The Strategy of Players on the European Gas Market

One result of opening up the European gas market to competition has been to increase the number and diversity of the players involved, whether producers, suppliers or electric utilities. However, while the gas on offer is still controlled by a handful of market players given the increasing importance of state-owned companies from exporting countries outside Europe, the downstream gas sector continues to show a strong concentration of incumbent operators seeking a dominant position in the supply of gas.

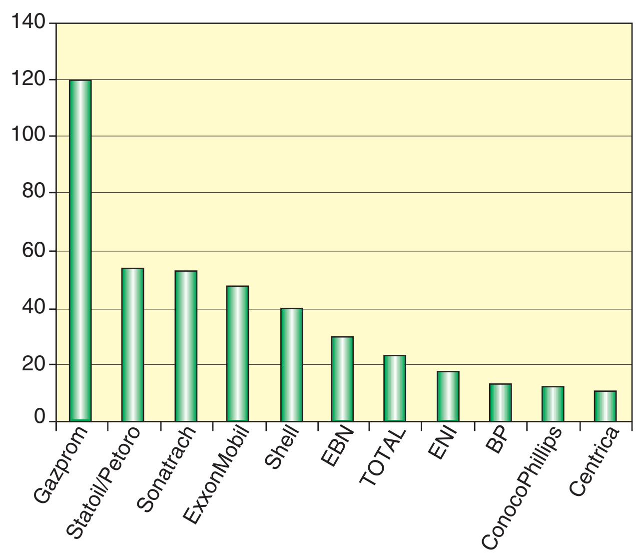
As liberalization ends import and export monopolies in Europe, upstream and downstream operators are implementing new strategies relying on alliances, mergers and acquisitions. These large-scale trends towards vertical and horizontal integration are completely restructuring the gas supply chain. Whether at the upstream or downstream end of the chain, vertical integration makes it possible to realize economies of scale and capture part of the economic gas rent, rendered more volatile by competition. It also allows operators to become more familiar with the cost chain and take up a better position for commercial negotiations. Horizontal integration makes it possible to tap potential synergies with other network activities, especially electricity. The combined development of "gas-electricity" activities allows operators to propose dual fuel offers and exploit opportunities for gas-electricity arbitrage that lead to trading these energies.

These new strategic operations aim to more effectively control specific risks aggravated by competition, such as those related to sales outlets or energy price volatility, while taking advantage of investment opportunities on high-potential markets and in new activities (e.g. international transport), in order to diversify outlets and boost sales.

Supply Dominated by Oil Majors and National Companies from Exporting Countries

Most of the gas supplied to the European union of twenty-five (EU of 25) comes from remote sources outside Europe. The top three suppliers — Gazprom, Statoil and Sonatrach — represent 46% of the total. Through long-term "take or pay" contracts and a netback pricing, the latter have established lasting bilateral business relationships with each of the national transport and distribution operators. If we count the two largest producers, ExxonMobil and Shell, then the five top suppliers of the EU of 25 cover more than 60% of its supply requirements. And this proportion rises to 80% if one counts the ten largest suppliers to this region (including Total, Eni, BP and Centrica) and the Dutch state-run company, EBN. Long-term contracts between the producers and the buyers that supply and sell natural gas represent over 90% of total European procurement.

Fig. 1 Gas on offer in the EU of 25 in 2004 (bcm)



Source: Annual reports

Key Traditional Suppliers and their Strategies

With forecasts indicating that demand will go up while European production will slow down, the incumbent suppliers Gazprom and Statoil/Petoro saw sales volume to the EU rise by 5.5% and 14% respectively in 2004, reaching 120 bcm and 54 bcm, whereas Sonatrach exports remained virtually unchanged at about 53 bcm. Sonatrach and Gazprom enjoy export monopolies in their respective countries,

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whereas Statoil sells over two-thirds of Norway's production (its own output plus the production from fields controlled by the Norwegian state). These three companies intend to increase their deliveries to Europe, a market with high-growth potential.

