

# EU Security of Gas Supplies: Solidarity Runs Through the Pipeline

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## Introduction

The ongoing efforts to lessen the European Union's (EU) vulnerability to gas shortages by adopting internal measures were triggered by the Ukrainian gas disputes of 2006 and 2009. The latter deprived several EU Member States of 20% of their gas supplies (30% of imports) for 14 days in the middle of winter due to tensions with Russia.<sup>1</sup> This prompted Member States in 2010 to adopt a Regulation for the Security of Gas Supply, replacing the skeletal 2004 Directive.<sup>2</sup> Since 2014, tensions have increased significantly between the EU and Russia, the block's main gas supplier. Although this has not led to any gas supply disruptions in Europe, and this time Ukraine has been able to revert to reverse flows, national production and storage withdrawals to replace the Russian gas flows, there remains a perceived elevated risk of gas supply disruptions to the EU, especially by certain Member States.

This led the European Commission (EC) to publish its first-ever European Energy Security Strategy in May 2014,<sup>3</sup> which was followed by the Gas Stress Tests of October 2014.<sup>4</sup> In February 2015, the EC published its Energy Union Strategy Framework, which was strongly motivated by energy security concerns. In that context, the EC announced a series of proposals for its gas and electricity markets in 2016 and 2017, among which was the 'Sustainable Energy Security Package' (hereafter: Package).<sup>5</sup> This Package, published in February 2016, consists of four proposals. Two of them have a legislative nature, namely a Regulation for Security of Gas Supply (hereafter: Regulation) and a Decision on Intergovernmental Agreements on energy. The two non-legislative proposals are strategy papers dealing respectively with LNG and Gas Storage, and Heating and Cooling.

The purpose of this paper is to focus on the proposed Regulation and to offer considerations on some of its provisions, in particular on the move from the national to the regional level of cooperation and on the legislative formalisation of solidarity.

### 1. The Proposal for a New Regulation for the Security of Gas Supply

The 2016 proposed Regulation<sup>6</sup> builds on the work done by its 2010 predecessor, which was negotiated following the 2006 and 2009 Ukrainian gas crises. The precursor's main goal was to introduce minimum standards for all Member States so that they would establish appropriate tools in preparation for a gas shortage. The 2010 Regulation identified vulnerable gas-consuming groups, such as households, as 'protected customers'<sup>7</sup> and introduced a supply standard which guarantees their uninterrupted supply of gas in case of extreme weather or exceptionally high demand and/or the disruption of supply. In order to be able to measure serious threats to gas security, a common indicator, based on the technical capacity of the infrastructures and known as the N-1 standard, was introduced. To improve cross-border capacities, it also included an obligation for permanent bi-directional capacity, known as reverse flows, on all relevant cross-border points, though some exemptions exist. To ensure that all Member States properly analyse their security of gas supply situation, each of them needs to have in place a Risk Assessment, a Preventive Action Plan and an Emergency Plan (hereafter: Plans). By mandating all of these provisions, notwithstanding shortcomings, the 2010 Regulation is considered to have been instrumental in establishing the basic building blocks of gas supply security across the EU.

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<sup>1</sup> European Commission (SEC (2009) 977), 'The January 2009 Gas Supply Disruption to the EU: An Assessment'.

<sup>2</sup> European Union (Reg. no. 994/2010; OJ L 295/1), 'Regulation Concerning Measures to Safeguard Security of Gas Supply'.

<sup>3</sup> European Commission (COM (2014) 330 final), 'European Energy Security Strategy'.

<sup>4</sup> European Commission (COM (2014) 654 final), 'Stress Tests Communication'. The stress tests suggested that the EU system in 2014/2015 was generally resilient to two crisis scenarios – Russian supply disruption and the closure of the Ukrainian transit route – notably thanks to higher levels of storage. However, the Southeast of the EU, Finland and the Baltic States were strongly affected in these scenarios and were therefore considered vulnerable.

<sup>5</sup> European Commission (2016; Press Release), 'Towards Energy Union: The Commission Presents Sustainable Energy Security Package'.

<sup>6</sup> European Commission (COM (2016) 52 final), 'Proposal for a Regulation for the Security of Gas Supply'.

<sup>7</sup> The definition of protected customers is not uniform across Member States.

