached European Gas Demand Reduction Plan. The plan sets out the principles and criteria for coordinated demand reduction aimed not only at protecting gas supply to households and essential users like hospitals, but also the provision of essential products and services to the economy, industries that are decisive for EU supply chains and to competitiveness. It builds on the existing national emergency plans, existing best practices and targeted consultations with industry.

Managing demand should target as a priority those sectors with better substitution possibilities and better share the burden across the economy, while protecting GDP and employment. There would be less risks for downstream bottlenecks and inflationary pressure and would more effectively hedge against other risks (e.g. severe winter).

The key principles of the plan: substitution, solidarity, and savings

Substitution: Coordinated gas demand savings by supporting substitution possibilities

All efforts across Member States, in power generation, industries and households, should first focus on substitution possibilities that would enable to shift away from the use of natural gas, while always bearing in mind the trade-offs such choices may imply, as for instance, when (re-)introducing for example coal into the mix, even on a temporary basis. The priority is to switch fuels towards clean energy sources, wherever technically feasible, in a timely and cost-effective manner. Diversification efforts should also continue by accelerating the completion of strictly necessary LNG terminals or other gas infrastructures, notably interconnections, combined with EU efforts to diversify supply of LNG under the EU Energy Platform.

Natural gas substitution possibilities towards more carbon-intensive sources such as diesel or coal, will need to be temporarily deployed as well, with the necessary environmental safeguard clauses, where no other cleaner solutions are possible. To this end, time-limited fuel switching possibilities can be supported at the EU and Member State levels,

Solidarity: Anticipate and mitigate the risks of a full Russian gas disruption

Gas supply shocks affect Member States and regions differently. To address such consequences, the EU must act in full solidarity across Member States and across different users of natural gas. Even though Member States will be affected differently, a collective

¹⁰ <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52022DC0240&from=EN>

effort will reduce the severity of impact on the most affected Member States, and in turn all Member States will benefit from joint action. The Commission will therefore remain vigilant to protect the Single Market, and in particular to prevent any possible restrictions of trade between Member States, and will work to ensure that there are no disruption of particularly essential economic activities and critical social services. If the situation leads to a case where curtailment measures have to be envisaged, it should be done in coherence and in coordination between Member States, and with due consideration to mitigating the impact on employment and incomes.

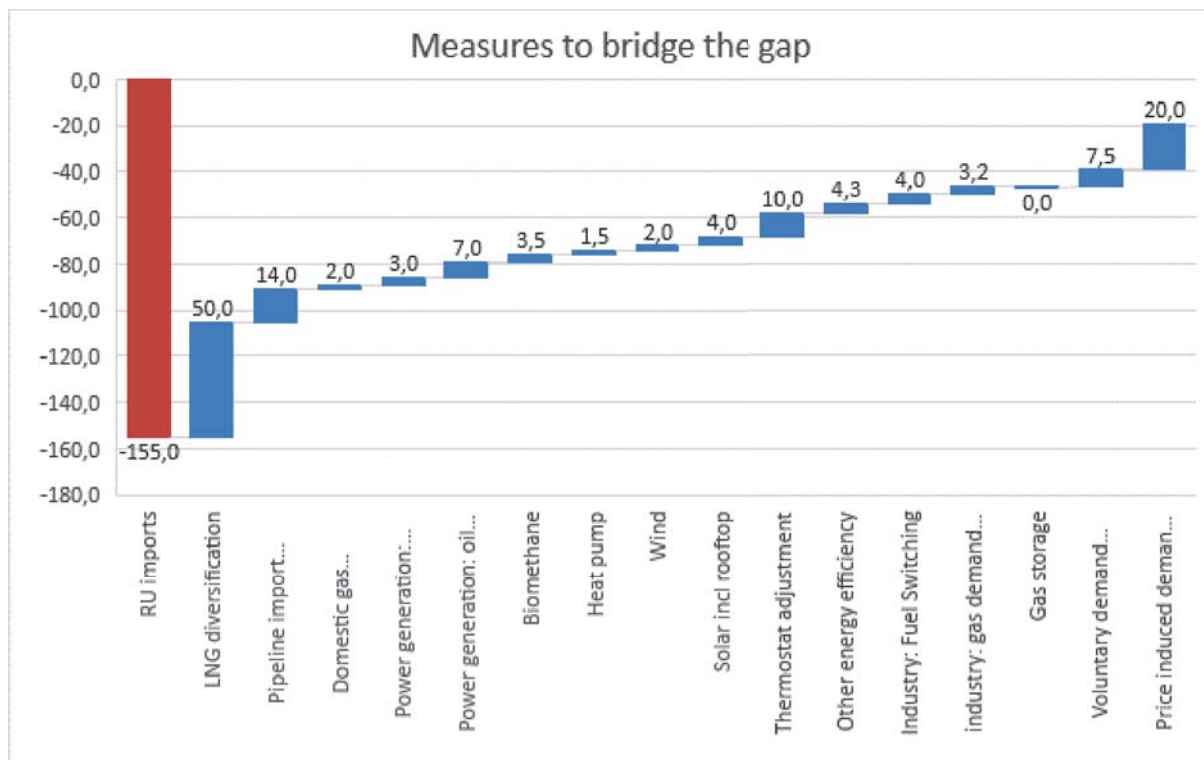
For such solidarity to work in practice, all Member States and all social and economic participants need to do all they have in their power to prepare, and already substitute or reduce gas demand now wherever feasible. This coordination exercise requires putting in place an adequate governance system, which can draw on resources from ministries of energy and industry across Member States and include a broad outreach and engagement of all groups of consumers.

Savings: Everyone can contribute

Additional demand reduction should be envisaged in the areas of heating and cooling buildings or warming water. In an emergency, if the security of electricity of supply could be at risk, EU and national security of supply rules allow gas supply to be prioritised to certain critical gas fired power plants, and to certain categories of protected consumers. However, the fact that the supply of gas is guaranteed for households and certain critical gas fired power plants should not prevent public authorities from taking further actions to reduce consumption of gas by protected customers and in the power sector, as well as promote voluntary reductions. This is essential to avoid having to curtail industrial customers which are critical for society and the economy.¹¹

The figure below presents the latest assessment of the potential of the different types of measures to reduce the demand of gas and come close to bridge the gap.

