

Energy Regulation Insights

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From the Editor

On 15 November 2005, the European Commission published the initial findings of the Energy Sector Inquiry, launched in June 2005 in response to complaints about high gas and electricity prices, barriers to entry and a lack of consumer choice.¹ The Commission summarised its initial findings in an Issues Paper which, it says, focuses on problem identification rather than remedies.² A more detailed Preliminary Report will follow at the beginning of 2006 and a Final Report at the end of 2006. In February and March 2006, the Commission plans to consult widely, so that market players, consumers, governments and others will have an opportunity to comment on the Commission's preliminary findings, and to help shape the outcome of the inquiry.

This Energy Regulation Insight summarises the Commission's thinking so far and highlights some issues that need further consideration in the next stage of the inquiry.

—Graham Shuttleworth, Editor

European Commission Sets Competition Issues for Gas and Electricity Markets

By Sean Gammons

Common Themes Across Gas and Electricity Markets

The Commission recognises some fundamental differences between gas and electricity markets,³ but has categorised its initial findings under five common headings:

- *Market Concentration*: horizontal market structure at the wholesale level (the import and production of gas, the generation of electricity, and trading for re-sale);
- *Vertical Foreclosure*: vertical market structure, including the degree of vertical integration (1) between production and supply and (2) between supply and the networks needed to deliver gas and electricity to consumers;
- *Market Integration*: the extent of international competition through cross-border trade, focusing on conditions for access to gas and electricity interconnectors;
- *Transparency*: availability of information on the operation of gas and electricity systems;
- *Pricing Issues*: a diverse range of issues, including the use of oil-indexation in gas contracts and the potential for market power in electricity markets.

Under each heading, the Commission identified impediments to competition in EU energy markets, drawing on the results of 3,000 questionnaires it sent out to interested parties, as well as consultations with national governments, regulators and system operators.



Market Concentration

The Commission found a high or very high level of concentration in most national gas and electricity markets.⁴ In gas, high concentration is sustained by historical players' control over gas import contracts, which typically last 15-20 years. The Commission maintains that the long duration of such contracts "crowds out" access for new entrants. The Commission also found that the "flexibility" built into long-term import contracts reduces the need for importers to participate in trading, to manage short-term demand and supply fluctuations. The effect is lower liquidity in wholesale gas markets, which makes it more difficult for new entrant suppliers to obtain their gas, and thus helps sustain the high levels of market concentration. The Issues Paper does not analyse the efficiency benefits of long-term contracts, but only their implications for short-term competition.

In electricity, the Commission found high concentration in generation sustained by entry barriers including

the high cost of building new generation assets, complex planning procedures, scarcity of suitable sites and (unspecified) uncertainties over supply markets. Generators can influence prices either by withdrawing capacity, or by raising prices when they are indispensable to meet demand.⁵ According to the Commission, data on balancing markets show the indispensability of some players gives them opportunities to set prices. The Commission notes that large capacity portfolios (particularly large cheap portfolios) benefit from capacity withdrawal, whilst even a small portfolio may be able to raise prices, so generators can influence prices at lower levels of concentration than in other sectors.

The Commission observes that concentration in wholesale power markets (power exchanges and over-the-counter trading) is less striking on average than in generation, but does not accept that these markets are therefore working satisfactorily, given the potential market power in generation and the low liquidity of some markets.⁶

Vertical Foreclosure Through Integration of Production and Supply

The Commission concluded that a high degree of vertical integration in production and supply is leading to illiquidity in wholesale gas and electricity markets, which is hindering new entry. In gas markets, the Commission says that gas hubs such as Zeebrugge in Belgium and the NBP in the UK are a vital potential source of gas for new entrants, both for short-term imbalances and to support long-term customer relationships.⁷ However, the inquiry concluded that most hubs offer little gas, in part because of limited trading by importers/wholesalers with access to gas through historic contracts.


