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

**on the Directive 2004/67/EC of 26 April 2004 concerning measures to safeguard security
of natural gas supply**

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(Text with EEA relevance)

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1. INTRODUCTION

Natural gas is currently the second most important fuel in the EU's energy mix, representing roughly a quarter of EU gross inland consumption. It is widely used in various sectors, such as power generation, district heating, households and industry. The purpose of this Communication is to examine and discuss proposals on how the EU could approach security of gas supply more effectively in the current and future situation and which elements of the current EU policy on gas security supply should be further developed.

Security of supply, as one of the three pillars of the energy policy for Europe defined by the European Council in March 2007, is more and more seen as a public good deserving a closer attention from the European Union. Interdependency between external suppliers and EU consumers, the integration of the national markets into a single European market are features which have to be fully taken into account to assess the present gas supply situation of the European Union and the measures to be implemented in the case of disruption.

The internal gas market is under development. It is regulated by Directive 2003/55/EC¹ and Regulation 1775/2005² which would be revised with the proposal made in September 2007, the so-called third package on the internal electricity and gas markets³. To strengthen the regulatory framework as regards gas security of supply, Directive 2004/67/EC⁴ concerning measures to safeguard security of natural gas supply was adopted. As set out in Article 6.3, the Commission has to report to the European Parliament and the Council on the implementation and effectiveness of the Directive. The Directive has been implemented and transposition measures notified to the Commission by all relevant Member States⁵.

2. THE NOTION OF SECURITY OF GAS SUPPLY

There is no easy definition for security of gas supply. Most commonly it means the availability of gas to users at affordable prices. In any case, a distinction needs to be made between **long-term and short-term security of gas supplies**, as the risks, the ways to prevent supply problems and the possible mitigation tools are different.

Long term gas supply security depends mainly on

- the management of demand (20-20-20 policy⁶);
- the evolution of EU indigenous production, which, given new technologies and high prices, might be further explored or possibly promoted;
- an effective external energy policy of the EU: currently 58% of the consumed gas is produced within the EEA and 42% is imported from outside EEA. However, import from third countries is much higher for "new Member States⁷" (63%) than for "old Member

¹ Directive 2003/55/EC of 26 June 2003 concerning common rules for the internal market in natural gas (OJ L 176, 15.7.2003, p. 57).

² Regulation (EC) No 1775/2005 of 28 September 2005 on conditions for access to the natural gas transmission networks (OJ L 289, 3.11.2005, p. 1).

³ Proposal for a Directive amending Directive 2003/55/EC concerning common rules for the internal market in natural gas - COM(2007) 529, 19.9.2007.

⁴ Council Directive 2004/67/EC of 26 April 2004 concerning measures to safeguard security of natural gas supply (OJ L 127, 29.4.2004, p. 92).

⁵ Malta and Cyprus were exempt, but Malta has transposed it in its legislation.

⁶ Communication - 20 20 20 by 2020 - Europe's climate change opportunity - COM(2008) 30, 23.1.2008.

⁷ New Member States: the countries who joined the EU after 1 May 2004.

States" (39%). Good cooperation with existing producer and transit countries is therefore crucial, along with the development of new sources and routes, and the development and implementation of policies to influence the evolution of supply and demand balance in the global gas market;

- the promotion of investment in infrastructure to bring supply and demand together, both within the EU and between the EU and external suppliers and
- the achievement of a well functioning internal gas market in the EU.

The internal gas market needs to be completed. Competition between gas and other fuels should not be hindered by subsidies, price regulations or anti-competitive pricing, influencing its position in the fuel mix. A well-functioning internal market will improve access to infrastructure, provide appropriate price signals for investment in new infrastructure and it will enhance the attractiveness of the EU gas market for suppliers, thus enhancing security of supply.

This communication focuses in first place on the short-term security of supply.

Short-term supply security and solidarity between Member States are high on today's agendas relating to the gas markets. In a well functioning internal market, appropriate price signals trigger a matching of demand and supply and direct gas to where it is valued most highly. However, market failures may still exist and currently there is **no defined EU emergency plan** to deal with short-term supply shortfalls or disruptions beyond the level at which market mechanisms, industry and national emergency measures are insufficient. A pre-defined emergency plan at regional or EU level would be more effective and timely than the current ad-hoc decision process, in the case of a substantial threat to EU gas supplies.