In its report on the implementation of Regulation 994/2010,<sup>8</sup> the EC acknowledged the significant improvements that had been made in improving the internal resilience of its Member States to gas supply disruptions. The report showed, however, that in light of the risk of a supply disruption in 2014, and also given the prolonged cold spell in 2012, there was room to strengthen the EU's preparedness level and capacity to respond to gas supply crises. The EC identified several weaknesses related to the implementation of the 2010 Regulation, most notably a significant lack of information on several aspects, such as the fulfilment of supply standards, and the insufficient number of bi-directional interconnection points on the EU network. It also concluded that the Risk Assessments and the Plans remained too nationally focused, reflecting insufficient coordination between the Member States.

In its proposed 2016 revision of the Regulation, the EC attempts to move away from the national approach of the 2010 Regulation by introducing a high level of mandatory coordination and cooperation at the regional level. Certain principles and standards, such as a clearer definition of 'protected customers' in emergency situations, are to be set at the EU level, and predetermined regional groups of Member States are to jointly produce Risk Assessments and establish the Plans. Moreover, a 'solidarity principle' is introduced, which obliges countries that are connected through their transmission networks to assist one another in the supply of gas to their protected customers in case of an emergency, even if one of them is not in an emergency situation itself.

## 2. Gas and Energy Security

While we acknowledge the benefits regional cooperation can bring to certain aspects of the energy business, as well as the increased trend towards more regional cooperation in energy over recent years, we believe that the new regional prescriptive approach of EU security of gas supply developed by the EC does not sufficiently consider the heterogeneity of Member States' energy mixes and their very different needs with regard to security of supply. By developing security of supply measures for just one fuel, gas, there is a risk of overlooking the fact that energy security is a multi-fuel issue.

When talking about the security of gas supply, it is relevant to consider the role of gas in the energy mixes of the various Member States. The first important distinction to be made here is whether or not a country is a significant gas producer. For the two major producers of the EU, the Netherlands and the United Kingdom, gas plays a central role in their overall energy systems. These two countries use a lot of gas to generate their electricity, as well as in the final energy consumption of their residential sectors, which for the most part concerns the heating of houses. This larger role for gas can generally be observed as well in those countries which are well-connected to the Dutch and British gas infrastructure networks.<sup>9</sup> Other countries, however, attribute a much smaller role to gas, mostly being confined to one specific energy consumption sector or used as industrial feedstock. In the context of the EC's Package, it is especially important to look at the role of gas in a country's residential sector, as this encompasses most of the so-called protected consumers. Figure 1, below, shows the share of gas in Member States' energy mixes, and how much of the final energy consumption in their residential sectors is supplied by gas.<sup>10</sup>

<sup>8</sup> European Commission (SWD (2014) 325 final), 'Report on the Implementation of Regulation (EU) 994/2010 and its Contribution to Solidarity and Preparedness for Gas Disruptions in the EU'.

