

SECURITY OF GAS SUPPLIES**MARKETS, PRINCIPLES AND ACTORS****INTRODUCTION**

1. EU policy statements have in the last decade reflected the importance of three interlinked strands in EU energy policy requiring a balanced approach.
 - (a) the creation of the internal energy market;
 - (b) safeguarding the environment;
 - (c) maintaining energy security of supply.

In the mid 90s when the debate on the modalities of the internal market was underway, the view of EU officials was that an open and liquid gas market would ensure security of supply.

The Commission believes that security of supply will be ensured through an open market functioning under competitive conditions at all stages from production to transportation, in accordance with the Treaty. (Green Paper for a European Energy Policy (1995)).

Today, however, the Commission's reports acknowledge that the situation is more complex. Discussions launched in the Madrid Gas Regulatory Forum and the recent package on energy infrastructure point to concerns that the market functioning on its own may not deliver security of supply, and that new forms of policy and regulatory intervention may be needed. Eurogas, however, considers that provided there is a clear policy framework the market offers the best solution and that additional regulatory intervention may have undesirable consequences.

2. Eurogas welcomes the opportunity to contribute to the debate on how the new market conditions can deliver security of supply and the choices to be made in the policy framework under consideration. This report focuses on the gas market changes and on what is necessary to maintain the security of supply levels that customers have become used to and indeed expect also after liberalisation.

THE CONCEPT OF SECURITY OF GAS SUPPLY

3. Security of supply of gas, a concept which includes physical system security, economic security and continuity of supply, has in principle two main aspects.
 - long-term security, which concerns the EU's ability to ensure a reliable and economic supply of efficient energy in the long-term;

- short-term security, which concerns the avoidance of interruptions to contracted gas supply, and the guarantee for customers to receive their gas supply in fulfilment of their contracts.

Both long-term and short-term security of supply require attention to two aspects:

- the availability of physical gas (indigenous production, imports, gas storage etc) to meet firm demands;
- the physical transportation capacity to move these volumes of gas to the end consumer.

HOW INTEGRATED GAS COMPANIES ASSURED TODAY'S SECURE GAS SUPPLY

4. Integrated gas companies incorporated the concept of security of supply criteria in their commercial policy, by adopting stringent criteria, often in co-operation with national Governments and implementing a range of instruments providing flexibility along the supply chain. Central instruments used by companies for security of supply were:

- long term supply and demand planning;
- diversification of physical supply sources to various regions in the EU and various countries outside the EU, thus providing alternative delivery routes in the event of a disruption while optimising infrastructure use and reducing storage needs;
- long term take-or-pay supply contracts with EU and non EU producers providing the basis for investment in new supplies and oil indexation providing the basis for competition with alternative fuels;
- long term transportation capacity reservation and agreements for the transport of natural gas to final customers;
- supply and demand management through various flexibility instruments;
- storages used to support production, to meet seasonal fluctuations and for trading as well as to function as a reserve for supply failures all of which contributed to supply security (of course storage's role as a reserve may be compromised to the extent that its use for other purposes is extended).
- An additional security of supply instrument for off-peak periods, is some flexibility in supply volume under long term take or pay contracts.

Generally speaking, supply and transport of gas to customers remained linked activities.

5. A secure and efficient European gas interconnected system was developed on this basis, characterised by sufficient flexibility, the ability to transport the natural gas needed in each national market and the ability to cope with the strong increase of gas consumption experienced by Europe in the last twenty years.

FUTURE CHALLENGES

6. The new shape of the market introduces changed perceptions and considerations. Liberalisation erodes the certainties of existing suppliers about the location and scale of their demand. Also unbundling of the functions of supply and infrastructure investment decision will weaken the link between the investment decisions on infrastructure and on new supplies including on the development of new resources. In a fully liberalized gas market spot gas price might de-couple (positive or negative) from the oil price.

Spot market indexations will emerge and short-term liquid markets will contribute to security of supply by matching supply and demand as well as allowing the development of *mostly financial* risk management instruments. The role of spot markets in the provision of long-term security of supply is therefore less certain.

7. In this new market environment, it is important to clarify who will take responsibility for the security of supply, as there are more actors with very different objectives:
 - Customers
 - EU and non EU Producers
 - Aggregators/suppliers with a contracted reserve base (i.e. wholesalers, retailers)
 - Other suppliers (traders)
 - Storage owners
 - Transmission System Operators (TSOs) and Distribution System Operators (DSOs)
 - Competent authority and / or national regulators
 - Member State Governments
 - EU authorities

As a result of changing market conditions, the responsibilities for adequate security of supply rest on several market participants. It must still be the primary objective, however, for all market participants that customers receive their contracted gas supply. As security of supply is dependent on the weakest link in the physical (and financial) gas chain from production inside and outside the EU to the customer, security of supply is a shared responsibility of all involved. Furthermore, Eurogas considers that although there is a role for a public policy framework with clearly defined output standards, as far as possible market instruments should be used to meet the dynamics of security of supply objectives. The starting point should, in principle, be that the market participants decide to invest in security of supply because it is in their economic interests.