Liquefied natural gas (LNG) carriers are also used to supply Europe from distant sources. The company NLNG, which operates the Bonny facility in Nigeria, supplies nearly 12 bcm/year of LNG, about 70% of which goes to Spain and Italy. In 2004, Qatargas/RasGas and Oman LNG in the Middle East delivered 3.9 bcm and 1.3 bcm, respectively. In the years to come, these new suppliers are expected to see their role grow at a very rapid pace.

- *Gazprom*

The world's leading natural gas producer and exporter, Gazprom is still by far the top supplier to the EU of 25. Importing nearly 120 bcm in 2004, Europe absorbs 83% of its total exports. With the enlargement of Europe, Russian imports account for an even larger percentage of total supply, covering 24% of demand for the region compared to about 18% for the EU of 15 in 2003.

To boost its presence in terms of access to the European gas market, Gazprom has acquired assets in many gas distribution companies, e.g. in Germany (35% of Wingas, the country's third operator), the Czech Republic (through Gas-Invest, a company controlled by its German subsidiary Zarubezhgaz), Finland (Gasum), the Baltic States (Lietuvos Dujos, Eesti Gaas and Latvias Gaze), Hungary (Panrusgaz), the United Kingdom (Gazprom UK Trading) and Italy (Promgaz).

Striving to maintain its dominant position on the European gas supply scene, Gazprom plans to export up to 180 bcm/year by 2010 and nearly 220 bcm/year starting in 2020, when it would represent about 30% of the market. To reach this 2010 target, flows through existing gas pipelines will be increased — for Yamal (capacity of 33 bcm/year-end 2005); for Blue Stream (ultimate capacity of 16 bcm/year) — and the new Bogorodchany-Uzhgorod pipe will be built to ship natural gas from Kazakhstan to Europe via Ukraine. In addition, Gazprom is involved in major projects such as Yamal-2, intended to double the Yamal Europe pipe (Russia-Byelorussia-Poland-Europe). The company also wishes to diversify the export corridors used to make new deliveries and thereby avoid exposure to the economic and geopolitical risks inherent to transit through third countries, as exemplified by the recent tensions between Russia and Ukraine. In December 2005, work began on the onshore section of the North European pipe, which will connect Russia directly to Germany via the Baltic Sea. As a result, this project may advance more rapidly than originally planned.

Another Gazprom goal is to take stakes in a number of transport companies (e.g. SPP in Slovakia) and to form alliances and partnerships in key transit states to secure deliveries. The company has also reserved capacity at specific storage installations in connection with transit (e.g. in Ukraine, Slovakia and Austria).

Besides its portfolio of long-term contracts, Gazprom is seeking to boost spot market deliveries through its London-based subsidiary Gazprom Marketing & Trading, which currently handles the sale of spot volumes on the British and Belgian market.

Finally, Gazprom hopes to invest in the LNG business and penetrate new markets, such as the United States and China. It has already completed its first LNG sales transactions for the US by entering into swap agreements, especially with Gaz de France and BP. Gazprom is also planning the development of the Shtokman LNG project in the Barents Sea and the construction of a liquefaction facility in the Saint Petersburg area.

Gazprom's commercial expansion on international markets will result from increased production in Russia where, in the medium term, new fields (e.g. Bovanenkovo, Petsovoy and Khavutinskoye, Schtokman, Yamal Peninsula and eastern Siberia) are to come onstream and exploration/production activities abroad (e.g. Central Asia, India and Iran).

Moreover, to optimize the sale of its resources on the Russian market, Gazprom is pursuing a strategy to diversify its activities by building up its presence in gas-fired power generation. The company holds 10% of the largest Russian electricity producer, SEU, which supplies 70% of the domestic market.

- *Sonatrach*

Sonatrach exported almost 61 bcm in 2004, including 92% to Europe. It exported 22 bcm of LNG from four liquefaction plants (total capacity: 27.4 bcm/year) and 34 bcm of gas via two gas pipelines, namely:

– The Pedro-Duran Farell pipe connecting Algeria to Spain by way of Gibraltar (capacity: 11.5 bcm/year);

– The Enrico Mattei pipe connecting Algeria and Italy via Tunisia (capacity: 27 bcm/year).