¹¹ According to Article 2(5) of Regulation 2017/1938 protected customers also cover district heating and certain essential social services like healthcare and under certain limit small and medium size undertakings



Buildings: Reduce heating and cooling

The Energy Savings Plan of 18 May under REpowerEU¹² already identified a range of potential savings measures in buildings and it is estimated that 11 bcm could be saved. The impact of simple behavioural changes such as reducing home temperature where it is not low already, shortening showers, turning off appliances instead of putting them on stand-by, cooking, refrigerating and freezing efficiently are no regret measures for the energy bills. The higher the reduction via voluntary actions, the less need for mandatory curtailment for industry down the road. Lower gas consumption of course means lower bills.

Gas savings can already be delivered during the summer by reducing the peak electricity consumption (and hence directly the gas consumption) from cooling. During the ‘gas winter’ (October-March), large savings can be achieved by deploying alternative heat sources for district heating, through heat pumps and smart energy management systems in households, and by gas saving campaigns for example to decrease the thermostat by 1° (except those who are unable to heat their homes adequately already) or using less warm water. Well-designed bonus-malus tariffication systems can also foster behavioural changes and additional savings. Savings can also be found **by mandating reduced heating of public buildings, offices, commercial buildings and open spaces like outdoor terraces, where technically feasible and enforceable**. The role of public authorities in leading by example is key in this regard.

Electricity and heat production: Saving non-critical gas

There is an important potential to save gas in the electricity and heating production, by reducing the electricity consumption, by switching sources of powers and heat and by

¹² <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52022DC0240&from=EN>

importing electricity. The Commission has asked ENTSOE to estimate the impact of possible gas shortage on electricity production. According to a first estimate, only half of the gas consumed in the electricity sector is considered as critical to ensure the security of electricity supply. Further analysis is on-going as to the electricity winter preparedness, which should take into account the availability of nuclear plants and hydropower reserves potentially more affected this year. However, this first estimate points to the possibility to save a significant amount of gas. For instance since the beginning of the year, the EU has deployed at least 20 GW of new renewable energy capacity. Switching to alternative fuels to generate power could save a significant amount in the next 8 months (see graph page 11), on top of demand side flexibility to reduce peak demand.

The choice of energy sources for electricity and heating production is ultimately up to each individual Member State while taking into account the EU's 2030 climate target, as well as the long-term climate neutrality goal, as well as the EU's clean air policies, and the impact of its decisions on other Member States and the collective security of supply. In the on-going work to reinforce national preparedness and review the planning of the phasing in and out of power plants, the European impact should be taken into account in the light of the new current circumstances, including security of supply risks and prices of alternative fuels on global energy markets. This is a key aspect of the national electricity risk preparedness plans under the Regulation on Risk Preparedness in the electricity sector¹³ that the Commission is reviewing.

Switching to other fuels, be they less or more carbon-intensive and polluting than natural gas, would normally happen automatically due to the high gas prices. However, fuel switch to biomass or diesel requires making sure that sufficient quantities of those alternative fuels are made available to the sites using them and appropriate measures to store and monitor the security of supply of these alternative fuels. Some Member States have postponed the phasing out of nuclear power plants. Others have allowed coals/lignite plants to come online again or produce more.

The import ban of coal and oil from Russia as part of the fifth and sixth package of EU sanctions should be taken into account by Member States in the context of fuel switching, because this might impact the availability of former supply sources. In the case of oil, the optimal management of the existing emergency stocks is an essential element. The existing emergency oil stocks provide a safety net, to be used in accordance with the EU rules and national contingency plans.

Fuel switching may also have an impact on air pollution, and thereby on human and ecosystem health, as well as water consumption. The Industrial Emissions Directive allows granting gas-fired combustion plants switching to oil derogations from its emission limit values under certain conditions, in case of an overriding need to maintain energy supply. This derogation is possible for as long as need persists, provided that the Commission is duly informed. As clarified by the Court of Justice, if there are no works or interventions involving alternations to existing installations, this does not qualify as a project requiring a new authorisation, within the meaning of the Environment Impact Assessment Directive¹⁴. By analogy, fuel switch of a power plant would not qualify as a project if no works or

¹³ [EUR-Lex - 32019R0941 - EN - EUR-Lex \(europa.eu\)](#)

¹⁴ C-275/09, C-121/11, C-411/17, C-254/19.

interventions are involved. In line with REPowerEU, the amendment of the Temporary Crisis Framework for State Aid refers to the possibility of granting aid for fuel switching, as a priority to clean energy sources.

Fuel switching measures should be designed in a way that does not compromise the medium term decarbonisation objectives and the need to accelerate the clean energy transition and minimises any increase in pollution and should not put under threat the overall long-term coal phase-out commitments taken by the Member States. Therefore, ensuring that they do not lead to future carbon lock-in is critical.

Finally, the EU is working with Ukraine and ENTSO-E to increase electricity trade between Ukraine and the EU, to both support Ukraine and to provide a lower-carbon alternative for neighbouring Member States.

Industry: Fuel switching, other market-based measures and smart prioritisation criteria

Industry is already confronted with higher energy prices and some industries are already facing high closure rates as a result. High gas prices have been partly responsible for reduced EU gas demand in the first half of 2022 by 5% compared to earlier years. This trend is likely to continue for as long as prices remain high. A more detailed description of gas saving and fuel switching measures is provided in the annex to this communication.

In the industry sector, the next response should focus on market-based measures to incentivise demand reduction and limit damage to society and the economy. Gas is used as feedstock and energy source by industries whose technical potential and cost to switch fuel or reduce consumption vary drastically from one sector to another. Market instruments are an effective way to elicit the most favourable reduction options.

The Commission strongly supports good practices, such as national, regional or joint auctions or tender systems to incentivise reduction in consumption from industrial consumers by letting industries offer gas consumption reduction. This would result in a reduction in current aggregate gas consumption, making more gas available for e.g. storage filling. These auctions or tenders could be organised at cross-border level in order to maximise the possibilities of demand reduction notably by large cross-border customers who operate in multiple Member States. In this respect, as also set out in the Temporary Crisis Framework for State Aid, EU State aid rules enable Member States, to incentivise voluntary reductions in gas demand, subject to certain conditions, such as by incentivising switching towards cleaner energy sources¹⁵.

The Commission will rapidly explore the idea of EU auctions in close consultation with Member States.

