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A target model for the European gas market

Policy paper prepared by
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following up CERRE Executive Seminar of 13 September 2012

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About CERRE and the CERRE Executive Seminar of 13 September 2012

Providing top quality studies, training and dissemination activities, the Centre on Regulation in Europe (CERRE) promotes robust and consistent regulation in Europe's network industries. CERRE's members, who are currently 28, are regulatory authorities and operators in those industries as well as universities. CERRE's management team is led by Dr Bruno Liebhaberg, Professor at the Solvay Brussels School of Economics and Management, *Université Libre de Bruxelles*.

CERRE's added value is based on:

- its original, multidisciplinary and cross sector approach;
- the widely acknowledged academic credentials and policy experience of its team and associated staff members;
- its scientific independence and impartiality.

CERRE's activities include contributions to the development of norms, standards and policy recommendations related to the regulation of service providers, to the specification of market rules and to improvements in the management of infrastructure in a changing political, economic, technological and social environment. CERRE's work also aims at clarifying the respective roles of market operators, governments and regulatory authorities, as well as at strengthening the expertise of the latter, since in many member states, regulators are part of a relatively recent profession.

This policy paper has been prepared following a CERRE Executive Seminar, which took place on 13 September 2012 in Brussels. The seminar's full programme and preparatory discussion paper can be found by clicking this link. The seminar has received the financial support of a number of stakeholders in the gas industry, including CERRE members.

As provided for in the association's by-laws, this policy paper has been prepared in complete academic independence by Prof. Guido Cervigni, CERRE Research Fellow and Research Director at IEFE-Bocconi University. The contents and opinions expressed in this document bind in no way either the CERRE Executive Seminar sponsors or any member of CERRE (www.cerre.eu).

About the author

Prof. Guido Cervigni is a Research Director at IEFE-Bocconi. He is also an advisor to businesses and governments across Europe on a wide range of competition policy and regulation issues related to energy markets, ranging from market design to tariff regulation, contracts and asset evaluation.

Prof. Cervigni was previously the head of economic analysis and regulatory relations in the Regulatory Affairs Department at Enel S.p.A, and, before that, head of business development in an energy trading company. Guido started his career at the Italian energy regulatory authority, where he was senior economist in the Tariff Division and later Head of the Competition and Markets Division. In that capacity, he represented the Authority in several working groups of the Council of European Electricity Regulators.

Guido holds a PhD in economics from Bocconi University, Milan, where he is currently a lecturer of Economics of Regulation in addition to its abovementioned research directorship at IEFE.

Introduction

This note follows up on the CERRE Executive seminar on *"A new target model for the European gas market"*, held in Brussels on 13 September 2012. Leading gas experts and high-level industry representatives met to discuss the foreseeable dynamics of the European gas market, once the pre-conditions for the development of a single European gas market are in place, i.e. once gas transportation and retailing in Europe have been effectively liberalised and barriers to the movement of gas across Europe have been eliminated. Therefore, the discussion abstracted from the implementation issues of the regulatory framework foreseen by the Third package.

This paper is organised in three sections, each addressing one topic of the seminar. The first section concerns the impact of the liberalisation of the European gas industry on wholesale gas contracts. The second section deals with competition in the supply of gas to Europe. The Third section focuses on the European policy on the development of gas infrastructures. For each topic, we highlight the policy issues that, based on the discussions in the seminar, appear to be relevant.

The paper should be read in conjunction with CERRE's paper "*A new target model for the European gas market: impact on trading and investment*", prepared to stimulate discussions in the seminar[1].

[1] The discussion paper can be downloaded from http://cerre.eu/sites/default/files/120711_CERRE_CES_GTM_DiscussionPaper_GC.pdf .

1. Gas trading arrangements in Europe

In the traditional organisation of the European gas sector, national *de facto* monopoly suppliers would source gas from producers through long-term agreements, with a duration up to thirty years, at oil-indexed prices. These long-term contracts guaranteed access to gas to European utilities at a price that allowed to market natural gas as a cheaper alternative to the fuels which it was replacing in the final market. Furthermore, they ensured a revenue stream for producers which replicated the dynamics of oil prices, helping the financeability of production and transportation infrastructure.

In the current situation, the economic rationale for oil-indexation appears to be weak. On the one hand, the evolving global market for gas is becoming increasingly liquid and has developed its own price dynamic, no longer connected to oil. Gas to gas competition is becoming the main driver of gas prices in Europe, whereas the pricing of the traditional long term contracts was driven by inter-fuel competition. On the other hand, the opening of the retail gas markets in Europe makes oil-linked prices no longer sustainable for buyers, as oil-related prices are no longer the competitive benchmark and former national companies no longer have a captive customer base to which they can pass their procurement costs, irrespective of spot market conditions. However, long-term contracts are still crucial in ensuring the mutually beneficial exchange of risk hedge between producers and consumers, possibly through mid-streamers. A market highly reliant on short-term trading is prone to boom-and-bust investment cycles in both gas production and transmission. An inefficient allocation of risk among producers, mid-streamers and consumers leads to higher than necessary total supply costs and ultimately prices.

The interaction between buyers and sellers will determine the future degree of long-term contracting in the European market. However, public policies have a strong impact on the market participants' propensity to take long-term commitments. First, the large single European market resulting from the implementation of the Third energy package is expected to support a certain number of large gas aggregator wholesalers, keen and able to take long-term positions. Furthermore, in the liberalised European market, producers will be able to integrate downstream into retailing in order to acquire portfolios of final consumers with a hedging function, as large consumers may develop energy portfolios including long term positions.