3. EVALUATION OF THE IMPLEMENTATION OF DIRECTIVE 2004/67/EC

Member States are in very different starting positions concerning the security of their gas supplies, which is influenced by the following factors: availability of indigenous production, geographic position, geological potential for storage facilities, historical development of individual gas markets, varying levels of existing interconnections and the different uses for gas which determines its degree of substitutability (household heating or power generation). The Directive has taken these differences into account by leaving space for individual member states to adapt the standards and the measures to their own specificities.

The Commission has evaluated⁸ how the Directive has been implemented in each Member State. This Communication summarizes the most important findings.

3.1. The scope

The Directive sets the obligation for the Member States to "ensure that supplies for **household** customers inside their territory are protected to an appropriate extent" in cases of partial supply disruptions and extreme winter weather conditions. The Directive allows the scope to be extended to small and medium size enterprises and customers without fuel switching possibilities. This definition thus does not take into consideration price aspects and does not provide further details on the appropriate extent. Eight Member States have extended the scope of the protection beyond households.

⁸ http://ec.europa.eu/energy/gas/sos/index_en.htm

Further examination is needed on whether alternative security of supply measures exist (like fuel switching obligations, compulsory stockpiling of alternative fuels or excess no- gas-fired electricity generation capacities) in those countries where gas-fired power generation is predominant and the power generators are not covered by national gas security of supply measures (Luxemburg – 75%, the Netherlands – 60%, Italy – 52% or Ireland – 51%).

The scope of consumers protected is defined differently in Member States; this constitutes a significant inconsistency in the implementation of the Directive. It is not demonstrated whether this inconsistency implies a different burden on market players in different Member States, thus distort competition, and whether the individually set standards provide for similar levels of overall supply security among Member States.

3.2. The security of supply standards

The Directive defines events in which normal market mechanisms would not be adequate and Member States would have to be able to ensure gas supplies to an appropriate extent, at least to household customers, as follows:

- (a) **partial disruption** of national gas supplies (level and duration to be determined by the Member States based on their own specificities),
- (b) **extreme winter conditions**: extremely cold winter peak demand (level and duration to be determined by MS) and extremely cold all winter consumption (1-in-20).

The security of supply standard is the expression of the level to which each Member State has to be able to cover gas demand of the defined customers by its own means (industry and national measures). It is a consequence of the definition of the events described above. The transposition in various Member States has led to a very heterogeneous overall picture, and in five cases⁹, the events have not been defined.

The national definitions of **partial disruption**, not further specified in the Directive, vary from around 10% (in Slovenia) to around 30% (Slovakia) of average gas consumption with durations ranging from 48 hours (Bulgaria) up to 6 months (France).

The measures to mitigate the defined disruption should be established as a consequence. Further analysis is needed to assess if the defined security of supply standards can be met with the instruments which the particular Member State has implemented.

As to the standard referring to **winter peak demand** and **strong all winter demand**, no further details have been set out in the Directive. Their definition (amount and length) and application differ among Member States, the most commonly used definition being the 1-in-20 or 1-in-50 rules¹⁰.

Moreover, while some countries have a very in-depth assessment of their gas supply situation and the effectiveness of their mitigation tools, including testing them under crisis simulation exercises (for example UK, France, Austria), other countries do not.

3.3. Roles and responsibilities of market players

There are substantial differences in the definition of the roles and responsibilities of market players for security of gas supply. Overall security of supply responsibility is set on different market players, joint responsibilities have been established in 2 Member States. The

⁹ Bulgaria, Greece, Ireland, Luxemburg, Malta.

¹⁰ The coldest winter in 20 or 50 years.

monitoring of security of supply is ensured in 6 Member States by the Ministry, in 4 Member States by the regulator, and in the rest by the TSOs. Further examination is needed on whether these differences make cooperation across borders difficult in crisis situations. The third package on the internal energy market has introduced the transmission system operators' cooperation. However, this refers only to network development planning, relevant to long-term security of supply, not specifically for short-term security of supply cooperation.