¹⁵ In addition, fiscal policy should target energy savings, by both supporting energy efficiency and incentivising demand reduction. Member States should adjust affordability policies to increase demand reduction. Member States should make use of the VAT legal framework and move to zero VAT rates on installations of solar panels, reduce rates on installation of low emissions heating systems and other energy pricing measures, encourage switching to heat pumps and purchasing of more efficient appliances. Tax reliefs can be complemented by subsidies for energy efficiency investments targeted to low-income households and vulnerable micro-businesses.

Other similar market-based measures already foreseen in the national emergency plans include so called ‘interruptible contracts’, i.e. a flexibility measure where pre-determined financial compensation is granted, for a pre-determined level of gas volume reduction for the period of disconnection.

In an emergency situation, after all market and non-market-based measures have been exhausted, Member States may need to start curtailing partially or fully specific consumer groups that they have identified in a pre-defined order in their emergency plans. Approaches to such prioritisation differ among Member States and may or may not consider a wider impact on critical segments of the EU or global economy. In case of uncoordinated decisions, there is an important risk of fragmentation of the Single Market, with un-intended impact of national decisions on other EU countries as we have witnessed during the Covid crisis. Coordination is key to preserve to the maximum the integrity of the Single Market. The attached European Demand Reduction Plan provides guidelines to Member States to review and improve their priority order by using common principles and criteria so as to coordinate and minimise the socio-economic impact in a wider EU context, while maintaining European solidarity.

In the event of targeted curtailment, it will be critical to mitigate its socio-economic impact. These guidelines should be clearly reflected by Member States when updating their national emergency plans. These will facilitate future coordination exercises once necessary. As mentioned in the Short-Term Market Intervention Communication¹⁶ accompanying the REPowerEU Plan, in a regional or Union emergency situation as per the Gas Security of Supply Regulation, there might also be a need for an administrative price for gas to be established to cover the period of a declared Union emergency.

New instruments could be developed for the industries that play a strategic role for the functioning of the EU economy and society to encourage them in their substitution, diversification, and savings efforts, as market price mechanisms reach their potential and market-based options are exhausted.

Strengthened governance for solidarity and mechanisms to support cooperation

The situation requires a mechanism to enable the Commission and Member States to further strengthen their cooperation to address different aspects of the crisis as it develops and protect the internal market. The existing Gas Coordination Group can address this requirement by meeting regularly and, whenever necessary, at Director-General level and with representatives from the industry ministries. It will play a critical role in monitoring the impact of demand reduction on critical sectors and value chains across the EU, and enabling the necessary exchange of information, associating other relevant stakeholders, social partners and policy fora where appropriate.

In a situation of emergency, effective and prompt solidarity would be facilitated by having bilateral solidarity agreements foreseen under the Regulation on gas security of supply in place, clarifying the technical, legal and financial arrangements to provide gas to the legally

¹⁶ <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52022DC0236&from=EN>

protected customers of neighbouring countries in case of crisis. It is urgent that all Member States who have not done so yet, finalise the preparation of the necessary solidarity agreements. Yet, bilateral solidarity agreements on their own might not be sufficient. Coordination at EU level will remain indispensable.

3. A common EU tool to coordinate gas demand reduction

The necessary reduction of demand can reduce the risks for the next winter only if it is based on a firm commitment of all Member States to meet our collective goal. Moreover, given the unprecedented nature of the gas supply crisis and its transboundary effects, no Member State alone can sufficiently or effectively address the risk of serious economic difficulties resulting from price hikes or significant supply disruptions. In order to be fully effective, common EU preparation for the winter needs to be underpinned by a solid regulatory framework ensuring a coordinated and rapid action. The current circumstances justify the recourse to the regulatory emergency powers set out in Article 122 of the Treaty on the Functioning of the European Union.

The Commission is therefore proposing a Council Regulation to enable effective action to address the risk of an imbalance between supply and demand in the European gas market, including through the necessary governance framework. In a first step, Member States have the possibility to implement the necessary reductions on a voluntary basis. If the situation deteriorates and it proves necessary to activate an EU alert, according to the framework set out in the emergency proposal, a binding gas demand reduction target would be implemented. Each Member State would determine demand reduction measures, in consulting with neighbouring countries. The draft Regulation therefore:

- Asks all Member States to undertake best efforts to continue invest in alternatives to Russian gas and reach a non-binding reduction target of 15% of their demand for at least in the next eight months compared to the last five years average demand (2016-2021). This would allow Europe-wide savings of 45 bcm of gas over that period of time. The corresponding reduction efforts should be based on the guidelines of the European Demand Reduction Plan.
- Requests Member States to **update their existing national emergency plans so as to identify the specific demand reduction measures they decide to take accordingly by the end of September.**
- Sets out a governance framework facilitating the assessment of efforts performed by all Member States in investing in alternatives to Russian gas, reducing gas demand, and taking account of disruptions in EU supply chains from national measures.
- Introduces a process to declare at any given moment in the coming weeks or months **an EU alert if the** situation and the outlook evolve negatively in terms of balance between supply and demand with risks of severe gas shortage and significant deterioration of security of supply. Should this be the case, the Commission may activate a binding reduction of 15 % as to secure the necessary overall EU reduction for a safer winter for all.

4. Conclusion and next steps

The time has come for the EU to anticipate risks and proactively step up gas security of supply preparedness. This is a signal to all public bodies, consumers, households, owners of public buildings, power suppliers and that they must now take extraordinary and rapid

measures, as of now, to save gas to reduce the consequences for the EU economy of possible disruptions in the next months.

Preparing for possible major disruptions ahead of or during the next winter is vital for the resilience of the EU and the credibility of its response to the unfolding events in the geopolitical arena. This will only be successful if it includes buy-in from citizens and other consumers achieved through involving them in the decision making process.

Independently of a short-term full disruption of flows from Russia, early joint action at EU level at this critical moment of the storage filling process will reduce the need for possible and more painful demand reduction later in the winter.

By accelerating diversification and implementing a credible demand reduction in a coordinated way across Member States, the EU can send a powerful signal to the market that Europe is ready for further disruption. It is more resilient, better able to tackle unforeseen developments, and can help mitigate their price and economic impacts.

The EU should be confident in its ability to deal with the consequences of major supply disruptions and drastically step up its efforts to end its dependence on Russian gas. The attached proposed Council Regulation and the European Winter Preparedness Plan provide a common regulatory tool and guidelines for Member States to reduce rapidly and cost effectively demand to a level adequate to go through next winter and prepare safely for next steps. The objective is to allow for coordinated demand side measures and criteria across the EU, in a spirit of solidarity and responsibility, as requested by the EU leaders. Best practices such as joint auctions to reduce consumption and reducing heating in public buildings should be urgently considered.