For Sonatrach, the three key markets in Europe are Italy (25.7 bcm imported in 2004), which absorbs 46% of its regional deliveries, Spain (14 bcm in 2004) and France (6.7 bcm in 2004), which is the top buyer for Algerian LNG.

Sonatrach plans to export up to 85 bcm/year to Europe by 2010 and over 100 bcm/year starting in 2020. In seeking to reach this target and boost market share, Sonatrach can exploit its proximity to the European market and its

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competitive edge with respect to transport costs. To do so, it has acquired stakes in two projects for subsea pipelines that will eventually connect Algeria to Spain (Medgaz) and Algeria to Italy (Galsi).

While strengthening business partnerships with its traditional buyers, Sonatrach is developing new cooperative ties at the downstream end of the gas chain. This is to take advantage of synergies in transport and supply and ensure a secure client portfolio. Its key business partners on the gas pipe projects are Cepsa (Medgaz), Edison, Enel and Wintershall (Galsi). On the Spanish market, Sonatrach joined forces with Total and Cepsa in order to create a new company, Cepsa Gas Commercializadora, which sells gas to large users. In addition, Sonatrach is involved in a project in Spain concerning the Mugardos-Ferrol receiving terminal and is partner with BP on the Isle of Grain Project to gain access to the British market. It is also increasing its opportunities for trade with the United States and has signed an agreement with Sempra Energy to reserve some regasification capacity in the Cameron LNG project (Louisiana).

As part of its diversification strategy, Sonatrach has also won new positions in the electricity sector, especially a 30% interest in Cepsa's electricity production business.

- *Statoil*

In 2004, Statoil saw the sales volume of gas from its own production on the Norwegian continental shelf rise by 3.2 bcm to 25 bcm. In Europe, it also sold 29 bcm of gas from state-controlled fields (i.e. in which the state has a "direct financial interest") versus 25.6 bcm in 2003. Statoil sells about 70% of Norwegian gas whereas Norsk Hydro, ExxonMobil, Total and Shell produce about 25% of it.

Statoil delivers gas to a number of European markets and covers close to 10% of consumption in the EU of 25. Statoil accounts for 22% of French consumption and over 15% of the German market. Its three largest customers are E.ON Ruhrgas, Gaz de France and British Gas. In May 2002, the latter entered into a ten-year contract for a volume of 5 bcm/year for delivery starting in 2005.

Statoil aims to double its annual gas output to 50 bcm by 2015, thereby contributing to the buildup in Norwegian exports. Although long-term contracts with its European customers remains its main source of profits, Statoil is also very actively prospecting for new customers and boosting its short-term trading activities, which seems crucial to maximize its revenue.

The Statoil strategy aims to maximize the economic rent generated by the Norwegian continental shelf, and to develop its international business activities by acquiring stakes in or by operating fields located in Azerbaijan, Iran, Algeria, or Ireland. In addition, the Norwegian company recently developed direct gas sales activities in Europe, especially Denmark and France, and plans to extend them to other countries. One of its strategic goals is access to the British market, which presents strong growth prospects (Langeled gas pipe project).

To further develop its international activities and penetrate new markets, Statoil is strengthening its position in LNG trading in the Atlantic Basin. It also has holdings in the European Snohvit liquefaction project and the Cove Point regasification terminal on the east coast of the United States.

Oil and Gas Producers in Europe

Gas production in the EU of 25 covers 46% of its supply requirements. With 40 bcm, ExxonMobil ranks first in the region (18% of the total). The other producers, including Shell, the Dutch company EBN, Total, Eni, BP and Centrica, each produce a volume exceeding 10 bcm. Over 70% of production inside Europe is therefore in the hands of these seven companies, and nearly 80% is ensured by the top ten producers (the other three being ConocoPhillips, British Gas and Gaz de France).

For most oil and gas companies, Europe represents a strategic target market and it absorbs a large percentage of their total production (35% or more for ExxonMobil, Shell, Eni and BG).

As the markets in Europe open up to competition, oil and gas producers are reinforcing their positioning in new business areas (e.g. international gas transport and electricity production) and on specific producer or consumer markets. This strategy is intended to optimize the commercial value and profitability of their resources and outlets. Access to sales outlets is more important than ever before, due to the fact that gas production represents a growing component of the business activity of oil companies.