3.4. The definition of Major Supply Disruption

The Directive currently defines a major supply disruption (MSD) as the loss - or risk of the loss - of 20% of gas imports from third countries to the European Community for at least 8 weeks. It has been concluded by the Gas Coordination Group that this indicator is very high and that shortfalls which do not reach this level might nevertheless require a Community response. With increasing import dependency, it becomes more and more unlikely that this indicator will be reached before Community action is needed.

On the other hand, the MSD indicator in the Directive is not in reality a precondition for Community action. Any Member State can request the Commission to activate the Community mechanism if it considers that the shortfall of its gas supplies cannot be managed adequately at national level, even if the shortfall does not reach the MSD.

3.5. Community mechanism

The Directive sets out a three-step-approach:

First, **industry** takes measures to deal with a supply shortfall.

As second step, **Member States'** national measures are activated.

If the measures taken at the first two levels are not sufficient to cope with the shortfall or disruption of supply, "the Commission shall convene the [**Gas Coordination**] **Group** [...] at the request of a Member State or on its own initiative." "The Group shall examine, and, where appropriate, assist the Member States in coordinating the measures taken at national level to deal with the major supply disruption. [...] Where the measures taken at national level [...] are inadequate to deal with the effects of [a supply shortfall or disruption], the Commission may, in consultation with the Group, provide guidance to Member States regarding further measures to assist those Member States particularly affected by the major supply disruption", or "the Commission may submit a proposal to the Council regarding further necessary measures".

Up till now, the most severe gas supply shortfall occurred in January 2006, affecting around one tenth of the Community's supplies from third countries and lasting 36 hours. This emergency situation finally could be managed by national measures. However, it laid the grounds for the first meeting of the Gas Coordination Group, convened at the Commission's initiative. By the time the Group met, full supplies had been restored. All other supply shortfalls have also been successfully managed by industry or national measures. Until today, none of the Member States has asked the Commission for Community assistance.

Nevertheless, the need to define a wider (regional or EU-level) **emergency plan and/or solidarity mechanism** is often expressed by Member States, as today's Community mechanism might not offer an effective and timely response in case of a crisis. Currently, once the Community mechanism is activated, it takes five days to convene the meeting of the Gas Coordination Group, which then discusses the situation based on the information provided by the Member States and, when justified, by third countries concerned, describing the measures they have taken to mitigate the problem. After the discussions, the Group ideally should define ad-hoc measures, which then need to be proposed by the Commission to the

Council, which has to approve them to trigger their entry into force. This process is lengthy and in the case of a real crisis might be too slow.

3.6. The Gas Coordination Group

The Gas Coordination Group, bringing together Member States and the gas industry and consumers representatives through their European associations (Eurogas, OGP, GIE, IFIEC, BEUC, Eurelectric)¹¹, has proven a successful tool for discussing security of gas supply issues and exchanging best practices at EU level. The Group holds four regular meetings per year and is convened on an ad-hoc basis in cases of risk of significant threats to the Community's gas supplies. So far, all potential emergency situations were resolved before Community actions appeared necessary, therefore the Group's role in agreeing and proposing further (ad-hoc) measures to the Council has not been tested. The common political message – one European voice – that the Group can provide is also an important aspect.

3.7. Transparency and Reporting

An important shortcoming of the Directive is that the data that Member States provide, in line with the clauses on reporting¹², are not sufficient for assessing either the current and future long- and short-term security of supply situation of the Member States and the EU or the effectiveness of the mitigation tools. Member States' reporting obligations are limited in frequency (once a year) and scope. Furthermore, even these reporting obligations are not adequately fulfilled by all Member States: only two Member States provided complete reporting. The information which is usually missing is the degree of liquidity of the market (provided by three Member States only), incentives for investments, measures to cover peak demand and competitive impact of security of supply measures.

Among the measures, the reporting mainly focuses on long-term contracts and maximum storage capacities; spare capacities are not known. No information is asked about other mitigating tools, listed in Annex of the Directive, like the extent of fuel switching and interruptible contracts, supply flexibility in indigenous production or import contracts. Some Member States do not collect these data. As a good example, the Italian regulator collects sufficient data to follow the evolution through the winter: beyond storage levels and infrastructure data, extent of interruptible contracts, the conditions of import contracts (flexibilities) have to be reported to the regulator, who thus knows which shortfall can be covered from increases of imports from available suppliers.