The Commission will report regularly to the Council. Continuous political engagement will ensure proactive and effective EU coordination commensurate to the challenges ahead.

In parallel it is key to accelerate the adoption of the revision of the Gas Security of Supply Regulation proposed in the December 2021 revision of the Gas Market Regulation, that will introduce automatic and harmonised clauses of solidarity between Member States to guarantee supply of protected customers even in extreme crisis.

Taking forward and implementing immediately this plan will reduce uncertainty, limit risk premia on energy markets, help fill more storage and prioritise gas consumption where it is most needed. Ultimately, it will make the EU and its Member States stronger in the face of possible major gas supply disruptions by and in the next winter.



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ANNEX

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to the

**COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN
PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL
COMMITTEE AND THE COMMITTEE OF THE REGIONS**

"Save gas for a safe winter"

Guidelines on a European Gas Demand Reduction Plan

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Guidelines on a European Gas Demand Reduction Plan

Introduction

This EU winter preparedness plan aims at further supporting Member States in the coming weeks and months, and at reinforcing the resilience of the internal market in case of a gas security of supply emergency. This plan complements previous efforts to increase the Union's preparedness, such as outreach to international partners to increase supply and other measures announced in REPowerEU. Demand reduction should be anticipated as far as possible and savings should focus on sectors and activities for which reduction is less costly. Everyone can save gas, even protected customers such as households, buildings operated by public and private entities, industries who have fuel switching potential and, depending on the national context, also the electricity sector.

The plan is based on the results of consultations of Member States and industries that rely on natural gas.

Chapter one identifies good practices for both market-based and non-market-based demand side measures that can be taken immediately in order to free up gas volumes. Chapter two provides guidelines on criteria to identify critical sectors of the economy and industrial installations. Chapter three summarises the three gradual stages of the EU response to a threat of a major gas supply disruption at European level, following the existing provisions of the Security of Supply Regulation, as well as the new measures set out in the proposed Regulation.

1. Voluntary savings measures and good practices

A wide range of measures is available to Member States to reduce gas demand in all sectors. Before implementing curtailment of non-protected customers such as industry, Member States should, together with stakeholders, exhaust all substitution possibilities, non-mandatory savings schemes and uses of existing alternative energy sources. These should be prioritized as long as they remain economically, socially and environmentally preferable to mandatory demand reduction alternatives. Priority should be given, where possible, to **switching fast and decisively to renewable sources or cleaner**, less carbon-intensive options. Activating both market-based and non-market-based measures to further reduce gas demand can be key to anticipate and mitigate the risks linked to possible gas shortages to society and to the economy.

a) Fuel switching measures

Fuel switching measures both in industry and in electricity production can be prioritised and accelerated by Member States to pre-emptively save gas and enhance preparedness, accompanied by energy efficiency measures. Several fuel switching measures options exist in Member States:

- Incentivising fuel switching capacities by industries and power and heat generation (market decision), including switching to solar, sustainably sourced biomass, biomethane from waste and residues, solar and other renewable energy sources.

- Using oxygen instead of natural gas in certain industrial installations, and replacing gas using steam drives with electrical drives.
- Increasing use of energy-bearing scrap and waste feedstocks in industry to reduce gas use.
- Applying more elaborate fuel switching measures of e.g. gas-fired power plants, switching to gas-oil, depending on the evolution of the availability of volumes in the gas markets.
- Obliging operators of thermal power generation with diesel back-up generators to take necessary precautions to have uninterrupted operation of their units if they have to switch to diesel.

Fuel switching is a priority option, although of course the costs, technical feasibility and availability of affordable alternative fuels may put some constraints and potential health and environmental impacts must be carefully assessed. Long term carbon lock-in should be avoided and fuel switching, other than to renewable fuels, must have the lowest possible emissions content and be time-limited to contribute to the availability of gas in the next winter period. Moreover, the scarcity of alternative fuels resulting from large scale fuel switching and effects on prices need to be monitored by Member States.

The criteria for identifying essential non-protected customers and supply chains in chapter 2 are key for helping Member States decide on support mechanisms, especially since market price mechanisms may be insufficient to solely guide such fuel switching. Therefore, State aid schemes enabling necessary, proportionate and appropriate support aimed at enhancing the economic viability of such operations in sectors considered as critical will be analysed by the Commission on a case-by-case basis. Moreover, the revised State Aid Temporary Crisis Framework enables incentives for fuel switching towards renewables as a matter of priority and also supports fuel switching towards other energy sources in case of absolute necessity.

Fuel switching may increase emissions, which would be permitted in some instances under the Industrial Emissions Directive (IED). The exceptional and temporary nature of such derogation requires continuous monitoring and notification to the Commission.

Extending the use of existing coal-fired power plants, as well as temporarily suspending legal limitations on them to operate, has been implemented in a few Member States. However, these should be always considered as short-term temporary measures and reversible, as to not to create long term carbon lock-in, in line with the Just Transition objective of the European Green Deal, and it should comply with the EU's regulatory framework. Member States should notify to the Commission any relaxation of pollutant emission rules being considered as part of fuel switching plans. Such relaxation should be a last resort and be considered only after all other demand management measures and cleaner fuel switching possibilities have been exhausted. It should minimise the magnitude and duration of any increases of pollutant emission. The Commission will engage based of these criteria with all Member States making such notifications and monitor the implementation of national measures securing the return to full compliance with EU pollutant emission rules.

Some Member States have postponed the shutdown of nuclear power plants.

The decision as regards possible postponement of the phasing out of nuclear plants where technically feasible is a policy choice for Member States.. In any event, the safety standards

of the Euratom treaty as well as the applicable EU's regulatory framework apply and prevail.

Finally in the power sector the actions to reduce gas consumption should be properly assessed in the national risk preparedness plans to be established under the Regulation on risk preparedness for electricity.