The Commission found that there is also little liquidity in electricity markets with a high degree of vertical integration, citing France as a good example. The Commission cites the UK (where the industry was unbundled in the early 1990s) as an example of a market where re-integration is now causing illiquidity.⁸

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The Commission identifies “contractual integration” through long term contracts (Power Purchase Agreements or PPAs) between generators and downstream operators as another cause of illiquidity, particularly in certain new Member States. For example, in 2004, PPAs accounted for approximately 67% of net consumption in Hungary and 45% of total energy sold in Poland.

The Commission observes that lack of liquidity can initiate a vicious circle of further vertical integration, because operators do not want to rely on the wholesale market for their supplies. Such a phenomenon is particularly damaging to cross-border entry, says the Commission, because it forces entrants to enter as vertically-integrated companies, which increases the risk and cost of entry. The Issues Paper does not consider whether integration has any benefits for consumers, e.g. because it is more efficient, or because the market rules make unbundling risky or unprofitable, or because integration facilitates investment.

Vertical Foreclosure Through Integration of Supply and Networks

The Commission notes that most Member States have implemented the legal unbundling requirements of the EU electricity and gas directives, with a small number having implemented ownership unbundling. The Commission observes that UK market experience suggests full ownership unbundling significantly changes the behaviour of network operators: a fully unbundled operator focuses on optimising the use of its network.⁹

According to the Commission, vertical integration of supply businesses and networks (as well as gas storage) may create incentives within the group to favour/protect its supply business. The Commission received complaints about network companies raising rivals’ costs, obstructing customer switching, withholding essential information, and providing information only to affiliated suppliers, particularly in Germany. Even if there is no discriminatory conduct in such cases, the Commission notes, integrated network operators lack

adequate incentives to address problems with customer switching, which only create costs and risks for those trying to acquire new customers. The Commission may therefore regard anything less than full ownership unbundling of supply from networks as leading to discrimination in favour of affiliated suppliers, which hinders competition.

Market Integration

The Commission found that a lack of market integration is hindering competition across the EU in both gas and electricity markets, albeit for slightly different reasons. In gas, the issue is not a lack of cross-border infrastructure - gas has been transported across Europe and across borders for many years - but problems of access to the existing infrastructure. In electricity, the main problem identified by the Commission is inadequate cross-border interconnection capacity, combined with some limitations in existing access arrangements.

Under the EU gas directive of 2003, certain pre-liberalisation transit contracts were allowed to continue in

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force unaffected by liberalisation and reserve a lot of “primary” capacity to historical incumbents for long periods. At the same time, some holders of this capacity claim that the “use-it-or-lose-it” principle either does not apply to transit pipelines, or cannot be applied effectively.

Together, says the Commission, these arrangements are a major obstacle to access on cross-border infrastructure.¹⁰ To back up its findings, the Commission studied two major transit routes through the European gas system - (1) the Benelux- Italy axis for flows from Norway, UK and the Netherlands across France and Germany to Italy and (2) East-West axis allowing for imports of Russian gas into the EU. It found that incumbents hold most primary capacity on these routes until 2017-2022, with little secondary capacity being made available to new entrants.¹¹

The Commission observes that many cross-border electric interconnectors are occasionally, or even chronically, congested and that the number of congested borders is steadily increasing. The Commission cites the difficulties in obtaining planning permission as one of the constraints on expanding interconnection capacity, but also notes complaints from customers about the lack of incentives on TSOs to invest in new capacity because of the substantial revenues they receive from auctioning scarce capacity. As in gas, pre-liberalisation contracts have given historical incumbents preferential access to cross-border capacity, although some of these arrangements have been overturned in the courts recently. The Commission has also received complaints that the current explicit auction rules designed to open up access to interconnectors, together with differences in national market

designs, prevent optimal price arbitrage by restricting full capacity utilisation and raising risks for cross-border traders.

The Commission therefore noted that long-term contracts may limit access to interconnectors, but also found users dissatisfied with explicit auctions intended to open up access to new entrants.