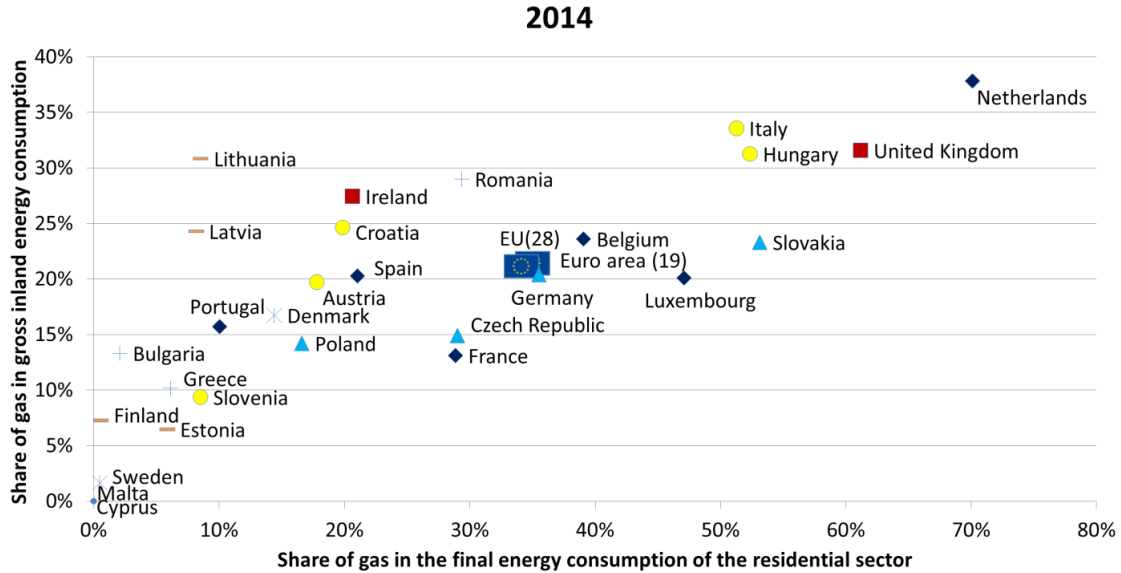
<sup>9</sup> The shares of gas in electricity production in the Netherlands (53%) and the United Kingdom (30%) are significantly higher than the EU average (15%). The same goes for Ireland (46%), Belgium (26%), Luxembourg (50%) and Italy (38%). Germany (7%) and France (3%) score significantly lower. This can be explained by their sizeable nuclear power production, especially in France, and the large role of coal and renewables in Germany. Latvia (33%) and Lithuania (26%) also score relatively high on the share of gas in electricity generation. Numbers are from 2014 and retrieved from ENTSO-E.

Looking at the final energy consumption in the residential sector, the EU average share for gas stands at 35%. The Netherlands (70%) and the United Kingdom (61%) score significantly above that. Other countries which are well-connected to the Dutch gas export network are: Italy (53%) Belgium (41%), Luxembourg (40%), Germany (38%) and France (29%). Slovakia (53%) and Hungary (52%) also score relatively high.

Numbers are from 2014 and retrieved from Eurostat.

<sup>10</sup> This excludes indirect gas consumption through CHP, district heating installations as well as gas-fired power generation.

Figure 1. The role of gas in the energy mixes of EU Member States.<sup>11</sup>



The diverse gas supply and demand profiles of Member States translate into country-specific security of supply needs. The flexibility of a country's overall energy system and its economy determine how well it is able to absorb supply shocks. The ability to switch fuels plays an important role in this and should feature in the overall energy security assessments of Member States. Although this is not as readily available in every gas-consuming sector, such as the residential one, omitting it in energy security assessments could end up being costly and inefficient.<sup>12</sup> For example, in the Gas Stress Test of October 2014, Finland was identified as one of the countries most vulnerable to the disruption of Russian gas supplies. Nonetheless, Finland has high fuel-switching obligations, and over 40% of Finnish gas consumption could be switched to light fuel oil within eight hours if the government were to order full fuel-switching measures.<sup>13</sup>

Energy security is a multi-fuel issue, and caution should be exercised when developing far-reaching measures for individual fuels. When applying regional cooperation together with the principle of solidarity, these realities should be duly taken into account.

### 3. Regional Cooperation

The coordination of aspects of gas supply security at a regional level could be useful, as gas supplies are generally provided regionally and supply disruptions do not affect only one country but usually several interconnected ones simultaneously. The 2010 Regulation already encouraged a framework for regional cooperation, but the new proposal calls for the elaboration of the Risk Assessments as well as the Plans on a regional level, on the basis of mandatory templates. This regional approach should complement the national one elaborated under the previous Regulation, as the implementation of the former will take place at the national level. The regional Risk Assessments and Plans will be subject to a peer review process and discussed among the Gas Coordination Group. The regional groupings are prescribed by the EC on the basis of a few criteria, such as supply patterns, existing and planned interconnections, interconnection capacity and regional cooperation structures.

<sup>11</sup> The icons indicate the proposed regional groupings of the EC. The data was retrieved from Eurostat.

<sup>12</sup> Clingendael International Energy Programme (CIEP) (2004), 'Study on Energy Supply Security and Geopolitics'.

<sup>13</sup> International Energy Agency (IEA) (2013), 'Energy Policies of IEA Countries. Finland 2013 Review'.