Fuel switch

- *Promote fuel switching in industries*
- *Promote fuel switch in power and heat sectors whenever possible, prioritising fuel switching to renewable and cleaner fuels*
- *Just Transition objectives to remain in place*
- *Integrate the risk of gas shortage in the national electricity risk preparedness plans*

b) Market-based instruments

Auctioning or tendering systems

One recommended measure consists of national or joint auctions or tender systems by which Member States incentivise a reduction of consumption by large consumers (mostly industries). Those industries best placed to reduce demand would voluntarily offer to do so. Depending on design, they could receive financial compensation in return for additional savings. Industrial consumers can themselves define when it is sensible for them to switch off or temporarily reduce demand, based on their own individual characteristics and taking into account the impact on employment. Such a system could also encourage gas savings by firms who plan to shut down for maintenance or modernisation purposes.

Where such measure involves State aid, and as clarified in the amendment of the State aid Temporary Crisis Framework, Member States may incentivise voluntary reductions in gas demand in the context of the current crisis, which the Commission will then assess directly under Article 107(3)(b) TFEU¹.

The idea of EU auctions or tenders could be also be explored between the Commission and Member States. Large cross-border customers with production processes in multiple Member States would benefit from such a procedure. Demand is reduced where it is overall least costly to do so (not just least costly within a given Member State), including in terms of potential adverse economic impacts and job losses.

Swap contracts between large customers

Another possibility for industrial customers is to agree in advance contractual swaps of their production from a region exposed to disruptions to a region less exposed in case of large shortage. In an “alert” or “EU emergency” crisis level, the producer located in the region less affected by gas shortage would guarantee the supply of the production for the

¹ The following elements are relevant elements for an assessment by the Commission: (1) the use of a competitive and transparent process, (2) absence of cross-border restrictions, (3) limitation of compensation for future demand reductions and (4) a reduction in aggregate gas consumption resulting in increased availability for gas in storages and avoidance of demand shifting from participants to non-participants

producer that had to be halted due to shortage of gas in the region affected. In turn, such a swap would protect the site and the region affected from unplanned forced curtailment.

Such cooperation between undertakings would, in principle, not be considered problematic under the EU competition rules to the extent that it is (i) designed and objectively necessary to address the shortage of gas linked to a declared “alert” or “emergency situation” on one or more European gas markets, (ii) temporary in nature (i.e. only applied as long as the alert or emergency situation persists) and (iii) not exceeding what is strictly necessary to achieve the objective of addressing the shortage of gas linked to a declared “alert” or emergency situation on one or more European gas markets.²

Interruptible contracts

The use of interruptible contracts for gas consumption, as a voluntary market-based measure, is encouraged wherever possible as it represents an important source of flexibility. Such measures are in place at the “early warning” or “alert” level (i.e. pre-emergency crisis levels) in several Member States. The activation of the interruption comes with a pre-determined financial compensation, corresponding to a pre-determined level of volume reduction or period of disconnection. Although in principle the compensation and volumes are not tailored for a prolonged and complete disruption from Russian gas supply, EU-wide short-term gas demand reductions, triggered by interruptible contracts, can have a significant cumulative impact to free up gas, e.g. for refilling storages. Member States should encourage the increased use of these types of contracts as soon as possible to increase savings already this winter.

Demand-side flexibility in electricity

More generally, demand response in the electricity market can help reducing the gas consumption. This can be automated through smart demand-side flexibility technologies and services that lower demand in a time-dependent way when electricity is produced by gas, at peak times. It is a dynamic saving of fossil fuel energy that should complement more static savings resulting from energy efficiency measures or for instance long term auction as described above. Such demand response could target consumption of electricity by industries, residential, office and commercial buildings, and transport sectors. To unleash the potential of demand response already for next winter, Member States should open all markets to flexible demand-side resources to enable their participation. Based on industry estimates³, if fully exploited and activated across all markets, flexible capacity in the electricity system could reduce EU imports of Russian gas by 5%.

Market-based instruments to reduce demand and prepare for shortage:

- ***Auctioning or tender systems***
- ***Interruptible contracts***
- ***Swap contracts between industrial consumers***
- ***Demand-side flexibility in electricity***

² The Commission services stand ready to provide informal guidance to companies considering such cooperation to the extent that they are uncertain about the compliance of certain elements of their planned cooperation with the EU competition rules.

³ SmartEN

c) Savings in heating and cooling

Awareness raising campaigns

Everyone can save gas, even protected customers. Information campaigns to make consumers aware that where possible, they should start saving gas, together with electricity which often relies on gas, can lead to a considerable reduction in gas consumption. This measure is set out in many Member States' gas security of supply Emergency Plans in the early warning stage. The idea is to raise awareness among all consumers, industries, businesses, public authorities, and households alike, but also to give concrete and operational examples of how gas consumption can be reduced through e.g. behavioural changes. Moreover, the implementation of campaign measures encouraging citizens to reduce their gas consumption, for example by decreasing the thermostat or water temperature during the heating season is advised, as it could bring significant gas savings. The Commission urges all Member States that have not yet done so to implement such "no-regret" measures, while supporting the most vulnerable and energy poor households who in some countries have already been limiting their energy consumption below comfort levels.

As part of REPowerEU, the Commission has put forward the EU 'Save Energy Plan'⁴ which also sets out a wide range of short-term measures that Member States can take to incentivise actions that will also bring immediate gas savings (such as turning down heating, servicing and reducing temperature of boilers). The Commission also continues to work with local actors in spreading these messages, for example with the 'Energy Savings Sprint' campaign together with the Covenant of Mayors. These measures can also be implemented by cities, including via the 100 Climate Neutral Cities Mission.

It is imperative that all Member States start the implementation of such measures immediately, even those who have not declared an early warning yet. In fact, many Member States have reported that they were rolling out awareness raising measures but also subsidy schemes for households and enterprises with a focus on building renovation, heat pump deployment and other fuel switching as well as and the replacement of existing appliances and equipment with more efficient ones.

Preferably, Member States would increasingly shift their compensation policies to income measures in some form of monetary compensation for energy consumers. Through means-testing, they should be targeted to vulnerable groups.

Targeted obligation to reduce heating and cooling

During an "alert" level, measures taken in national plans could include a mandatory national reduction of consumption in the heating and cooling sector. Such measures when targeted would not put at stake the principle that households, district heating and certain essential services are protected customers and that their supply is guaranteed. Higher prices are likely to have already partly induced consumers to reduce their gas use, but obligations may be needed when prices alone are not enough to reduce heating and cooling. It will be important to ensure a fairly distributed service and access to essential services to all the customers, particularly for vulnerable customers connected to energy supply networks. An effective and enforceable way is to mandate targeted reduction of heating and cooling of temperature and water, in buildings owned or operated by public authorities or on their

⁴ <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52022DC0240&from=EN>

behalf, in shopping centres, office buildings and in public spaces. Successful past experiences with bonus-malus tariffication systems to spur savings could also be considered and adapted to specific Member States circumstances⁵.

