

# POLICY *brief*

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## A New EU Gas Security of Supply Architecture?

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### Highlights

- The EU gas security of supply architecture has had some impressive developments. Today, security of energy supply as a goal in itself is not only enshrined in the European Treaties. Rather, it is also addressed directly and indirectly by various hard and soft law measures that tackle it from several complementary angles.
- However, judging from the lessons learned during past supply crises and the results obtained so far, the inevitable conclusion is that we have not yet achieved a European approach to ensuring gas security of supply within the EU.
- A new EU gas security of supply architecture should distinguish between a long-term dimension, i.e. the post-2020 period and a short-term dimension, i.e. the period up to 2020.
- For both periods it is recommended to define a clear and articulated policy vision, long-term focusing on i) the (re-)definition of the role of gas in the EU energy fuel mix and energy system, ii) the EU external energy policy and iii) the achievement of the internal gas market; short-term focusing on i) the speedy implementation of the Third Energy Package, ii) the European Energy Infrastructure Package and iii) the EU energy solidarity concept.
- This policy brief synthesizes the outcome of the 2011/2012 joint project of the Clingendael International Energy Programme (CIEP), the Loyola de Palacio Chair (LdP) at the European University Institute, the Fondazione ENI Enrico Mattei (FEEM) and Wilton Park on 'A New EU Gas Security of Supply Architecture'<sup>1</sup>.



Florence School of Regulation

*The Florence School of Regulation (FSR) was founded in 2004 as a partnership between the Council of the European Energy Regulators (CEER) and the European University Institute (EUI), and it works closely with the European Commission. The Florence School of Regulation, dealing with the main network industries, has developed a strong core of general regulatory topics and concepts as well as inter-sectoral discussion of regulatory practices and policies.*

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1. The deliberations at the four workshops greatly informed the views expressed in this policy brief, but those views belong to the authors only and do not necessarily represent those of individual participants at the workshops or of the four supporting organisations.

## Background

The future role of natural gas in the European energy system is highly uncertain. Several scenarios, however, anticipate an increase of import dependence up to 80% by 2030. Notwithstanding such anticipation, a European approach to ensuring gas security of supply within the EU has not been achieved yet.

Only very recently, some instruments addressing short- and long-term security of supply have been introduced at EU level. These include the Infrastructure Package or Regulation (EU) No 994/2010. In 2011, the Commission presented the long awaited Communication on the external dimension of energy policy, which identified ways to reinforce the efficiency of EU policies with regard to external energy relations. Is the EU on the right track to meet its stated objective, i.e. a European supply security policy? Is the current architecture on which the EU gas security of supply strategy is built able to deliver those responses needed to meet growing risks and changing realities? How should institutions and regulation adapt and respond?

The Clingendael International Energy Programme (CIEP), together with the Fondazione Eni Enrico Mattei (FEEM), the Loyola de Palacio Chair at the Robert Schuman Centre of Advanced Studies, European University Institute (EUI), and Wilton Park have organized a series of workshops in order to take stock and discuss a possible new architecture for EU gas supply security. Discussions and reflections reported from these workshops have developed into the following concluding ideas

and recommendations for a new EU gas security of supply architecture.

## The long-term vision

The long-term vision should cover three specific policy chapters: the role of gas in the energy fuel mix and energy system, the EU external energy policy focus and the EU internal gas market.

## The role of gas

Security of supply and security of demand are two sides of the same coin. Building market confidence in the long-term is essential for both upstream and downstream investments and market signals. The EU should therefore develop a clear vision of the role it sees for gas in its global energy mix as part of the 2050 Roadmap. A choice should be made whether gas will (again) be a “*fuel of destination*”, i.e. the fuel that gives in the medium and longer-term the most cost-effective and sustainable solution? Or will gas rather be considered as a “*fuel of transition*”, i.e. the primary fuel that would help the EU on its road towards the carbon-free energy economy? Or, finally, will gas be considered as a “*fuel of consequence*”, i.e. the fallback option should other options fail to deliver at the necessary times?