The combined responsibilities of market participants can be assessed as follows.

Customers

Large customers must be considered to be able to make their choice of supplier by themselves based on sufficient knowledge including the security of supply aspects and the commercial and technical options available to them. In an open market, large consumers can make an economic choice to sell their gas back to the market thus increasing the supply available to others.

Households and smaller customers may need some protection beyond what is normally provided for consumer protection. Adequate security and safety criteria must be maintained in national approaches, but how these should be achieved should be left to the suppliers in the market.

A major difference from the customer's perspective is that in a monopoly market, if, despite the high planned level of supply security, the supply fails then the customer has to accept this (and depends on the monopoly supplier to handle safely both the deficit and the restoration of supply). In a well established competitive market the customer still has to rely on supply and transportation companies having made sufficient investment, but if a company fails to deliver there will be a choice of other companies to provide continuity of supply to the consumer.

EU and non EU Producers

Investment in indigenous European gas production is being sustained despite the reduction in the proven remaining reserves. Producers who are familiar with the advantages and challenges of selling gas at a trading hubs may realise that the liberalised market will allow them greater flexibility to develop new supplies and to deliver their gas. For projects with relatively short lead times the developing futures market also allows some price certainty, at least in the medium term.

There are however genuine concerns that are strongly expressed by some major gas exporting countries to the EU about the viability of large new projects with long lead times particularly in the transition to a fully liberalised market. These concerns appear to arise primarily from the current uncertainty over the completion of the internal market. Very large import projects are likely to need substantial long-term commitments from producers and from aggregators (who will contract for a portion of the gas), and uncertainty increases the risk for both the buyer and the seller.

Aggregators (wholesalers, retailers)

Aggregators with gas portfolios are to compete for customers and must remain able to offer security of supply as a competitive element of their sales offer, if they are to maintain supply portfolios that guarantee long term gas supplies to markets under all circumstances. Policy should take into consideration what conditions are required to raise the \$ 200 bn in the next decade to invest in infrastructure and new supplies to meet the expected market growth especially since the gas is coming mainly from outside the EU.

Investors will demand a stable market and stable regulatory framework to take these decisions well in advance of the expected revenues.

As EU policy confirms, long-term contracts will still be concluded by market players alleviating some of the security of supply issues fulfilling an important role for the market. However the basis for investments are no longer captive markets but is the suppliers' willingness to contract production and transportation for the long term based on their business plans and necessary lead-times. Financial institutions will have to be convinced that these major investments can be underwritten in more liquid and volatile markets, with more uncertainty about filling the transmission lines and production capacities sufficiently (preferentially 100%). The regulatory regime, moreover, must provide adequate returns on infrastructure investment for TSOs. Reliable long-term supply and demand forecasts for the EU will become more and more crucial in supporting management decisions, but in a competitive market it should primarily be the supplier's decision where to seek expansion and when to deliver gas in competition with other fuels and other gas supplies.

This will involve a level of risk. The alternative, however, to commercially based investments, is to involve instruments leading to centralized planning and potentially even to investment obligations. This alternative, however, would be error prone and economically inefficient.

Traders

Traders, although their activities contribute to more efficient matching of supply and demand, do not directly contribute to physical security of supply (unless they are contracting for physical volume and acting as aggregators). Futures or forward contracts (as pure financial instruments) of the secondary gas market will not guarantee sufficient gas in times of shortages; they only refer to a future price for the gas. Gas contracted under such financial instruments might not be supplied at all and if it is supplied under those conditions it might have an adverse price effect on the remaining physically available supplies, destabilising the markets. A well-developed futures market can however provide not only good investment signals but actual prices for gas and for capacity, thus avoiding the errors and inefficiencies that can result from monopoly systems or central planning. Eurogas believes that the development of effective gas trading hubs and a dependable EU gas futures market is a serious and important challenge.

Storage owners

The use of storage capacities is an important tool for enhancing market opening, but is only complementary to firm contracts for supply and transport. Moreover, it should be recalled that storage plants are only helpful in times of shortages if they are filled. Suppliers need to contract their requirements in advance to meet their security of supply standards. Storage facilities perform different functions including seasonal storage, trading, production and meeting Public Service Obligations. The volume can normally only be assigned to one function at a time. It cannot simultaneously be used for seasonal swing and for back up. Storage is an instrument that in some circumstances has to compete with pipeline capacity, flexibility in production long-term TOP contracts, interruptible sales etc.

Storage can significantly contribute to the security of supply, but its use is dependent on its function in the market, the other means available and the gas market structure in each region.

