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► **To cite this version:**

Dominique Finon, Catherine Locatelli. The liberalisation of the European gas market and its consequences for Russia. 2002. <halshs-00187059>

**HAL Id: halshs-00187059**

**<https://shs.hal.science/halshs-00187059v1>**

Submitted on 13 Nov 2007

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INSTITUT D'ECONOMIE ET  
DE POLITIQUE DE L'ENERGIE

**The liberalisation of the European gas market and  
its consequences for Russia**

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2002

**Egalement publié dans les**  
*Cahiers du Recep*  
**(Russian-European Centre for Economic Policy)**

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Russia is the world's biggest natural gas producer, with output of 581 bn m<sup>3</sup> in 2001, and is also a key supplier of the European gas market (around 30% of current EU gas imports). Therefore gas exports rank with oil exports as an essential variable of Russian economic policy, and any institutional evolution of its gas export markets is crucial for Russia's economy as well as its gas industry. Liberalisation of the European gas market will have major consequences for main suppliers, and therefore for Russia.

## **I - The liberalisation of the European gas market**

### **1. The European gas market: some reminders**

Gas consumption in the European Union is currently a little over 390 bn m<sup>3</sup> and will grow significantly in the future. According to estimates, gas demand of the EU 15 will be 420–650 bn m<sup>3</sup> by 2010 and 533–650 bn m<sup>3</sup> by 2020 (cf. Table 1). Gas imports, which are currently 200 bn m<sup>3</sup>, will therefore also increase significantly. Imports could rise to about 400 bn m<sup>3</sup> in 2020 and diversification of traditional suppliers (Algeria, the Netherlands, Norway, Russia and the UK) is likely. We view seven regions as potential long-term gas suppliers to Europe: the North Sea (Norway, UK, Denmark), North Africa (Algeria, Egypt, Libya), Russia, the Caspian region (Azerbaijan, Kazakhstan, Turkmenistan, cf. Appendix 1), the countries of the Gulf, West Africa (Nigeria, Angola), and South America (Trinidad and Tobago, Venezuela).

**Table 1: Summary of some European gas demand scenarios (bn m<sup>3</sup>)**

	<b>1999</b>	<b>i2010</b>	<b>2020</b>
<b>OME EU15</b>	<b>386</b>	500	597
<b>OME EU30</b>	<b>462</b>	642	777
<b>IEA EU15</b>	<b>386</b>	<b>420-650</b>	533-650
<b>J Stern EU30</b>		<b>580-690</b>	610-900

Notes:

EU 15 = Austria, France, Belgium, Greece, Germany, Italy, Luxembourg, Netherlands, Portugal, Spain, Ireland, United Kingdom, Denmark, Sweden, Finland.

EU 30 = EU 15 + Turkey, Bulgaria, Greece, Rumania, Czech Republic, Hungary, Poland, Slovakia, Slovenia, Estonia, Latvia, Lithuania, Norway, Switzerland.

Sources: 'Assessment of Internal and External Gas Supply Options for the EU, Evaluation of the Supply Costs of New Natural Gas Supply Projects to the EU and An Investigation of Related Financial Requirements and Tools', Executive Report, OME, 2002.

Stern (J.)- 'Traditionalists versus the New Economy: competing agendas for European gas markets over the next two decades', Briefing Paper-Draft, September 5, 2001, Royal International Affairs, London.

- **The institutional structure of the European gas market**

The European gas market was mainly organised around an oligopoly of producer-exporters (public companies in Algeria, Norway, Russia and the Netherlands) and a buyers oligopoly, including gas companies in European countries, which are in monopoly (or quasi-monopoly) positions on their national wholesale markets. This institutional architecture allowed development of stable and mature gas supply systems. Relations between the production oligopoly and the national import monopolies are structured by long-term contracts of 20-25 years, which share the risks. Key elements of this risk sharing are the 'Take or Pay' clause, the 'Final Destination' clause and a clause, by which prices are set by a 'netback' relation to oil prices. The British market, for a long time separated from the continental market, was gradually liberalised between 1986 and 1996 and is organised on a competitive basis, with production in the North Sea using a system of short contracts (cf. Appendix 2).