European Regulators' Group for electricity and gas (ERGEG) has issued new guidelines to improve the quality and level of detail in the national reporting. The third package also proposes major data transparency. The additional data to be provided and the frequency need careful examination in order to avoid a disproportionate reporting burden on the industry and the Member States but at the same time to enable a clear picture of the security of gas supply situation in the EU.

3.8. Instruments for security of gas supply and national emergency measures

The Directive provides a list of instruments in the Annex without any further specification. The list is "non-exhaustive", allowing Member States to introduce further security of gas supply instruments, in particular long-term planning procedures and public service obligation.

¹¹ Commission Decision 2006/791/EC of 7 November 2006 establishing the composition of the gas Coordination Group (OJ L 319, 18.11.2006, p. 49).

¹² Articles 5 of Directives 2004/67/EC and 2003/55/EC.

The different structure of national gas markets governs the mix and balance between the various instruments.

The most frequently used measures are gas storages, long term supply contracts, production and import flexibilities and diversifications of gas supply. The diversity of measures gives Member States the possibility to take into account their national circumstances, but it complicates the assessment of the roles of the various instruments from a European perspective.

18 Member States communicated their national emergency measures to the Commission. 10 Member States developed their national emergency measures in a systematic way, creating national emergency plans. The emergency scale differs among Member States.

4. OPTIONS FOR THE FUTURE

4.1. Scope and better implementation of security of supply standards at national level

It should be carefully examined whether the mandatory scope of the security of supply standards should be extended beyond households. Especially where electricity production from gas is significant, in the absence of adequate alternative measures (fuel switching, storage of alternative fuel or sufficient spare capacity), supplies to power plants should be ensured also under extreme events.

The Commission should examine with the Member States and the industry whether the differences between the definition of roles and responsibilities of market players imply a market distortion or a hindrance to cross-border cooperation in case of crises.

The incomplete implementation and heterogeneity of security of supply standards have been highlighted. Member States should complete implementation. A thorough analysis should be carried out for each country to see:

- whether the individually defined security of supply standards are proportionate to the risks incurred;
- whether the differences impact the competition or constitute a hindrance to solidarity agreements.

This in-depth analysis might point to the need to define the security of supply standards in more detail or in a more harmonised way in order to minimise market distortion and have an adequate level of security of supply everywhere in the EU.

The following questions should be examined: are there other events which should be considered beyond partial disruption and extreme winter conditions? What should be the minimum level of short-term security of supply that every Member State individually has to be prepared for? How should it be defined?

Standards for **partial disruption** could be defined as

- a percentage of the average consumption affected; or
- the failure of the largest supplier / infrastructure / entry point – the most critical among these. This approach could contribute to the achievement of long-term goals: should each Member State be obliged to make provision for the failure of its largest gas supplier or infrastructure for a given duration, this could encourage diversification of sources or routes, which might cost less than the construction of gas storage; or

- specific targets to be set up e.g. by the regulator, for interconnection capacity, supply portfolio diversification (e.g. suppliers should not provide more than a certain percentage of supplies from the same source), fuel switching possibilities.

The duration of partial disruption should be harmonised or established based on common criteria.

For **winter peak demand**, the same *1-in-20 or 1-in-50* obligation could be introduced along with a harmonisation of the duration of the peak.

The methodology and basic assumptions for the calculation of the extra gas needed in extreme winter conditions, both for peak demand and total winter consumption, should be aligned on a regional level.

A further analysis of emergency measures and instruments used by Member States is needed. Country peer reviews on security of supply could indicate the best practices and the most used means, which may then be shared in the Gas Coordination Group.

4.2. Community mechanism and solidarity

4.2.1. Regional vs. EU level

Regional cooperation is crucial. The gas markets, dominated (90%) by pipeline gas, have a mainly regional character: several countries are linked along the same major pipeline infrastructure. Therefore these Member States usually depend on each other's actions and consumption. If for example there is a shortfall of supplies on a specific pipeline, Member States should co-operate in the allocation of the available supplies, reduction of consumption, increase in withdrawal from storage etc. Within the EU, gas is physically transported only through pipelines therefore regional coordination could provide a timely response which EU-level actions might be unable to do. However, for the same reason, a supply shortage is most likely to affect a whole region, which might not be able to cope with it alone. Therefore a further step could be introduced to the levels of intervention: (1) industry, (2) Member States, (3) regional, (4) Community level. If the supply disruption cannot be managed adequately at regional level, the region would have the right to ask for Community assistance.