Transparency

The Commission observes that most incumbents are happy with the level of information transparency on the availability of gas pipeline capacity, whereas most new entrants are not. A similar picture emerged on other aspects of transparency (e.g., availability of interconnectors, generation capacity, etc.).

In the gas market, the main problem identified by the Commission is a lack

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of adequate information on transit pipeline capacity. TSOs are obliged to publish information on the availability of transit pipeline capacity, although regulators can exempt pipelines with a small number of capacity holders, to protect legitimate commercial interests.¹² According to the Commission's analysis, large amounts of capacity on the Benelux-Italy axis and East-West axis would qualify for an exemption.¹³ The Commission is therefore concerned about transparency on gas highways crucial for competition and market integration in Europe.

In the electricity market, the Commission observes that all players active on the spot and forward wholesale markets need operating information on the electricity system and network. If only incumbents have access to such information, it creates a barrier to new entry and undermines competition.¹⁴

Pricing Issues

In both electricity and gas markets, the Commission is concerned about the coexistence of regulated tariffs and free market prices, particularly where regulated tariffs are so low that cost-based competitive prices are unattractive. Low regulated tariffs squeeze out or deter entry by suppliers who do not have local production or electricity generation sources (although it is unclear whether raising cost-based tariffs would enhance consumer welfare). In the gas market, the Commission

confirmed that prices in long-term gas contracts are generally linked to the prices of oil and oil derivatives, rather than supply of and demand for gas in EU markets. No trend towards market-based pricing mechanisms ("gas-on-gas" competition) can be observed at this stage.

In the electricity market, the Commission notes that many participants gave reasons why price formation on wholesale electricity markets (balancing, spot and forward) is malfunctioning, without itself drawing any conclusions at this stage of the inquiry. In particular, some customers (predominantly in Germany) claimed that including the value of CO2 emissions allowances in costs is evidence of market power of generators and non-functioning of markets. (Economic theory implies that this claim is incorrect.) The Commission itself observes that the markets for CO2 emissions are in an infant state and that interactions between CO2 prices and other price determinants are complex and not yet fully understood.

What Direction will the Commission's Inquiry Take Now?

The Commission says it will study the following gas market issues in further depth:


- Whether network and storage operators offer preferential treatment to affiliated suppliers;

- The effect of balancing regimes on competition in gas markets;
- Whether network operators purposefully raise switching costs to make it difficult for new entrants;
- The difficulties faced by new entrants in getting access to transit pipelines;
- The availability of unused capacity in other important transit pipelines, such as the route of Norwegian gas starting in northern Germany;
- The role of gas swaps in congestion management and hub trading and the extent to which new entrants have access to swaps compared to incumbents; and
- The link between oil-price and other indexation in contracts.

In the electricity market, the Commission says it will be looking at the following issues in greater depth:

- The functioning of power exchanges and the links between different forms of trading;
- Further analysis of the liquidity of wholesale markets; and
- Whether there is scope for using market power in generation to increase prices.

The Commission's list of issues is longer for gas than for electricity, but

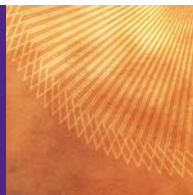


the electricity “to do list” includes one particularly wide-ranging topic, i.e. market power. The Issues Paper acknowledges that even small generator portfolios can have market power, and that portfolio characteristics affect incentives to withdraw capacity.

The Commission seems to regard vertical integration and long-term contracts held by incumbents as potential barriers to entry. For an industry with long-lived assets, long-term contracts and vertical integration offer essential support for efficient investment and security of supply. However, at the recent EC Energy Council meeting, Neelie Kroes (the Commissioner responsible for the Energy Inquiry) told ministers that security of energy supply must not be mistaken for security of incumbents.¹⁵ Europe’s electricity and gas industry will therefore need to refresh the arguments in defence of existing long-term contracts, or else to develop new ways of combining the financial security of long-term (primary) contracts with the operational flexibility of short-term (secondary) trading.