Reduce heating and cooling

- ***National public awareness raising campaigns***
- ***Mandatory reduction in buildings operated on behalf of public authorities***
- ***Bonus malus tariffication schemes***
- ***Reduction of consumption in commercial centres, offices and public spaces,***
- ***Public authorities to set new temperature and/or hourly thresholds for heating and/or district heating in the household sector using gas***

2. Criteria to prioritise critical non-protected customers

The underlying principle of the Gas Security of Supply Regulation is to protect specific consumer groups that do not have the means to ensure their own supply in case of a supply crunch and have no viable alternatives to deal with such situation (protected customers). These can be households, district heating to households (only those with no fuel switch possibility), as well as optionally and under certain conditions, essential social services and SMEs. The Regulation also allows Member States to prioritise certain critical gas-fired power plants, over certain groups of protected customers.

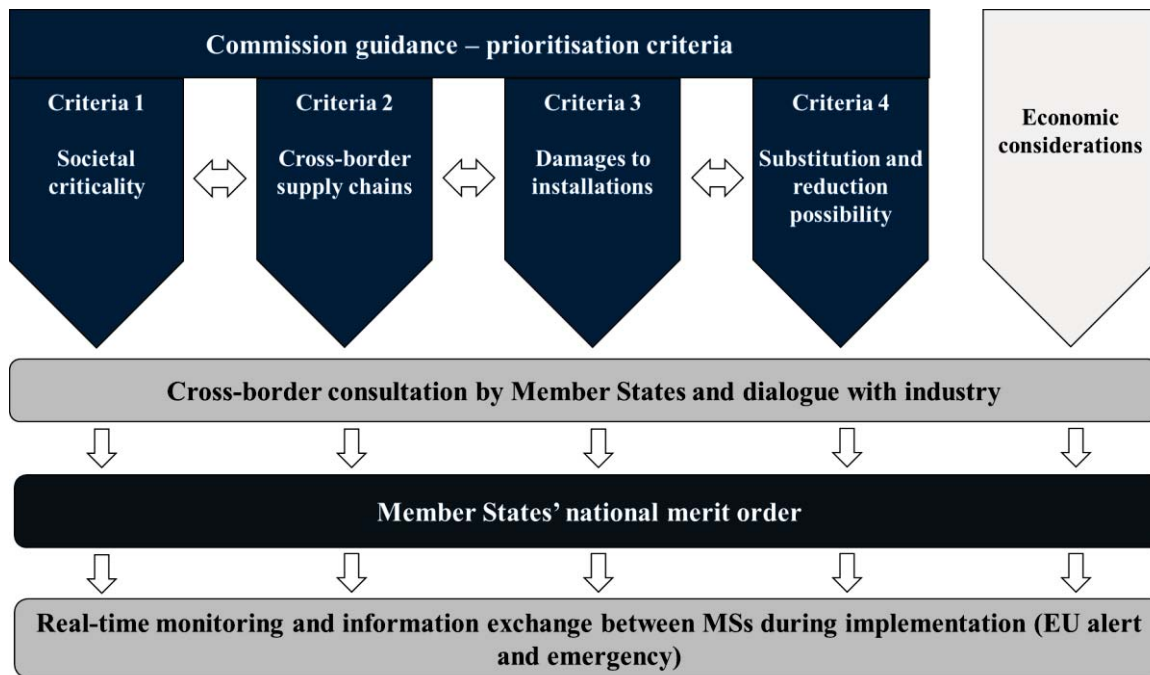
This Plan provides guideline to Member States on how to effectively complement the Gas Security of Supply Regulation provisions for the non-protected consumer groups in a coordinated manner and based on common criteria **and principles, in order to maintain the integrity of the internal market and reinforce its resilience**. It should help Member States identify and prioritise, within their “non-protected” consumer groups, the most critical customers or installations, mainly among industry, so these groups would be curtailed last before protected customers. This prioritisation should take into account their criticality for the EU as a whole, as well as the critical supply chain links with its international trading partners. It should also consider their economic importance and value added for employment. Where financial compensations are foreseen, state aid control contributes to ensuring that these measures are compatible with the internal market.

The Commission advises that Member States build on the following guidelines when updating their prioritisation orders and related measures in their national gas security of supply emergency plans by the end of September 2022.

a) Criteria for demand reduction in pre-emergency or emergency

The following criteria (in combination) for the prioritisation amongst non-protected customers in case of severe disruptions should be considered:

⁵ Analysis of behaviour change due to electricity crisis: Japanese household electricity consumer behaviour since the earthquake; Murakoshi et al, 2013. Can Rationing Affect Long Run Behavior? Evidence from Brazil; Costa, 2012. See also Policies for energy conservation and sufficiency: Review of existing policies and recommendations for new and effective policies in OECD countries: Bertoldi, 2022 (<https://doi.org/10.1016/j.enbuild.2022.112075>).



In addition to these four criteria, economic considerations should be also taken into account by Member States as an extra consideration in the balancing test.

Societal criticality

Industries considered critical or strategic from a societal perspective are advised to be prioritised, if a disruption would have negative effects on supply chains impacting health, safety and environment, security, defence and other critical sectors, such as food and refineries. For example, human health and the environment can be impacted by failure of treatment of waste and water, as well as safety protection of e.g. chemical plants. The identification of specific products, installations and value chain elements that have an impact on critical social services, need careful consideration.

While each Member State may want to define what social criticality means in their respective national context, the Commission recommends to at least include a non-exhaustive analysis of the impact on health, food, safety and environment, security, and defence in their national prioritisation.

Examples of societally critical sectors and activities

- *Health and pharmaceutical*
- *Food*
- *Safety and environment*
- *Security, defence and refineries*

Cross-border value chain criticality

The Commission recommends to Member States to always consider the impact that economic activity reduction in one sector has on the whole EU or global value chain. How such considerations can be coordinated, is discussed in the last section of this chapter.