Transmission System Operators (TSOs) and Distribution System Operators (DSOs)

TSOs should provide transportation capacities based on their analysis of the requirements of network users and their own estimation of the maximum transportation demand and offer 100% firm transportation contracts. TSOs' network investments are likely to be based on a combination of contracted transportation and forecast transportation demand and where appropriate on technical and output security standards. If the commercial and regulatory incentives for the TSO are sufficient this should be enough to support infrastructure investments. However the drive for a regulatory regime to lower transportation tariffs, is often seen to conflict with the need to provide sufficient investment incentives.

A TSO acting as a lender of last resort for gas suppliers and traders is an anomaly, unless the volume is limited to accommodate its transport function and maintain the technical integrity of the system. A regulated TSO that acts as gas trader to fulfil these functions should have to separate its trading business from its (regulated) TSO function; a regulated trader almost inevitably causes market distortions. This could optimize possibilities for non-regulated traders using the TSO as lender of last resort. For their security of supply market participants can trade off whether the TSO or their own purchases divisions should support their supply obligations. Thus a TSO should only trade in gas to match operational (thus minimal) imbalances and not buy gas from elsewhere in large quantities.

For distribution there will be separate consideration based on the specificity of the distribution networks unless they belong to the same company as the transmission networks. Co-ordination between TSO and DSOs will be essential.

Competent Authority / and/or National Regulators

The competent authority should only ensure that there is competition and that there is non-discriminatory system access. Setting security of supply standards and redistributing responsibilities to market participants might sometimes conflict with the competent authorities' objective to create efficient (low cost / price) markets. Separation of these two roles between the regulatory authority and the government is advisable.

Member States Governments

The Member States Governments could take adequate measures to assure that their energy policy is executed in the general interest. If security of supply standards are necessary they might set them and allocate responsibilities. Many instruments are at their disposal (decrees, licences etc.). Issuing the licences where applicable and monitoring these standards might be delegated to the competent authority, but this will be a matter for national decision.

EU

Under the current energy policy for the EU, an important role for European authorities would be to monitor developments on the market and to signal if the investment climate is weakening causing supply in the community to deteriorate. Setting security of supply standards should be left to member states unless they agree to harmonise.

The latter might prove difficult because of the enormous differences between the community's gas markets. An alternative would be to set minimum standards, with Member States free to opt for higher levels. The EU should foster sound relations with the gas production regions recognising their concerns and reducing their uncertainties. The EU should support stable political relations and promote an investment climate without direct interference in commercial activity.

ADDITIONAL EXPECTATIONS FROM STAKEHOLDERS

8. In a liberalized market customers and other stakeholders may think that either the spot market or the network operator, or the regulator, or their supplier, or the government will take care of the security of supply. However, as argued, a single actor can no longer be held responsible.
9. The provision of adequate transportation infrastructure and sources of supply can also be expected to minimise the risk of extreme price instability.

However, it is not at all evident that:

- low cost supplies are always available, thus the larger customers will have to follow the market developments carefully and make their own choice at the right moment;
- big investments in plant and equipment no longer need long term contracts or back up arrangements to minimise risks;
- the safeguards to supply markets uninterrupted (households) under extreme circumstances (coldest day) are automatically available for large customer.

The above assessment of shared responsibilities of gas market participants suggests how to meet the above expectations best without undue regulatory intervention.

10. Furthermore there may be expectation that there will always be a supplier of last resort. If there is to be a supplier of last resort, it seems advisable to assign this role to gas supply companies on a commercial basis. The limited volume of gas being used by TSOs is aimed to the system operation, and only in exceptional cases will it be useful for security of supply, as argued above.

CONCLUSIONS

This report tries to identify how responsibilities for the security of supply in the EU gas market will have to be redistributed among the different market participants to maintain security of supply in line with commercial and entrepreneurial initiatives.

It is clear that in a competitive gas market a single entity can no longer be assigned the responsibility for all security of supply aspects. It will have to be a shared responsibility to ensure that within the gas chain all issues have been assigned and key responsibilities are performed.

If responsibilities were incorrectly distributed the short and long-term security of supply might be at risk.

A policy framework setting output requirements will provide the best results and will reduce the need for detailed ex-ante regulation. Proposed ex ante regulation already is showing that many rules are taking away the incentives of market players to provide adequate security of supply in the gas markets on a commercial basis.

The EU gas market is opening and in depth analysis of the redistribution of responsibilities and the consequences of new policy initiatives should be carried out to check its consequences.

For instance the proposals to separate the physical flows from the supply contracts, the solutions advocated for congestion management, security of supply standards, the proposed investment obligations, EU statements on "strategic" storages, the smaller contribution of long term contracts to security of supply, the effects of introducing release programs, reduction of physical diversification of supply in the regions etc, all these measures have to be analysed with regard to their consequences for the security of supply which is at the moment at a satisfactory level in Member States and the EU.

Changes will have to be made in the approach towards the way security of supply is maintained as markets develop, but wherever possible these should build on the strengths of the existing system allowing the market to flourish and participants to be confident that their investments will yield long-term returns in a stable market.