In most countries distribution was developed by regional and local authorities in the form of local distribution monopolies. But some countries, notably France, the United Kingdom and Spain, chose to integrate distribution with gas transport monopolies.

This structure is set to undergo fundamental change due to liberalisation of the gas market, which has been prescribed by the EU's 1998 Gas Directive and will be elaborated by a Directive to be voted on in 2003. The latter Directive involves a major institutional evolution, implying upheavals in organisation of the European gas market.

## **2. The objectives of European gas market liberalisation**

Liberalisation of European gas markets aims to create internal and external competition based on a competitive unified gas market by integrating traditional and new suppliers (Libya, Nigeria, Qatar, Caspian countries), and by development of spot markets around gas 'hubs', which are being developed. The objective is to secure lower-price supplies for all categories of consumers. Less expensive gas will be obtained by eliminating 'rents' at all levels of the gas supply chain through competitive pressure. Also stability of gas supplies to Europe will be ensured by strengthening technical and trade links between national markets, based on their inter-dependence.

### 3. Stages of liberalisation of the European gas market

Liberalisation of the European gas market is governed by European Directive 98/30 of June 22, 1998, which aims to lay minimal bases for deregulation of every national market (cf. Box 1). The only such initiative before then had been stage-by-stage liberalisation of the autarkic British market, based on North Sea gas (cf. Appendix 2). However, the 1998 Directive, transposed into national laws, had only limited effect on competition until 2001 due to preservation of vertical integration, prohibitive prices for network access and storage, and insufficient separation between gas trading, on the one hand, and transport and storage, on the other hand. Certain countries (Italy, Spain, Belgium and the Netherlands) chose in 2001 to push ahead with deeper liberalisation of their national markets. They even went further than EU recommendations by legally separating the transport system, through imposition of rules for access, and by completely opening their final market (with possible exception for the domestic market).

The future Directive, principles of which were accepted at the Barcelona Summit (March 16, 2002), will impose generalisation of these principles to all countries. Germany and France, which are the most difficult markets, will have to revise their conditions of access accordingly. This future Directive thus will accelerate the process of liberalisation of gas markets (cf. Box 2).

#### **Box1: Main elements of the gas Directive of 1998**

- The right of access to the network for direct purchases by producers of electricity, eligible consumers and distributors.
- A minimal level of 20% opening in 2000, 28% in 2003 and 33% in 2008 (by reduction of threshold consumer eligibility from 25 mn m<sup>3</sup>/year in 2000 to 5 mn m<sup>3</sup>/year in 2008).
- Conditions of access to the network:
  - A - Choice between negotiated or regulated third party access (TPA) both for transport and access to LNG terminals and for distribution (tariffs for regulated access to be published). At the end of 2000, a majority of member states had opted in favour of regulated or mixed access.
  - B - A price system with three main models: 'stamp post tariffs' distance-related tariffs, and 'entry-exit' tariffs.
  - C - Transport ancillary services, balancing conditions, storage...
- An accounting and functional separation of transport activity within gas operators under the control of regulators or authorities in charge of competition.
- Definition of appropriate and effective mechanisms of regulation, control and transparency.

Reduction of obstacles to flows between national markets will be encouraged, allowing increase of spot exchanges. Market entry will be facilitated. These steps should be based on development of new commercial infrastructure, specifically on multilateral exchanges in marketplaces created at certain 'hubs' (Zeebrugge in Belgium, Baumgarten on the Austrian border, Emdem in North Germany where gas pipelines from several sources converge). These hub marketplaces will allow development of transactions and gradual establishment of reference prices with liquid markets (price discovery) as demonstrated by the English spot market (the 'National Balancing Point'), which concentrates 20% of trade.

These competitive dynamics should influence the current system of vertical relations by long term contracts, making it more flexible through negotiation of shorter term contracts in the future and renegotiation of certain clauses in existing long-term contracts.