Figure 2. Proposed regional groupings within the EU.<sup>14</sup>



In order to produce a more coordinated approach to the security of gas supply in the EU that takes into account the existential differences between Member States, cooperation at the regional level can be considered critical. This is also supported by the industry, as shown by the responses to the public consultation carried out by the EC.<sup>15</sup> A common assessment of the risks among Member States is clearly needed in order to properly evaluate the potential risks of disruptions at a regional level and to establish common assumptions. From this perspective, the proposal to adopt a coordinated approach to security of gas supply at a regional level is helpful and will undoubtedly benefit the security of gas supply at the EU level. However, the current proposed composition of the regions does not seem to coincide sufficiently with reality on the ground. A good example is that of the region of North- and South-West Europe, which the EC has compiled based on the fact that all countries have so-called mature markets. Its composition raises several questions.

First, the Iberian Peninsula is physically isolated from the rest, making planning for a potential crisis problematic. Ending Iberia's isolation has been high on the European agenda for several years now, but the investment projects necessary to achieve this goal have not received much traction from market participants. Perhaps the EC expects that the incorporation of Spain and Portugal into this region will effectuate improvements in the situation. Whether this should be done under the umbrella of security of gas supply at this stage is questionable, though, as several countries in this region are not dependent on flows coming from Spain or Portugal and vice versa.

<sup>14</sup> European Commission (2016; Fact Sheet), 'Security of Gas Supply Regulation'.

<sup>15</sup> European Commission (2016), 'Consultation of the Revision of Regulation (EU) No 994/2010 Concerning Measures to Safeguard Security of Gas Supply'.



Another key concern is related to the fact that most of the regions seem to have been created under the assumption of a Russian gas disruption. This ignores the possibility of other disruptions, thereby sketching a somewhat one-sided picture as to gas supply security. Moreover, in North- and South-West Europe the set-up does not even seem to reflect this one assumption, as Germany is left out, even though the country plays a key role in the supply of Russian gas to some of the countries in this region.

For each type of supply risk (gas coming from Russia, Norway, North Africa, or LNG, etc.), different types of cooperation are required by the Member States. For instance, in the case of a gas supply disruption from Russia, France and Germany will need to cooperate. In the case of an L-gas supply disruption, Germany, the Netherlands, France and Belgium will need to cooperate. The issue at hand here is that, in the regional mandatory Risk Assessments and Plans, some risks, notably those which may arise at a local level, are ignored, thereby jeopardising countries' abilities to adapt to different crisis situations. Several Member States have already expressed their opposition to this regional scheme, arguing that a common understanding of supply risks elaborated at a regional level should be realised first, before deciding on the final composition of the regions.<sup>16</sup>

There is also some uncertainty as to how this regionalisation will interact with already existing regional initiatives. For more than 10 years now, countries have been cooperating at various regional levels when dealing with energy issues, in gas as well as in electricity. There is increasing regional cooperation, not only between Member States and National Regulatory Authorities, but also between Transmission System Operators. Several initiatives for gas already exist, such as the Gas Regional Initiatives headed by ACER, the Gas Regional Investment Plans developed by the Transmission System Operators, the cooperation of several Member States under the Gas Platform and through the Union for the Mediterranean, and the regional groups of the Projects of Common Interest.<sup>17</sup> There is a risk that mandatory regionalisation of the security of gas supply will provide another layer of complexity, which could actually result in being counterproductive.

We therefore see several challenges arising from the implementation of such a prescriptive regional and top-down approach to the security of gas supply. Furthermore, beyond the composition of the regions, this new approach also raises issues related to energy security governance. In the event of a crisis, who would be the competent authority to ensure the implementation of the necessary measures at a regional level? Who would be responsible for potential failures in emergency situations?

#### 4. Solidarity Principle

Solidarity fits within the overarching objectives and rhetoric of the Energy Union<sup>18</sup> and receives much political support from various stakeholders, in particular Central and Eastern European Member States. As a principle, therefore, it should be pursued, as increased solidarity is an asset for the EU's security of supply. According to the proposed Regulation, if an emergency situation is declared in one Member State, its directly-connected neighbouring Member States will supply – on a commercial basis – natural gas to the former's households, essential social services and district heating installations. The Regulation therefore designs a new mechanism of last resort to ensure that every Member State has the possibility to rely on its neighbour in the event of a gas supply failure. This legislative implementation of the solidarity principle does not come without challenges.