While drawing their gas security of supply emergency plans, Member States focus primarily on the national impact of possible gas disruptions. However, given the degree of industrial integration and interconnection across the Single Market, disruptions for specific (upstream) sectors that may not be considered as critical in one Member State may heavily impact (downstream) critical sectors in other Member States. Furthermore, the value chains of most industries contain parts that are Europeanised or internationalised and which are important for employment and for delivering critical societal services and goods.

For instance, the medical equipment and pharmaceuticals industry, parts of chemical industry (e.g. feeding into food and health systems) or parts of the textiles industries (feeding into healthcare and defence products), are part of value chains critical for essential or strategic sectors.

One approach that can be taken to look at cross-border effects is to focus on the product level, rather than on a sector level, thereby identifying essential products instead of sectors. Some examples include most of the glass production used directly by the food and pharmaceutical industry (food containers, vials and syringes) as well as in both renewable energy production and clean tech manufacturing (photovoltaics, wind energy) and energy savings applications. This would require extensive mapping of value chains related to these essential products. For example, basic chemicals might at first glance seem not the most socially critical sector. Yet, its products are used widely throughout different other sectors, meaning that its (cross-border) value chain impacts are likely significant. Another example are fertilizers, a sector extremely gas reliant and supplies the socially critical agricultural sector across the whole EU, but has a geographically concentrated production. Therefore satisfying only local needs is not sufficient from an EU perspective.

Another factor to take into account is the number of companies active in a critical value chain across the EU or globally, and hence the possibilities for or the lack of other companies to step in. If demand reduction of a facility means that an essential product cannot be produced throughout the EU or more widely, this should be taken into account. A mechanism to help Member States identify the impact of their sectors across borders is proposed in the following subchapter.

Moreover, Member States would need to investigate the value chain, and the extent to which a gas interruption in a particular sector may have more disruptions in some value chains compared to others.

Cross-border value chain aspects to consider

- ***Downstream effects of upstream gas reduction and value chain integration***
- ***Market weight of the company***
- ***Production-based approach to identify essential products within sectors***
- ***Cross-border consultation***

Potential damage to installations

Member States should consider the lasting impact a disconnection might have for example in terms of potential damage to industrial tools and the time potentially needed and the costs incurred to repair machinery.

Particular attention should be paid to the sectors that need to run continuously and where abrupt cut-off of the supply of gas could lead to damage to the installations (e.g. gas production, biological medicine and other parts of the medical industry, some parts of mechanical engineering, textiles industry and particularly its finishing subsector, pharmaceuticals, most chemical processes, fertilizers, glass, steel, aluminium, refineries, lime, ceramics sectors, residual gas use in electro-intensive sectors such as aluminium), which in turn could entail long-term negative impacts on production and employment. Several industries spanning both energy intensive and non-energy intensive sectors need a minimum amount of gas for production continuity, since if the production is stopped, it cannot be easily restarted without significant delays, regulatory approval and costs. The Commission recommends Member States determine the minimum level of gas consumption as critical and prioritized accordingly, depending as well on how these industries fare in relation to the other criteria.

Potential damage to installations

- ***Consider lasting impact of disconnection or reduced gas supply on industrial tools***
- ***Particular attention should be paid to sectors running continuous processes***

Substitution and reduction potential

Several Member States approach prioritisation through the identification of socially critical products, industries or companies while assessing the technical and economic possibilities of those industries or companies to postpone or reschedule production. Such assessment can be performed for sectors identified as critical for society but also for those that do not fall under that category, thereby allowing further prioritisation of industry not identified as critical from that perspective.

Under this criterion, a differentiation can be made between industries that can postpone production or can switch off e.g. during peak hours, and those that need a continued flow of natural gas for their operations. The possibility may also exist to focus on certain sectors where production can relocate within the EU to regions where gas is available (see swap contracts in the previous chapter), while taking into account the need to ensure fair transitions at regional level.

The integration of European industry in global value chains can also offer substitution options and ease pressure in case of gas disruptions. However, in some cases, importing certain products and services temporarily (instead of producing them in Europe to avoid gas consumption) is not an option, as the steps with the greatest gas input needs can also be those that add most value to the final products. In addition, in some industries (e.g. pharmaceuticals), the substitution of inputs for imports is subject to regulatory approvals and difficult to achieve in the short term. International spill-over effects of worldwide sanctions on Russia on global supply chains, coupled with existing international supply bottlenecks, could further constrain alternative import options, increase the upward pressure on prices, or induce long delivery delays.

Fuel substitution and output reduction possibilities

- *Postponing or rescheduling production*
- *Swap of production within the EU to where gas is more available*
- *Substitution options in the global value chains*

Economic aspects

The analysis of Member State-level data underlines the differences in national industrial ecosystems. In particular, the domestic share of embodied natural gas consumption in final output shows the varying importance of certain national industries.

Following the tests for social criticality, cross-border value chain impacts and technical limitations, risk of damage or substitution possibilities, the **economic importance** of the different sectors could be taken into account in view of prioritising the remaining industries. Possible indicators to take into account include value added (both absolute and relative to gas use) and employment related to a level of natural gas use and the importance of a specific sector in the value chain. But of course certain sectors with low value-added relative to gas use may also provide essential inputs to other downstream sectors.

Therefore, an important aspect to consider is the integration of a given industry via cluster sites because these are deeply connected to multiple production processes through heat and intermediates.

Industries have different degrees of flexibility to switch to other fuels. For example, the majority of cement plants use coal or waste, and only a small number use gas. This means that when the cement sector suppresses all its gas use, most of the cement sector remain unaffected. By combining the considerations on gas intensity with considerations of flexibility, one can determine the least costly sectors to curtail in each Member State (before upstream-downstream value chain effects and strategic sector considerations).