However, the opening of markets will not mean a radical increase in competition over the next five years. Constraints on future competitive developments remain strong. Firstly, markets of eligible consumers differ widely between countries, particularly as concerns use of gas in electricity production, which is significant in certain countries (UK, Italy, Spain) and insignificant in other countries (France). Secondly, extension of competition in *bulk supply* must be gradual due to long-term 'Take or Pay' contractual commitments. Current contracts leave only 10% of predicted demand unsatisfied by 2010, offering little scope for new entrants in opening of the European gas market. To improve this situation, two countries, Italy and Spain, have required a certain amount of long term contracts to be transferred to new entrants at cost price in order to encourage development of some competition, following the UK "gas release programme" in 1994-1995 when British Gas had to give up half of its contracts.

## **Box 2: Main features of the future gas Directive**

### **Deepening of national reforms on access to transport and storage**

The future Directive, principles of which were accepted at the Barcelona Summit (March 16, 2002) will impose two principles on all countries: maximal opening of their end market, legal separation of the network, and regulated access. Germany and France, which are the most difficult markets, will have to revise their conditions of access in this direction and for France openness of its end markets.

- The new Directive will impose accelerated opening of the whole of the end market and increase non-discrimination guarantees for access to every gas system. The opening should be complete before 2004, with a possible exception for households. This measure will have the largest effect on the French market, opening of which was to remain limited to 28% in 2003-2008 and 33% after that. A few markets (Belgium, Denmark, Sweden), complete opening of which was scheduled only in 2008, may need to accelerate the process. Other countries (Italy, Spain, the Netherlands, Austria) have brought forward complete opening of their end market to 2003.

- Improved guarantees of non-discrimination in access to the network and to storage will be sought by:

- obligatory legal separation of the network and storage;
- regulated third party access;
- transparency rules on available transport capacities;
- creation of an independent commission of regulation

Italy, Spain and Belgium and the Netherlands have anticipated the directive by creating transport companies, whose capital is not owned solely by the gas company.

- The directive will require alignment of access conditions to networks for international transport of gas, committed by long-term contracts, with ordinary conditions of third-party network access.

- Access to storage capacities will be opened, but subject to negotiation, with a requirement for transparency.

### **Reduction of tariff obstacles to trade**

The new Directive, as well as rules defined together and gradually by regulators and network administrators, aims to reduce obstacles to trade.

- Trade may be hampered by internal modalities of transport tariff setting and by cross-border tariffs. The earlier Directive (98/30) imposes no principle for facilitating internal and cross-border trade. It allows negotiated third party access, which tends to be non-transparent and generative of high transaction costs, particularly for short-term, low-volume sales. It also fails to define tariff principles, leaving agents free to choose between:

- a - price setting at a distance, point-to-point price setting, or postage stamp price setting (the most favourable for trade);
- b - part of the fixed term which reflects the cost of installations in relation to the variable term (way of computing past investments, etc.).

There are also other possibilities for discouraging deals, notably rules of physical balancing of deals and of access to the network.

- The Directive establishes no principle for cross-border price setting, although it is desirable to avoid accumulation of transit tolls in order to facilitate trade.
- There has been progress in definition of rules for interoperability (adjustment of gas qualities, harmonisation of methods for calculating available cross-border capacities) ahead of relative convergence of internal and cross-border price setting procedures.

### **European competition law and long-term contracts**

Existing long-term contracts hamper efficient competition, according to the European Commission. The overall character of such contracts is not criticised: 'Take or Pay' clauses of existing contracts are relatively flexible, and price clauses indexed to oil prices are revisable. But the clause of Final Destination for existing and future contracts is controversial because it prevents competition between big intermediaries by preventing resale on other markets. Abolition of the destination clause is under discussion. But the two exporter countries, which are concerned, Algeria and Russia, are strongly opposed to abolition.

## **II - Constraints and opportunities for Russian gas strategy due to liberalisation of the European gas market**

Russia exported 127 bn m<sup>3</sup> to Europe in 2001, and is thus an essential supplier of the European Union (75 bn m<sup>3</sup>, cf. Table 2).