First, an explicit reference to the regional groupings as proposed in the same Regulation seems to be missing. While it appears that the preparatory work for a possible supply shortage is to be concluded in a regional setting, in the case of an actual emergency, countries that are connected by their transmissions networks are obliged to help each other by supplying gas to their respective protected customers. This can lead to confusing situations. For example, in the region of North- and South-West Europe, many countries are physically

<sup>16</sup> See: Natural Gas Europe (2016), 'Belgium Wary of EU Gas Security Proposal'.

<sup>17</sup> For more information on these regional initiatives, see the respective websites of ACER, ENTSOG, the European Commission, and the Union for the Mediterranean.

<sup>18</sup> Article 194 of the Treaty of Lisbon states that the European Union is to achieve its principal energy and climate objectives in 'a spirit of solidarity'. One of the four main objectives is to ensure security of energy supply in the Union.

connected to Germany by transmission pipelines, but in the Regulation they do not share the same regional grouping with that country. Pipeline routes dictate that if one country enters a crisis, its neighbours most likely will as well, as gas supplies for conjoined countries usually take the same route.

Furthermore, the formalisation of solidarity carries with it possibilities for abuse, the free rider problem being a well-known example. The authority to declare an emergency remains with the Member States themselves, and most of them do not use quantitative thresholds to call for an interruption of economic incentives. This leaves much room for interpretation.

The Regulation also states that the application of a higher supply standard by one country could potentially reduce gas flows from one country to another in the case of an emergency, thereby endangering the security of gas supply in neighbouring countries. This statement disregards the fact that these higher standards in some countries are an asset for the EU system as a whole, as they will provide flexibility to cope with crisis situations. The application of the solidarity principle would also imply that one country's higher standards could potentially end up benefitting another country at the expense of the former's unprotected customers. It is a good thing, though, that the EC is attempting to streamline the definition of protected customers across the EU for emergency situations.

Beyond these aspects, the implementation of this solidarity principle and the design of concrete measures will not be an easy task. According to the proposed Regulation, technical, legal and financial arrangements will have to be agreed upon between the interconnected Member States themselves. Several elements will have to be clarified in this last resort mechanism, mainly in relation to the price of gas applied by the Member State supporting the other one. In addition, it remains to be seen how a Member State will be able to ensure that the owners of the gas molecules, i.e. natural gas undertakings, participate in this process. As a measure of last resort, the solidarity principle does not reflect the market-based principle that prices (and not the declaration of an emergency situation in a particular Member State) determine the flows of gas. The challenges of managing a crisis in the spirit of solidarity should also include a consideration for the prices that consumers are paying, as regulated prices for final consumers are still present in some Member States. These present a disincentive for effective energy conservation and thereby could possibly aggravate a crisis in the case of an emergency. In this context, the implementation of a solidarity principle will be a challenging task. Specific measures and criteria should be well established and thought through, keeping in mind that not every crisis is equal and neither do all crises require the same (drastic) measures.

## Conclusion

The proposed Regulation aims to further increase the EU's internal ability to cope with supply disruptions or exceptionally high demand. The main drivers behind the proposed Regulation are a stronger regional approach and the application of EU-wide solidarity. However, our analysis shows that such a prescriptive, top-down approach as proposed in the Regulation may generate counterproductive results. It has several drawbacks to this effect, notably that it does not take into account the different roles played by gas in the energy mixes of Member States. Our analysis also identifies certain difficulties that may arise in the practical implementation of these two principles.

We propose that the new Regulation should promote a bottom-up approach, implying that the EU's security of supply needs should be further pursued by its Member States in a cost-effective manner, taking into account more actual flows of gas as well as national specificities, such as the role of gas in energy systems and the characteristics of gas infrastructures. The availability of underground storage in neighbouring Member States could play an important role in this respect, as recognised by the LNG and Storage Strategy. The result could be a starting point for further dialogue and collaboration between neighbouring Member States and for implementing specific mutual arrangements. Such cooperation could and should be established in the spirit of solidarity, without making solidarity a regulated obligation. In any case, regional cooperation should be encouraged, but flexibility for the Member States to adapt to different crisis situations should be ensured.