Table 1
Major gas producers in the EU of 25 in 2004

Company	Volume (bcm)	Share of total	Cumulative share
ExxonMobil	40.8	18%	18%
Shell	35.9	16%	34%
EBN	30.0	13%	47%
Total	14.9	7%	54%
ENI	14.7	7%	61%
BP	13.0	6%	66%
Centrica	11.0	5%	71%
ConocoPhillips	8.4	4%	75%
BG	7.6	3%	78%
Gaz de France	5.2	2%	81%

Source: Annual reports.

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For upstream operators, the key to their strategy is to optimize their position at fields with very high potential. The most prominent majors are present at the world's largest gas fields (Total at North Field/South Pars), sometimes via an alliance or partnership (Shell and BP with Gazprom in Russia). This is contingent on their gaining access to high-growth consumer markets by taking a stake in the transport project (pipeline or LNG) associated with the field concerned.

- *A Growing Role in International Gas Transport, Especially LNG*

In their quest to achieve geographic diversification of sales outlets, producers are stepping up their presence in LNG trading, an important driver of growth. Indeed, LNG is experiencing a sustained expansion because it offers flexibility in terms of volumes and in the range of possible sources of supply. The positioning of oil and gas companies in liquefaction, shipping and regasification strengthens and optimizes their presence all along the gas chain. Besides the state-controlled companies Sonatrach, Pertamina (Indonesia), Petronas (Malaysia) and Qatar Petroleum (Qatar), the world's top ten LNG operators include ExxonMobil, Shell and Total whose respective liquefaction capacities in 2004 came to 27 million tons of LNG (Mt), 10.2 Mt and 7.5 Mt.

Moreover, some companies are diversifying sales outlets for natural gas, especially by moving into electricity production and GTL.

- *The Activities of Oil and Gas Producers at the Downstream End of the Gas Chain*

In the past, oil and gas producers acquired stakes in national transport and distribution companies in Europe. Thus, their resources were sold under the best conditions possible while national operators were able to ensure the security of supply and of investments in the transport system.

As markets open up to competition, the strategy of Western producers has clearly changed. Upstream-to-downstream vertical integration is gradually giving way to vertical de-integration. The trend among oil and gas companies is to withdraw from their former holdings in integrated operators and set up a trading entity to sell their gas resources directly.

The following illustrate this strategic orientation:

– In Germany, the split of BEB assets in September 2003 led Shell and ExxonMobil to create their own trading entity. In 2003, BP, ExxonMobil and Shell sold the German corporation E.ON Energie their shares in Ruhrgas, and Shell withdrew from the capital of Thyssengas.

– In Spain, BP, Shell and Eni sell their gas resources directly and control a large share of the local market.

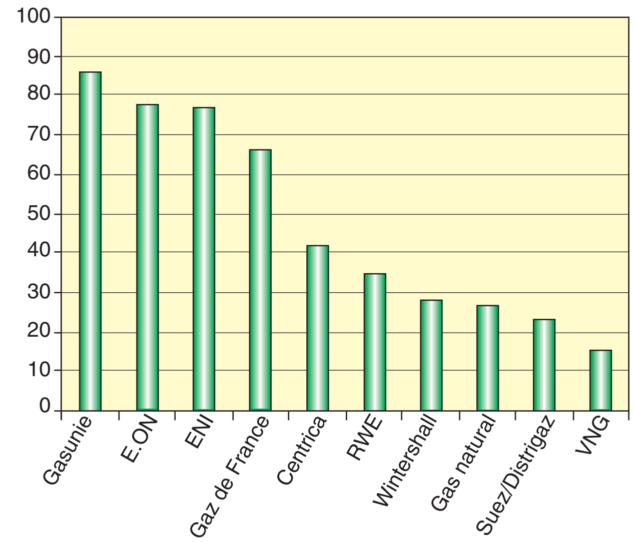
Reorganization in the Downstream Gas Sector and New Market Players

Until recently, the European gas importing companies were incumbent operators in the transport, distribution and storage of natural gas. The advent of liberalization has challenged this model.