Commission analysis - gas intensity versus economic role

Analysis conducted by the Commission showed that:

- Half of the total industrial gas use corresponds to 10% of industrial added value.
- The least gas-intensive sectors employ half of manufacturing workforce while consuming about 10% of total industrial gas use.
- But these figures hide essential aspects. In fact, taking into account the natural gas inputs embodied in products sold for final consumption throughout the supply chain provides a much better picture. This method allows tracing primary inputs of gas into the sector where it is directly used (e.g. gas used to fire a melting tank for glass making) through the supply chain (e.g. window manufacturing), down to attributing those energy inputs to the purchase of goods for final output (e.g. a new housing unit built by the construction sector).
- For instance, the analysis shows that the chemical industry (and to a lesser extent iron and steel, non-metallic mineral products and mining and quarrying) provides inputs to all sectors, and the iron and steel sector is responsible for approximately 25% of total gas use in the manufacturing of machinery equipment, and that more than 40% of the total gas use embodied in pharmaceutical products comes from chemical feedstock. The chemical industry represents on average 27% of total gas use embodied in other sectors, non-metallic mineral products and iron and steel represent each 11%, mining and quarrying 6%. Some sectors are less connected to sectors downstream, e.g. transport equipment, machinery equipment, crop and animal production, construction, or food beverages and tobacco.

b) Cross-border cooperation to use the criteria

Given the large degree of cross border integration of value chains in Europe's Single Market and the need to protect the economy and competitiveness particularly in case of wide spread gas disruption, cross-border cooperation is essential for Member States to design optimal prioritisation criteria so as to reduce knock-on effects across borders and throughout the EU internal market. This cooperation can take place in a structured manner for Member States when drawing up or updating their priority order in their gas security of supply emergency plans. Governance mechanisms for this consultation and coordination, on top of bilateral contacts and existing regional fora, could be centred on the Gas Coordination Group, extended to representatives from ministries of Industry if necessary. The Commission may also consult existing fora, such as the High-Level Working Group on Competitiveness and Growth of the Council or the EU Industrial Forum managed by the Commission.

Each Member State should first do an independent analysis of the national industrial landscape and its criticality –directly involving the industrial stakeholders and social partners – and then, based on this, use the above mentioned structures to identify the potential critical connections to the other Member States, where the flows of supply are located.

Within this context, after the identification of the priority sectors resulting from the application of the societal criticality criterion mentioned above and with a view to maintaining the continuity of economic activity as smooth as possible, Member States could jointly proceed with the mapping of the cross-border value chains and verify the risk of concrete supply disruptions. The detection of cross-border sensitiveness is hence the base for the further refinement of the Member States' priority list. This may be a major endeavour, in particular for bigger Member States with complex gas consuming ecosystems and significant participation in international value chains. The Commission stands ready to support this exercise.

3. Governance and the stages of the crisis response

The stages mapped below show how EU level coordination of demand response is operationalised by the existing provisions of the Gas Security of Supply Regulation, and the new measures of this Plan.

Stage 1: Save gas for a safe winter – pre- EU alert

When: Adoption of the Regulation on coordinated demand reduction measures for gas proposed in 'Save gas for a safe winter'

Trigger: Adoption of the Regulation on coordinated demand reduction measures for gas accompanying the Communication 'save gas for a safe winter' and this European Demand Reduction Plan.

At EU Level:

- Best efforts to reduce gas demand of 15% in all Member States.
- Reinforce monitoring and mutual exchange of information particularly to protect the Single Market.

- Strengthened governance and coordination mechanisms.
- Explore possibility of joint/regional auctions

At Member State level:

- Acceleration of implementing measures providing alternatives to natural gas in all sectors, in particular towards clean energy sources.
- Voluntary auctions or tenders calling for offers to reduce consumption.
- Promote and if relevant activate interruptible contracts.
- Implement fuel switching measures for industry and electricity.
- Update of the national gas security of supply emergency plans and communicate them to the Gas Coordination Group
- Obligation for public buildings to limit heating and cooling temperatures unless technically not feasible.
- Activation of other demand side measures provided in the alert level in national gas security of supply emergency plans.
- Measures to reduce gas consumption by non-critical gas fire power plants.

Economic impact: no-regret options to be exploited, impact on public finances when compensation through auctioning of demand reduction needs to be granted, as well as for vulnerable households when needed. Need for State intervention.

Role of the Gas Coordination Group: reinforced monitoring, extended to industrial considerations, including of demand reduction, promote exchange of good practices setting the details of the measures

Stage 2: EU Alert

When: Declaration of EU alert

Trigger: as per Article 4 of the proposed Regulation on coordinated demand reduction measures for gas, where a substantial risk of severe gas shortage results in the significant deterioration of gas supply in the Union

Instruments:

At EU Level:

- Mandatory reduction of 15% of demand
- Reinforce monitoring and mutual exchange of information, notably to protect the Single Market.
- Increase of the daily monitoring and information from Member States to Commission.

At Member State level:

- Voluntary auctions or tenders calling for offers to reduce consumption.
- Update of the national gas security of supply emergency plans.
- Promote and if necessary activate interruptible contracts.
- Implement fuel switching for industry and electricity.

- Obligation for public buildings to limit heating and cooling temperatures unless technically not feasible.
- Activation of other demand side measures provided in the alert level in national gas security of supply emergency plans.
- Measures to reduce gas consumption by non-critical gas fire power plants.
- Monitoring the impact of demand reduction on critical sectors across the EU, exchange of information between Member States.

Economic impact: support investments in alternatives to Russian gas, mitigate possible negative impacts in case of disruptions (including on employment and distributional impacts), likely need for state aid and EU to intervene by primarily but not exclusively market instruments.

Role of the Commission: Monitoring via the Gas Coordination Group, extended to industrial experts as appropriate of the necessary demand reductions for all Member States and per sector. Ensure solidarity approach and coordinate efforts as necessary.

Role of the Gas Coordination Group: Gas Coordination Group serves as a forum of information exchange on limitation, measures available and impact of demand reduction on critical sectors, including industry, across borders to facilitate higher-level decision-making on demand reduction.

Stage 3: EU coordination of emergency measures during Union/Regional emergency

When: At the request of one or more Member States that declared national emergencies (Article 12 of Gas Security of Supply Regulation) when market instruments are no longer able to safeguard supply.

Triggers:

- Tied to a regional or Union emergency under the Security of Supply Regulation
- The Commission may declare a Union Emergency or a Regional Emergency for a specifically affected geographical region upon the request of a Member State.
- Where the request comes from at least two Competent Authorities that have declared an alert at national level, the Commission has to declare a Union or regional emergency if appropriate.

Instruments and role of the Commission:

As per Article 12 of the Gas Security of Supply Regulation, the Commission shall:

- ensure the exchange of information,
- ensure the consistency and effectiveness of action at Member State and regional levels in relation to the Union level,
- coordinate the actions regarding third countries,
- if necessary, convene a crisis management group composed of crisis managers appointed by the Member States concerned,
- The national gas security of supply emergency plans specify in more details the measures planned by the Member State for each crisis level, such as releasing gas from strategic storage.