The third package on internal energy market has partially addressed this issue and proposed the obligation of regional cooperation and the development of solidarity arrangements between three or more Member States. However, the exact mechanisms and procedures need to be further defined.

4.2.2. Re-definition of the Community actions

As concluded in the previous chapter, the current Community mechanism, even though not yet tested, might not provide an effective and timely response in crisis situations. Pre-defined actions would provide a clear, foreseeable and timely reaction. The defined actions might include:

- a common declaration of an emergency situation,
- allocation of available supplies and infrastructure capacity among the affected countries,
- co-ordinated dispatching,
- activation of emergency measures in unaffected or less affected states in order to increase the amount of gas available to the affected markets (interruptible contracts, fuel switching, storage withdrawal, supply flexibilities - see later: security of supply margin).

This approach should lead to the definition of an effective **EU Emergency Plan**, including a European emergency scale, which will specify the nominal level of gas market operation, prevention mechanisms, as well as different pre-emergency and emergency levels defined by disruption volume and by the economic impact.

The Community response would be a de facto **solidarity action**. Solidarity is by no means charity and adequate compensation mechanisms would have to be worked out.

Each Member State should comply with the defined security of supply standards. If a situation arises in which the effects go beyond the defined standards (a real crisis), this event would automatically trigger the declaration of an emergency situation and the activation of the Community response - solidarity. This would de facto abrogate the present "major supply disruption" indicator. The existence of solidarity mechanisms should of course not provide an excuse for the Member States to not invest in their own security of supply.

4.3. Transparency

Adequate reporting obligations should be proposed, in order to increase transparency and assess the EU security of supply situation. The measures proposed in the third package on internal energy market to increase transparency should be taken into account: assessment of future supply and demand by the European network of TSOs, the obligation to publish aggregated levels of supply and demand, gas in stock and use of gas storage and LNG facilities.

4.4. The security of supply margin

During a supply shortfall, a gas supply must be guaranteed to households and other entities protected by the Directive. Two elements are needed:

- increase the **available gas** for the consumers protected by the Directive and
- dispose of **sufficient infrastructure** to transport the gas to these customers.

This excess gas and capacities could be called the "supply security margin". The extent of this margin could be derived directly from the re-defined national security of supply standards. These amounts could then be expressed as a percentage of average consumption. Spare capacity and "excess gas" should match such an indicator.

(a) **Gas availability**: in cases in which solidarity/mutual assistance is called for, unaffected Member states could make available gas for the affected regions up to the extent of their own security margin. This "excess gas" could come from a mix of measures, to be defined by each Member State:

- Interruptible contracts
- Storage
- Supply flexibility (production, import or LNG)

b) **Transmission infrastructure**: Solidarity can be seriously undermined if available gas cannot be transported to where it is needed. However, this difficulty should not hinder the implementation of the principle. In some cases, contractual transfer of gas can be done through swaps, thus freeing gas in the affected markets even if physical back-flow of gas is not possible. Such an agreement exists for example between companies in Hungary and France, where in case of reduced supplies from Russia, the French company would leave behind in Hungary their share of supplies. Solidarity should motivate Member States to promote the construction of inter-connectors. Infrastructure targets in terms of route

diversification (expressed as number of entry points), interconnection level and spare capacities could be elaborated.

The obligation or possibility to put gas at disposal by the above mentioned measures and capacity must be strictly regulated (for example linked to the declaration of emergency) so that it cannot be abused under normal market conditions.

4.5. Strategic storage

Strategic gas stocks refer to the stockpiling of natural gas which is destined to be used exclusively in emergency situations, hence inaccessible under normal market conditions. Stockpiling of natural gas is expensive: the cost per unit of energy is much higher than for oil (approximately 16.7 MEUR per PJ, compared to 3.33 of oil¹³). Geological conditions may also limit in certain areas the development of gas storage facilities.