The biggest supplier within EU of 25 is Gasunie. In 2004, this Dutch company sold 35.2 bcm on the domestic market (market share: about 80%), and 50.5 bcm for export, primarily to Germany (44%), France (18%), Italy (18%) and Belgium (17%). Among the other European operators that supply and sell natural gas, E.ON Ruhrgas and Eni rank second and third in sales with volume of over 75 bcm each in 2004. Delivering 66 bcm in 2004, Gaz de France comes fourth, followed by the British operator Centrica, RWE and Wintershall (Germany), Gas Natural (Spain), Distrigaz (Belgium) and VNG (Germany).

Incumbent operators are adopting various strategies regarding the separation of network management and trading activities as required by the Gas Directive. Gaz de France has retained exclusive control over regulated activities, which are thought to be less risky, in order to secure a solid financial base ensured by recurring income. Other operators withdrew partially (Gas Natural) or entirely (British Gas) from their assets in the transport company to focus on the gas supply business and, in many cases, to take up new positions on the electricity market.

Fig. 2 Current positioning of operators in Europe (bcm)



Source : Annual reports

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Strategic Orientations Adopted by National Incumbents

With gas resources declining and Europe becoming increasingly dependent on external sources, market deregulation makes it even more imperative to ensure the security of supply. Some operators have reinforced their strategy of international vertical integration at the upstream end of the business by acquiring assets in exploration-production. E.ON Ruhrgas and Gaz de France, which aim to cover at least 15% of their sales with their own production, are the most representative. Furthermore, incumbent suppliers are building up their involvement in international transport, i.e. in gas pipelines as well as the LNG sector.

Opening the market up to competition has also encouraged operators to strengthen their role in their core businesses, namely, the supply and distribution of natural gas. This strategic development of downstream skills is based on the internationalization of their activities and external growth (as they acquire assets in distribution and marketing companies). Operators are seeking growth at the European or international scale because they want to reach a critical size, especially in terms of market capitalization, which will leave them less vulnerable to hostile takeovers and better able to face fierce competition. Moreover, international growth in their core businesses offsets the loss of customers on their home markets. For major gas suppliers like RWE Gas, Gas Natural, Distrigaz and Gaz de France, international sales already account for over 30% of the total figure, and this proportion is expected to grow.

Table 2
Operators and their international activities

Company	International sales as a % of total sales	Key international target markets
RWE	> 45%	UK, Netherlands, Central Europe
Gas Natural	35 - 40%	Italy, Latin America
Gaz de France	30 - 35%	Germany, Italy, Central Europe
ENI	30 - 35%	Spain, Portugal, Turkey, Hungary
E.ON Ruhrgas	25 - 30%	Scandinavia, UK, Central Europe, Austria

Source : Annual reports

Operators are also seeking to develop sales outlets by diversifying their potential markets but also by developing in new sectors, especially power generation which, for natural gas, is the main driver behind growth. In this way, the British operator Centrica, originally a gas company, is also a mixed gas-electricity player: 50 to 60% of its customers have opted for dual offer. In September 2005 in Spain, two years after failing in an attempt to acquire Iberdrola, Gas Natural launched a hostile takeover bid targeting Endesa, the leading Spanish electric utility, which accounts for slightly over 40% of the local electricity market. This operation could lead to the creation of the third largest gas and electricity operator in the world.

Breakthrough by Electric Utilities, New Players at the Downstream End of the Gas Sector

In the last few years, electric utilities have made a striking breakthrough on the gas market by combining gas and electricity activities. This expansion is taking the form of internal growth (construction of combined cycle power plants) and/or external growth through the acquisition of gas company assets. In merger-acquisition scenarios, it is generally the electric utility that takes over the gas company, because its market capitalization is generally higher. Among the ten incumbent gas operators mentioned earlier, half are under the full or majority control of an electric utility. For an electric utility, selling gas enables it to:

- Optimize operation of installed power capacity (some operators can resell significant volumes of gas initially intended for electricity production);
- Enter into long-term gas supply contracts directly with producers.