**Table 2: Russian gas exports to European markets, 1980-2001 (bn m3)**

	<b>1980</b>	<b>1992</b>	<b>1994</b>	<b>1995</b>	<b>1996</b>	<b>1997</b>	<b>1998</b>	<b>1999</b>	<b>2000</b>	<b>2001</b>
• European Union	22.2	57.2	64.1	68.3	67.9	67.0	70.6	76.9	79.8	75.0
Germany ( 1 )	11.8	22.9	29.6	32.2	32.3	32.5	32.5	34.9	34.1	32.6
France	0.0	12.1	12.2	12.5	12.0	10.9	10.9	13.4	12.9	11.2
Italy	6.4	14.1	13.8	13.9	13.8	14.2	17.3	19.8	21.8	20.2
Austria	3.0	5.1	5.1	6.1	6.1	5.6	5.7	5.4	5.1	4.9
Finland	1.0	3.0	3.4	3.6	3.7	3.6	4.2	4.2	4.3	4.6
• Turkey	0.0	4.5	4.7	5.7	5.7	6.7	6.6	8.8	10.2	11.1
• Switzerland	0.0	0.4	0.4	0.4	0.4	0.4	0.3	0.4	0.4	0.3
<b>Western</b>	<b>22.2</b>	<b>62.1</b>	<b>69.2</b>	<b>74.4</b>	<b>74.4</b>	<b>74.1</b>	<b>78.4</b>	<b>88.4</b>	<b>90.4</b>	<b>86.4</b>
<b>CEECs</b>	<b>37.1</b>	<b>36.7</b>	<b>42.9</b>	<b>49.1</b>	<b>42.7</b>	<b>42.1</b>	<b>38.4</b>		<b>40.3</b>	
<b>Total</b>	<b>51.6</b>	<b>99.2</b>	<b>105.9</b>	<b>117.3</b>	<b>123.5</b>	<b>116.8</b>	<b>120.5</b>	<b>126.8</b>	<b>129.1</b>	126.7

Liberalisation of the European gas market has certain important consequences for traditional suppliers of this market:

- It will lead eventually to modification of certain contractual clauses of existing contracts concerning indexation of prices and multiple aspects of the price formulae, which organise gas company sales. Price formulae will have to take account of variations in oil prices more quickly

(this now takes more than six months). In some cases price formulae will also take account of market prices for electricity as an element of valuation of a part of gas supplies, or prices for coal, which can substitute gas in electricity production. After several years they may also integrate spot market prices on the European continent: these markets do not evolve like oil prices but follow a logic of short-term competition (when the markets are sufficiently liquid). Liberalisation will thus probably lead to modifications in price formation. In the short and medium term, prices for gas, which have not been fixed in contracts, will be pulled downwards due to production overcapacities, 'overcontracting' in the pre-reform years, and gas-gas competition on short-term markets, which will influence redefinition of contractual prices.

- Gas liberalisation may also result in a modification of exported volumes (both volumes that are already placed and opportunities for extra sales) by increased flexibility of Take or Pay clauses (from 85% to 115 %).

Overall, liberalisation of the EU gas market will probably increase exposure of traditional suppliers to 'price risk' and 'volume risk'. It is, however, important to differentiate the short-term and long-term stakes, since liberalisation is likely to be gradual. Actual competition will be limited in the short run.

#### • **Opportunities due to liberalisation**

Liberalisation of the European gas market may help the Russian gas company (Gazprom) to win new market shares by offering it new outlets and by allowing it to develop short-term deals (for example, on the UK market via the Zeebrugge hub). Similarly, Russian oil companies with significant natural gas reserves, such as Lukoil, Yukos, and Surgutneftegaz, would be able to place sizeable quantities of gas on the European market on a spot or contractual basis. Creation of a spot market in Europe will be to these companies' advantage, if they can export gas.

However, various uncertainties need to be overcome before this strategy can be implemented and be financially effective. Firstly, in the short run this strategy can only apply to demand, which is not tied down in contracts, and such demand will remain limited during the next 10 years. (Implementation of 'gas-gas' competition is constrained by long-term contracts, which limit scope for spot-based trading).