Member States have different levels of exposure to risks and hence different gas supply security requirements (see Annex 1). Strategic stocks might be the preferable or only mid-term solution for countries with single-source dependence and high share of uninterrupted demand. The Commission does not propose an EU-level obligation as regards strategic stocks. If a Member State chooses this option as a national measure, the use of strategic stocks has to be carefully regulated to avoid market distortions: strategic stocks should not be released in non crisis situations to influence the value of storage and other flexibility instruments that are developed under competitive market conditions.

Development of commercial storages should be encouraged.

5. CONCLUSIONS

The EU needs to take a step forward on security of gas supply and solidarity. While crises may be rare, they can have very high economic and social impacts. Therefore the EU needs to be prepared to tackle security of supply in an effective way. Today's Community mechanism – although fortunately not yet needed – is not sufficient to provide a timely response to a gas supply crisis which goes beyond the level that national measures can mitigate. Further, today's lack of transparency prevents the assessment of the real-time gas supply situation and potential responses within the EU. The Directive therefore needs to be revised along the lines proposed in this communication under Section 4. It is the aim of this Communication to open a debate with the Member States and the European institutions as well as with the stakeholders in order to prepare a revision of the Directive 2004/67 which would remedy the main shortcomings identified. The following questions arise:

- (1) How to define comparable security of supply standards that put equal, reasonable burden on market players while respecting the differences between Member States?
- (2) Should the Directive extend mandatory protection beyond households to power generators, small and medium sized enterprises or other vulnerable customers?
- (3) What should be the precise actions defined in the Community mechanism, in the regional and EU emergency plans?
- (4) How should the regions for security of gas supply be best defined?
- (5) How can solidarity be economically compensated?
- (6) How can security of gas supply be strengthened at lowest cost?