Mixed gas and electricity operators are very much present in the United Kingdom, where Centrica's main competitors are Innogy (ex-National Power acquired by RWE), E.ON-UK (ex PowerGen) or EDF Energie, and also in Germany (E.ON, RWE), Italy (Edison, Enel) and Spain (Union Fenosa, Endesa and Iberdrola). Some of these companies are also very much present in other network industries (telecommunications) and other sectors (such as water and waste services) and have therefore become internationally well known "multi-energy" and "multi-utility" companies, like Suez or RWE.

In early 2003, the German electric utility **E.ON**, which handles nearly one-third of the electricity production on its domestic market, acquired the third gas operator in Europe, Ruhrgas. In the UK and Central Europe, E.ON ranks as the second largest gas and electricity operator and occupies third place in the Scandinavian countries.

In 2004, **Electricité de France (EDF)**, Europe's top electric utility, also sold nearly 28 bcm of gas in the region. Its goal is to increase sales to 40 bcm by 2010. In France, EDF already has 3,000 gas customers for annual volumes of 3 TWh. Its

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gas strategy relies in particular on its subsidiary Edison in Italy, the number two gas and electricity operator. With a volume of 13.4 bcm in 2004, the latter controls 14% of the Italian gas market and has plans for 20% by 2008.

The **Suez** Group, which operates in various business areas including finance, water services and energy, has decided to strengthen its activities on the gas and electricity market in Europe. Currently, it is the region's sixth largest electricity supplier. With a 63.5% stake in Distrigaz, Suez sold nearly 18 bcm of gas in Europe in 2004.

RWE, the top electricity producer in Germany and second in Europe, is also the sixth largest gas supplier in Europe and the second in Germany. The company strategy calls for external growth via the acquisition of natural gas distribution and supply companies, especially in Germany (with the buyout of Tyssengas, the fifth gas operator in the country), the UK, the Netherlands and Central Europe (where the company sells 44% of the gas and supplies 12% of the electricity).

Table 3
Positioning of Spanish electric utilities on their domestic market

	Electricity production (%)	Distribution (%)		Marketing (%)	
		Electricity	Gas	Electricity	Gas
Endesa	40	39	5	37	6
Iberdrola	30	40	0	38	12
Union Fenosa	12	12	1	10	8
Gas Natural	5	0	85	7	55

Source : Commission Nationale de l'Energie (CNE)

In Spain, the electric utilities **Endesa** and **Iberdrola**, which figure among Europe's top ten, have substantially strengthened their presence on the national gas market and secured their supply by signing long-term contracts, mostly for LNG. The Spanish utilities are stepping up their presence on the gas scene through their involvement in infrastructure projects to supply the Iberian Peninsula. These projects bear on international transport (Cepsa and Iberdrola are involved in the Medgaz Project) and LNG (Union Fenosa is involved in liquefaction plants in Egypt and Oman, and in the Sagunto regasification terminal in Spain).

In Italy, the electric utility **Enel**, the fifth electricity supplier in Europe, has shown strong development in the selling of gas, with domestic market share of about 12%. In 2004, the gas supply totaled 16.3 bcm of which 9.4 bcm went to produce electricity and 5.2 bcm were sold in other sectors. To better exploit potential synergies between the gas and electricity sectors, Enel implemented a gas growth strategy based on the acquisition of numerous distribution companies.

In Portugal, after failing in its attempt to take over Gas de Portugal, the top gas operator in the country, the electric utility **Energia de Portugal** acquired shares (10.1% and 59.5% respectively) in two gas distribution companies, Setgas and Portgas, the latter being the Number Two distributor nationally.

Conclusion

The gas scene is continuing its reorganization as Europe opens its markets to competition. Mergers and acquisitions have thus recently taken place at an accelerated pace on the European market. This trend should continue in 2006, sustained by high energy prices and initiatives undertaken by gas and electric utilities to compensate for the loss of customers on their traditional markets. In the near future, this period of consolidation and internationalization might lead to a new wave of concentration in the energy industry, with the emergence of multi-energy players at the European — or global — scale, resulting from successive alliances and mergers.

Armelle Lecarpentier, CEDIGAZ
armelle.lecarpentier@ifp.fr

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