Secondly, the ability of Russian oil companies to export gas to European markets depends largely on global reform of the Russian gas industry. It requires freeing of access to the Gazprom

transport system and relaxation of the current Gazprom monopoly on gas exports. Uncertainties remain about the latter point, since the interests of the Russian state do not necessarily coincide with interests of Russian oil companies, which want to export gas.

Thirdly, competitiveness of Gazprom exports and more generally of Russian gas exports will determine the ability of Russia to maintain or even increase its market share. Russian competitiveness will depend largely on its cost level compared with those of their other gas exporters. Although we lack reliable information on this question, it is reasonable to suspect that cost levels of Russian gas deliveries are rising, and that conditions are decidedly less favourable than in the past. Significant investments need to be made as current productive assets become depreciated (or were already depreciated by Soviet practices of capital replacement). Launch of production in zones with more difficult technical conditions will impact costs as the large deposits of West Siberia become exhausted. Thanks to their size, Urengoy, Yamburg and Medvezhe definitely benefited from very low production costs per well, and this will not necessarily be the case for deposits, which come into production in the future. According to J. Grace, Yamal development costs will exceed those at Yamburg by a factor of two or three. Finally, Russia's evolution towards a market economy will mean very different cost accounting compared to that in the planned economy. Capital and tax costs will be taken into account and administrative fixing, which artificially lowered costs under the old system, will no longer apply. All these factors may increase production costs.

Also Gazprom currently faces difficulties renewing its production capacities. Russian gas reserves are vast, but low domestic prices for gas and non-cash settlement have reduced Gazprom's financial resources, constraining its investment strategy. There are therefore doubts about whether Gazprom can exploit its reserves fast enough to allow major increases in export to Europe from the current level of 127 bn m<sup>3</sup>. Russia's long-term national energy plan envisages gas production of 615-655 bn m<sup>3</sup> by 2010, but the Gazprom CEO, Alexei Miller, is limiting his ambitions to stabilisation of production at 530 bn m<sup>3</sup> over the next 10 years.

Finally, it is important to note that a strategy aiming at conquest of new market shares would pull spot prices downwards, leading to unease among Gazprom's major contractual partners. S. Boussena, the former Algerian minister for hydrocarbons, took the view that suppliers will have to find a balance 'between defence of their position and conquest of new market shares, on the one hand, and between current strategies to maximise volumes and strategies for defending prices by restricting volumes in agreement with competitors, on the other hand'. Considering Gazprom practices aimed at maximisation of exports, budgetary constraints of the Russian state, domestic

non-payments and the low domestic gas prices, balancing between a high-volume strategy and a strategy of price defence could prove extremely difficult.

- **Constraints for the Russian gas industry**

In the short term and even more in the longer term, adaptation of contractual clauses (Take or Pay, indexation of prices, and Final Destination) are strong constraints for Gazprom since long-term contracts are the basis of the company's investment financing in production and transport.

For Gazprom, as for other EU suppliers (such as Algeria), the Take or Pay clause and clause on indexation to oil prices grant financial stability, which is definitely necessary for large-scale investments. This may be particularly true for Gazprom, since the company suffers major financial losses on its domestic market due to non-payments, barter, and low prices. Gazprom is thus more dependent than any other gas company on export conditions for financing investments and renewing production capacities. In this respect, modification of long-term contracts implies major uncertainty and may increase constraints on company investment policy just as major investment is needed for launch of new deposits (Yamal, Shtokmanovskoye). Gazprom has to invest massively in renewal of its production base due to progressive exhaustion of its major deposits (Urengoy, Yamburg). Opening up to international investors could partially mitigate this problem, but such investors will also face increased financial risk if gas prices on the European market are low and volatile.

Liberalisation of the European gas market does indeed threaten to induce and maintain low prices for gas (cf. Box 3). However, suppliers need to distinguish the short-term and long-term stakes. In the short term, this factor will only apply to gas supplies that are not dependent on contracts indexed to oil prices (their share is expected to be small during the next 10 years). The effect will naturally be much more significant in the long term. In particular, price volatility, which could result from liberalisation of the European gas market, is an important constraint and factor of uncertainty for the Russian state and its budget, considering the importance of gas exports in fiscal revenues.