The Commission’s focus on short-term trading has some curious consequences. Raising low regulated retail tariffs may help new entrants enter retail supply markets, but will sometimes be inconsistent with regulators’ obligations to promote consumers’ interests. The Commission has not so far addressed this potential conflict.

The regulation of EU energy markets is undoubtedly due for a shake-up. However, in the next stage, the Commission will have to assess both short-term and long-term competitive effects. Consumers, companies and other participants will need to argue their case carefully in the next phase of the inquiry, to avoid undue interventions.



Notes

- 1 The inquiry is based on Article 17 of Regulation 1/2003, and hence its formal aim is to assess competitive conditions in the electricity and gas markets and to establish whether any malfunctioning in these markets results from breaches of competition law.
- 2 Energy Sector Inquiry - Issues Paper, Version 15.11.2005, available at: http://europa.eu.int/comm/competition/antitrust/other/sector_inquiries/energy/issues_paper15112005.pdf, visited on 8/12/05.
- 3 The main differences listed by the Commission are: (a) gas is a natural resource, whilst electricity is not (i.e. it can in principle be produced anywhere in the EU); (b) electricity cannot be stored whilst gas can; (c) generators have different generation portfolios, with varying marginal costs for baseload and peak operation, whilst production of gas (and more importantly imports) show more similarities; and (d) liberalisation in electricity started earlier than in gas. In connection with (a), the Commission also notes that the EU is dependent on gas supplied from a very limited number of gas exporters for the bulk of its supplies, although this situation is gradually changing as liquefied natural gas (LNG) becomes more competitive.
- 4 Based on its experience from many recent gas and electricity merger cases, the Commission assesses competition throughout the Issues Paper within "national" energy markets, referring only occasionally to sub-national markets.
- 5 The characteristics mentioned by the Commission are: the non-storability of electricity (which results in a marginal cost curve that steepens sharply as capacity becomes scarce), the high inelasticity of demand (which means demand remains more or less fixed as price rises), a wide spectrum of costs of production, and a price equal to the highest (accepted) offer on power exchanges.
- 6 The Commission does not identify the abuse of market power as a potentially harmful effect of market concentration in gas markets, presumably because the characteristics that make electricity markets prone to market power are absent from gas markets (i.e. gas is storable, demand is elastic thanks to competition from suppliers of competing fuels, etc.).
- 7 The term "gas hubs" is usually used in the industry to refer to marketplaces that are located at a precise physical location, usually an entry point to the high pressure pipeline systems such as Zeebrugge, but the Commission uses the term more widely to refer also to marketplaces such as the NBP in GB and the TTF in the Netherlands, which are virtual points that are contractually located within the transportation system.
- 8 Statistics collected by the Commission indicate that the volumes traded day-ahead on certain power exchanges still represent a small proportion of total consumption in some markets (e.g. Germany = 14%, Netherlands = 13%, France = 4%, and Austria = 3%, in the period January-June 2005).
- 9 Even in the UK, some electricity distribution networks also own generation and supply businesses.
- 10 "Gas swaps" offer a - potentially large-scale - alternative to physical transport of gas. (Questionnaire respondents swapped at least 27 bcm in 2004. Total gas consumption in the EU in 2004 was 447 bcm.) The Commission plans to investigate further whether new entrants have fair access to swaps.
- 11 The Commission also found that about 10% of the pipeline capacity on these two axes is unused, suggesting some opportunity for better optimisation of its use.
- 12 Article 6 of Regulation EC 1775/2005 on access conditions to the gas transmission network.
- 13 The Commission estimates 20-80% for Benelux-Italy and 60-65% for East-West.
- 14 According to the Commission's analysis, 83% of suppliers, traders and generators believe that "useful", "important" or "indispensable" information is lacking in EU electricity markets.
- 15 Page 15, Power in Europe, Issue 464, 5 December 2005, Platts.

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