Secondly, a certain and steady regulatory environment encourages market participants to take long-term positions by limiting regulatory risk. For example, since electricity generation is a large component of the European demand for gas, predictability of the future renewable electricity generation capacity is crucial to assessing the future demand and price for gas.

Thirdly, any regulatory or competition policy measures restricting the possibility of retailers to sign long-term supply contracts with final consumers may reduce the incentives for retailers to commit to long-term wholesale gas purchases[2].

Finally, regulation would directly generate long-term commitments of the European consumers in case certain types of mechanisms to ensure security of supply were implemented[3], such as measures modelled around the capacity support schemes implemented in the electricity industry in several countries[4].

[2] In some cases long term contracts have been regarded as anti-competitive to the extent that they make part of the demand non-contestable by the entrants. In other cases long term contracting has been limited or constrained by regulators as part of consumer protection policies.

[3] See for example: Comparison of PJM's RPM with, Alternative Energy and Capacity Market Designs, the Brattle Group, 2009, downloadable from: http://www.brattle.com/_documents/uploadlibrary/upload807.pdf .

[4] These would involve long-term payments to gas producers to offer, or "make available", natural gas in the European market. The corresponding cost would then be passed on to gas consumers.

2. The competitive landscape in the European gas market

Concerns that the liberalisation of the European internal gas market might worsen the bargaining position of the European consumers towards the main gas producers supplying Europe occasionally surface in the policy discussion. These concerns are based on the idea that before the opening of European retail markets, national supply monopolies were able to leverage their exclusive access to final consumers when negotiating supply agreements with non-European gas producers. On the contrary, as a result of liberalisation, gas producers can (at least threaten to) bypass midstream buyers by vertically integrating into retailing.

Some participants in the CERRE Executive Seminar noticed that the relevance of downstream monopoly as a source of bargaining power in the upstream market can be questioned, as wholesale gas prices in Europe are increasingly dependent on the dynamics of the worldwide supply and demand of gas. This tends to reduce the room for bilateral negotiation between European buyers and gas producers. In addition, the size of the European market is compatible with the existence of several midstream companies sufficiently large to take full advantage of competition among gas producers as well as to efficiently select among alternative means of delivering gas to Europe.

However, the implementation of the Third energy package is taking place in a context of steady gas demand and decreasing gas production in Europe. This might exacerbate, at least in the short term, the reliance of Europe on imports from Russia and Qatar, justifying market power concerns on the upstream side, especially after the existing long-term contracts expire, which will provide stronger incentives for producers to exercise market power.

The European Commission has so far relied on its competition policy toolbox to deal with issues related to the exercise of market power by non-European gas suppliers. It remains to be seen whether this policy approach is sustainable or if a broader approach will be followed in the future, resulting in greater politicisation of the relationship between Europe and its main gas suppliers.

The outcome of the liberalisation process in terms of gas prices in Europe is still highly uncertain. The dynamics of the international energy markets are having an increasing impact on gas prices in Europe. However, it was stressed in the seminar that the structure of the Russian supply and of the transportation infrastructures from Russia to Europe are such that the relationship between Europe and Russia will remain, to some extent, idiosyncratic. Provided the opportunities for Europe to replace Russian supplies with alternative sources and for Russia to sell its gas to alternative buyers are limited, the role for bilateral negotiation in setting the price of the largest portion of the supply of gas to Europe remains important. This could provide the basis for a new generation of long-term gas supply agreements, featuring a different balance between hedging power and flexibility in order to overcome the limits of the traditional take-or-pay contracts to deal with the new dynamics of the gas markets.

3. Development of transmission infrastructures

Once the Third energy package is fully implemented, the development of the European gas network is expected to be led by the market, since most of the upgrades will be carried out subject to market participants' commitment to paying for them, by purchasing the additional transmission rights on a long-term basis.

This approach is intended to retain the advantages of a merchant system – like the one implemented in the US – in terms of ensuring that the market drives and (bears most of the risk of) network development. At the same time the European approach promises to overcome the potential inefficiencies that might result from coordination failures in the decentralised setting. Based on the discussions in the CERRE seminar, this model appears to satisfy the European gas industry community.

In the recent implementation of that approach, however, only part of the investment costs are covered by market participants' long-term commitments. The regulator commits to covering the remaining costs through tariffs. This feature introduces elements of traditional network planning in the model, since part of the risk that the new capacity would ex-post remain unused is borne by the consumers, after the investment decision is taken or approved by the regulator.

Policy and regulation can contribute to maximizing the role of the market in the development of the European gas transmission network in the same way as they can contribute to the development of a long-term gas market. A steady and predictable regulatory environment is necessary to make the market participants' expectations on the future value of gas and of the transmission capacity more robust and therefore to increase the propensity to assume long-term commitments.

However, the objectives of security of supply and promotion of competition are likely to lead to a situation of excess transmission or LNG gasification capacity in Europe. The expectation of abundant future availability of transmission capacity will further reduce the incentives for market participants to commit far in advance to purchasing transmission rights. This will increase the share of the investment risk borne by the consumers or, in different words, the role for planning in network development. This outcome was acknowledged by some of the regulators who spoke at the CERRE seminar.

In conclusion, the approach to gas network development foreseen by the Third energy package is better characterised as hybrid, where both market and planning elements coexist. Highly transparent and open decision-making processes are crucial, in such setting, to ensure that:

- regulators are able to demonstrate that the network investments whose risk is entirely or in part born by consumers are desirable;
- market participants can make an informed assessment of the future value of transmission rights.

Finally, discussions in the CERRE Executive Seminar highlighted the prominent role of system operators in the network development process. In this respect an important item on the European regulators' agenda should be the development of effective incentive systems for the system operators, striking a reasonable balance between risks placed on system operators and their expected income.