### **Box 3: Possible evolution of gas prices on the European market**

Gas competition in Europe is likely to remain limited through the period of liberalisation (roughly over the next 10 years) due to long-term contracts, which have already been signed. Such contracts account for all but 10% of expected needs in 2010, according to Eurogas. Contract prices will largely remain correlated with oil prices and will fluctuate as a consequence. Wholesale gas price development since 1998 has been closely linked to oil prices. Price fixing clauses in existing contracts may be renegotiated due to seasonal influence of spot prices (summer prices will tend to be lower than long-term contract prices), and due to changes in the value of gas on the downstream market as it assumes increasing importance as a feedstock for power stations. Prices in long-term contracts may also include a short-term price indexation percentage if a reference spot market emerges.

In the medium term, the development of short- and medium-term gas-gas competition could lead to a fall in gas prices accompanied by volatility, with spot prices going higher at peak periods (winter for example). Such price decline, which would mark a certain independence from the oil price, will result from existing overcapacity in production and import contracts compared with actual needs of European countries. There are many ways of increasing imports at low cost.

However, the cyclical price variations will remain within a framework set by oil and coal prices, since any excessive increase would entail replacement by oil and any excessive lowering would put gas in competition with coal. The IEA emphasises that competition due to energy substitution remains a key factor in formation of gas prices on competitive markets (the US is an example). There are close links between seasonal demand for gas, prices for gas, and prices for oil and coal. Finally, prices will also be influenced by evolution of gas supply and demand in Europe, and by the structure of suppliers' production and transport costs.

Finally, one of the current key issues for suppliers to the EU is possible abolition of the final destination clause. EU gas market liberalisation presupposes abolition of this clause, in order to assure application of European competition rights, since the clause is incompatible with creation of a market that involves trade and arbitrage between operators (in both space and time). Abolition of the final destination clause would allow gas pipeline companies to use gas bought within the framework of long-term contracts to participate in competitive trade between countries. However, abolition of this clause is widely opposed by suppliers (mainly Algeria and Russia), partly because they want to maintain certain control over their end markets, but mainly because they want to prevent initial buyers finding extra value by reselling gas on other markets where prices are higher.

## Appendix I: Summary analysis of the main gas regions of Russia and the Caspian

### 1. Russia

Russia has proven natural gas reserves of 48 140 bn m<sup>3</sup>, the biggest in the world. Russian production is extremely concentrated and is currently based on three ‘super-deposits’: Urengoy, Yamburg and Medevhze (cf. Table 1). These three main deposits have now reached their production plateau, and will sooner or later start to decline, although uncertainties remain on the rhythm of this decline. Russian production increases up to 2010 will be based on satellite deposits of Medvezhe, Urengoy and Yamburg, and notably by the Zapolarnoye deposit, whose annual production could reach 100 bn m<sup>3</sup> by 2005. Also, development of the Shtokmanovskoye deposit in the Barents Sea could give 30 bn m<sup>3</sup> annual production from 2006, of 60 bn m<sup>3</sup> from 2015 and 90 bn m<sup>3</sup> after 2020. Finally, the immense reserves of the Yamal gas province should assure growth of Russian gas production from 2010.

**Table 1: Production of natural gas in Russia, 1991-2001 (bn m<sup>3</sup>)**

	1991	1993	1996	1999	2000	2001
<b>Russia</b>	<b>642.9</b>	<b>617.6</b>	<b>603.0</b>	<b>590.7</b>	<b>584.2</b>	<b>581.4</b>
<b>Gazprom</b>	<b>601.6</b>	<b>577.6</b>	<b>564.7</b>	<b>546.6</b>	<b>523.0</b>	<b>512.0</b>
<i>Nadym-Pur-Taz region, of which:</i>						
Nadymgazprom	68.9	68.0	65.3	72.4	73.6	
Yamburg-gazodobycha	166.8	174.0	176.5	175.9	168.0	
Urengoygazprom	282.8	262.8	242.2	209.1	193.3	
<i>Outside Siberia, of which:</i>						
Orengburg-gazprom	48.0	34.5	28.7	24.8	24.2	
<b>Except Gazprom, of which:</b>	<b>41.3</b>	<b>40.0</b>	<b>38.3</b>	<b>44.1</b>	<b>61.2</b>	
Itera	-	-	-	6.0	18.0	
Oil holdings				29.5	31.0	

Sources: Gazprom, ITERA group, ‘Gas Matters’ (September 2001)

Russia expects reserve development to allow increase of its gas exports to Europe to around 200 bn m<sup>3</sup> by 2008 from 130 bn m<sup>3</sup> in 2000.