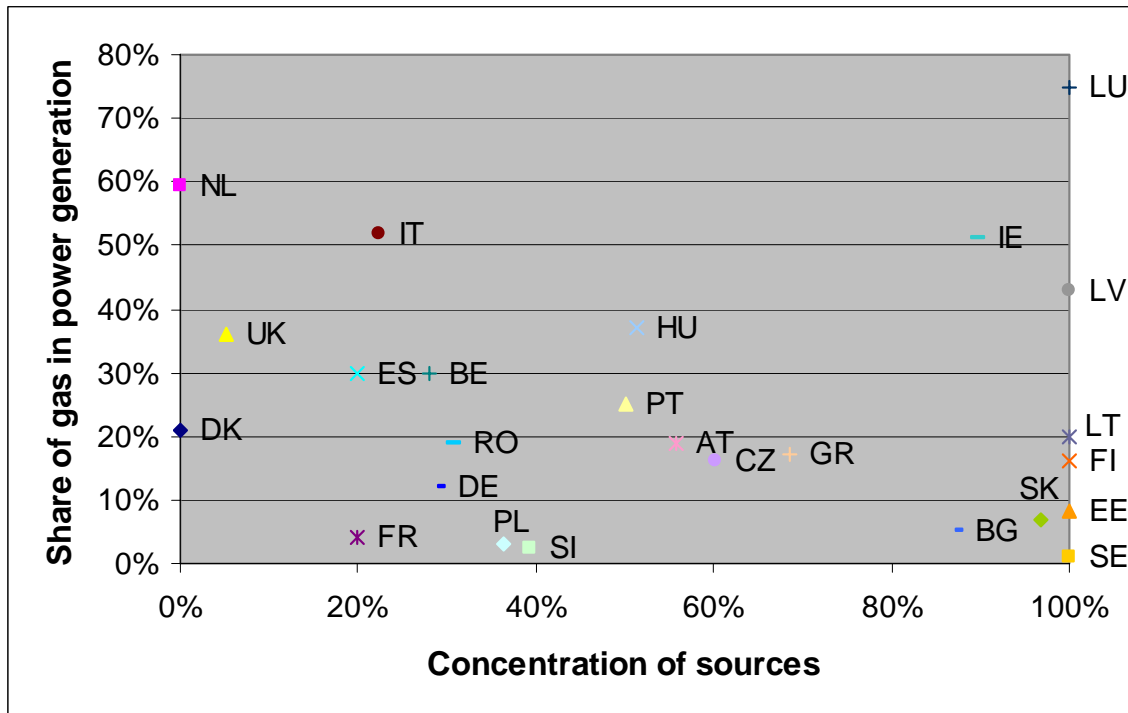
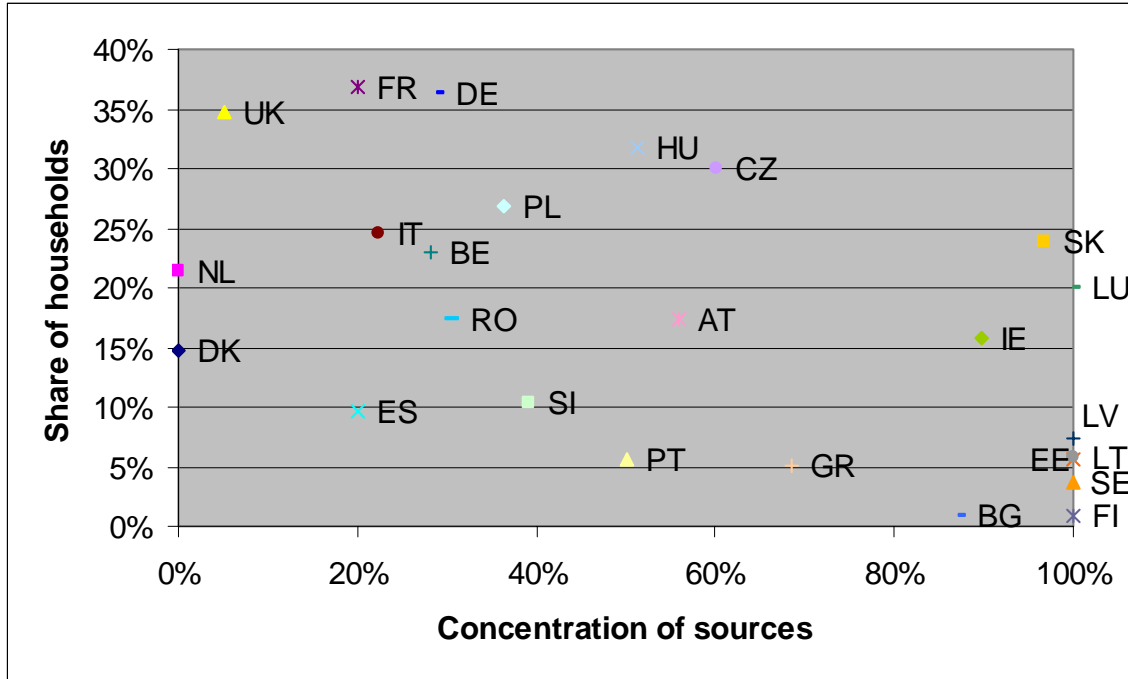
¹³ Study on natural gas storage in the EU, European Commission DG TREN, 2008.

Although it goes beyond the scope of this Directive, the long-term EU strategy on gas and on energy supply security, as discussed in the Strategic Energy Review¹⁴, remains crucial. In order to reduce the risk and the effects of short-term gas supply shocks in the future, the EU has to continue striving for energy efficiency, a well-functioning, well-interconnected internal energy market, innovation and technological developments, diversification of the energy mix, supplies and routes, and effective international frameworks and relations. Transparency and coordination between Member States' actions towards third countries should contribute to strengthen a single voice on energy topics at international level. In this way, the EU will lay a solid basis for security of energy supply in the future.

¹⁴ Communication of the Commission on The Second Strategic Energy Review - COM(2008) 738.

ANNEX 1: Comparison among Member States

The following graphs illustrate the vulnerability level of Member States according to the concentration of their supply sources¹⁵ and the share of households and in the total consumption and the share of gas in power generation. In absence of protective measures such as storage, vulnerability is highest in the upper right quadrant: high household consumption combined with low diversification of sources.



¹⁵ Concentration of sources is calculated as follows: $\sum(\text{gas import from country } i/\text{total consumption})^2, i=1 \text{ to } n$, data source: Eurostat 2006.