In any possible scenario on the role of gas in the energy system the interaction between the gas and power sectors will need to grow dramatically. That would mean that gas demand would become more and more a function of the power generating

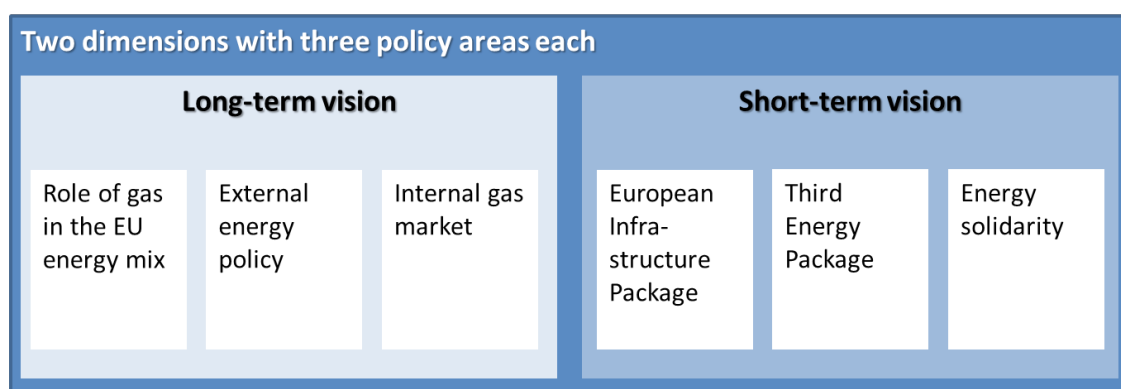


Figure 1: An EU gas security of supply architecture

systems, due to its large advantages as a flexible fuel. In addition, new innovative concepts of gas-to-power and power-to-gas interactions, including the application of electrolysis and storage technologies, will bring further options for the use of gas in the energy system. This changing role of gas will have without any doubt dramatic consequences for the use of the gas infrastructures (transmission and storage), with changing business models and increasing spot-oriented intra-EU trade. Market designs and regulatory designs will have to be reconsidered and the interaction between the power market and the various fuel markets, including the carbon market, will increase as well. If Carbon Capture and Storage (CCS) is to be applied at larger scales, fine-tuning between the gas and power chains with the carbon chain would become a further challenge. A new gas security of supply architecture should reflect on these developments in order to enhance supplier confidence and consumer needs.

### **The external energy policy focus**

External energy relations at the EU level, especially when external gas supplies are involved, should be built upon the vision mentioned above and should lead to specific strategies for the EU's main suppliers. Taking due account of the developing global gas markets, focus should be put on, respectively, Norway, Russia, the Mediterranean region and the Caspian Basin. For each of these, it would be appropriate to create a specific mechanism for periodic discussion, review and institutionalized approaches regarding gas supplies and related relevant policy issues.

As examples, the northern dimension could include the development of market structures and business models and could also give due account on the role of hydro as a storage option for managing intermittent energy sources, as well as the schemes for deploying large scale CCS. The eastern dimension should focus on the issue of mutual "win-win" schemes for applying reciprocity criteria in both the upstream and downstream segments of the value-chain. Equally important would be the issues regarding East-West transit-lines on the way to

and through EU-markets, and eventually, the enhancement of the early warning systems in the case of supply interruptions. The southern dimension could focus in a broader way on economic cooperation, including energy issues. Changing geo-political structures in the region might bring new opportunities for using the wide variety of EU instruments. Global political cooperation in the Mediterranean region, including on renewable energy such as the Desertec project and the relating Medgrid or Medreg initiatives might bring new momentum. The SE-EU dimension and its strategic energy pathways between the East and the South would bring further options for the EU, building, where necessary, on the Energy Community Treaty framework, and could also include the ways and means of innovative gas purchasing schemes.

### **The internal gas market**

The EU should strive to remain, for all external suppliers and for all of the three possible visions on the role of gas, an attractive market for suppliers. The internal market model should reflect, therefore, the changing market structures and conditions that will need to develop from the broader vision of the role of gas. For instance, the emergence of gas as a fuel for delivering flexibility and back-up in the increasingly RES-dominated power systems may have serious consequences for the prevailing gas market and regulatory designs. As part of the architecture, the EU should consider redefining its vision on the internal gas market, and remaining open to suggestions from its main external suppliers.

This changing role of gas will have a particularly precise and challenging impact regarding issues that go beyond national authorities and policy-making: short-term and spot trades will need to increase to manage flexible market demand; cross-border exchanges will further develop; and cross-border arbitrages in the gas/electricity/carbon market dimensions will have to develop (relying more frequently on short-term capacity requirements in pipelines and interconnections, with resulting capacity (under)use and allocations). Transits will be an expanded, normal way of moving gas through EU markets,

and infrastructure access and pricing will need to accommodate these flows. Storage will become more important, managing seasonal variations as well as much shorter-term daily or weekly variations.

For these and other issues, effective cross-border regulatory oversight and designs will need to be developed further, perhaps more on regional levels than for the EU as a whole. A more articulated and defined view on the post-2020 EU gas market should be an essential element of the EU's security of supply architecture regardless of whether gas stays in the fuel mix for the next two to three generations or whether it is used solely as a back-up fuel in case other generating technologies do not deliver.

### **The short-term vision**

The short-term vision should equally cover three policy chapters: the Infrastructure Package implementation, the (expedited) implementation of the Third Energy Market Package, and the fine-tuning of the concept of solidarity. The implementation of these two Packages requires timely decision-making for full application since the window-of-opportunity for the cost-effective transition to a low carbon energy economy is anticipated to close around 2018. The long-term vision for the role of gas could be less meaningful if not supported by the short-term actions that are required. Short-term actions are therefore considered as the first step to moving beyond 2020. In addition, a further enhancement of the existing emergency mechanism would result in a strengthening of solidarity within the EU and, thus, contribute to global supply security.

### **The European Energy Infrastructure Package**

New investments in long-haul and cross-border pipelines for gas are critical components of any supply architecture. The Infrastructure Package covers a number of issues that call for timely implementation: enhancing the Project of Common Interest (PCI) process; streamlining the Cross-Border Cost-Benefit Analysis (CB-CBA) approach; expediting efficient CB-licensing and permitting; and specifying the role of public

money versus private money. The three EU institutions should therefore work expeditiously on a decision on the Regulation, allowing it to enter into force as early as 2013. In addition, the various implementing devices, such as CBA-methodologies and arrangements for CB-regulatory decisions could start as soon as 2012 if prioritization by ACER is allowed and facilitated.

### **The Third Energy Package**

The Third Energy Package is a solid basis for organizing the EU gas market and the TSO industry. Implementation does not yet have the proper priority at the national level, which influences the work at EU level. The process of establishing the Network Codes and the supporting Framework Guidelines should further facilitate a timely completion with some further political guidance, if necessary, by the Council. Refraining from addressing minutiae would streamline this process.

The ongoing cross-border restructuring process in the TSO sector, which could be considered as a positive step towards further market integration, may require additional attention in order to manage an effective and supportive TSO certification process. Once again, ACER plays an important preparatory role, especially when it comes to further strengthening the cooperation of NRAs.

Securing regulatory stability to allow the necessary market dynamics deserves continued attention by all stakeholders and authorities. The ongoing Regional Gas Initiatives (RGI) and other informal discussion platforms have roles to play in seeking specific solutions for regionally specific issues. If these mechanisms are working effectively, an EU-wide model for an internal gas market would become less urgent.

High-level attention is needed and should be given to the two issues that are of significant concern to some of the EU's external suppliers. The relevant conditions in the Third Package, i.e. on non-EU ownership in infrastructures and on efficient cross-border transiting of gas flows, should be further articulated and discussed with external suppliers at the proper levels.

These issues can, and should, be solved over the course of the next year.

### **The building of energy solidarity in the EU**

The EU is on a promising path towards the building of an EU energy solidarity both *ex ante*, when it comes to institution building for crisis prevention, and on the spot, in terms of crisis management in a spirit of solidarity.

Regulation (EU) No 994/2010 concerning measures to safeguard security of gas supply is the EU's key solidarity instrument providing a solid basis for the management of unforeseen supply interruptions on a short-term basis. Certain issues that still need to be resolved or are missing can be overcome based on the experiences from past crises. The transposition of the lessons learnt into the existing framework can further refine and improve the procedure in place.

Ultimately, the prerequisite to solidarity is transparency. In this respect the increased efforts in the area of foreign energy relations with supplier countries play an important role. Following the long awaited Communication of the European Commission in September 2011 here especially the proposal for a Decision setting up an information exchange mechanism with regard to intergovernmental agreements between Member States and third countries in the field of energy is a promising step in the right direction.