### 2. Caspian

Development of hydrocarbon deposits in and around the Caspian Sea and their export to Europe depend largely on overcoming transportation difficulties due to awkward geography. The role of Russia, with its network of gas pipelines, is an essential part of this.

Azerbaijan, Kazakhstan and Turkmenistan could emerge as important new gas exporters by 2010 if the problem of export routes can be resolved.

- Azerbaijan

To date, the most important gas deposit in Azerbaijan is Shah Deniz, exploited by a consortium led by BP.

- Kazakhstan

More than 40% of Kazakhstan's gas reserves are concentrated in the huge Karachaganak deposit. Two other deposits worthy of mention are Tengiz and Kashagan.

- Turkmenistan

Turkmenistan's main deposits are Dauletaad-Dommez, Shatlyk, Yashlar, and Malay.

**Table 2: Forecast of natural gas production in the Caspian region (except Russia and Iran), 2005-2020 (bn m<sup>3</sup>)**

		2005	2010	2015	2020
<b>Azerbaijan</b>	OGJ 2001	9	12	25	29
	Wood Mackenzie	10	31	38	40
<b>Kazakhstan</b>	OGJ 2001	15	24	37	40
	Wood Mackenzie	19	35	50	57
<b>Uzbekistan</b>	OGJ 2001	60	68	64	61
	Wood Mackenzie	57	58	61	64
<b>Turkmenistan</b>	OGJ 2001	44	71	82	93
	Wood Mackenzie	62	85	108	127

Sources: Smith (R.).- 'Politics, production levels to determine Caspian area energy export options', in *Oil and Gas Journal*, May 28, 2001, p. 33-38; McCutcheon (H.).- 'Risk management, financing availability', in *Oil and Gas Journal*, July 24, 2000, p. 38-44.

## **Appendix II: The British experience**

We shall summarise the major stages of British gas reform. Introduction of competition in the UK was facilitated by existence of about fifteen producers and a significant market.

### **1st stage, 1982-1993:**

- 1982: Evolution of the regulatory framework with introduction of third-party access to networks owned by British Gas (BG).
  - from 1986: major industrial consumers are allowed to buy gas from suppliers other than BG, but BG keeps a monopoly of sales less than 25 000 therms per year.
  - 1986: creation of an independent regulatory authority, the Office of Gas (Ofgas), for favouring competition. At the same time British Gas is privatised without being dismantled.
- Competition was not able to develop efficiently because British Gas continued to concentrate more than 95% of North Sea gas purchases in 1991 thanks to long contracts at guaranteed prices. New entries were limited to sales to new electricity producers.

### **2nd stage, 1994-1999:**

This period is dominated by two major evolutions: continuation of market opening for large consumers and preparation for introduction of competition at the level of final consumers, on one hand, and changes in BG including separation of its transport and trading activities, on the other hand.

- BG was required to reduce its share to 40% of the competitive market by 1995.
- BG was required to cede an additional 10% of the volume of all its Take or Pay contracts at cost price (gas release programmes), then to contract a maximum 90% of new resources placed on the market by operators in the British sector of the North Sea.

### **3rd stage, 1997-2002:**

- Legal and institutional separation of transport activities (henceforth in the hands of Transco) and trade activities, with two companies BG plc (the carrier) and Centrica (the seller).
- Total opening of distribution by 1998.
- A spot-type market, the 'National Balancing Point' (NBP), focused on the Bacton terminal, completes the system. The NBP concentrates 20% of physical deals with standard spot contracts.
- Adoption of a 'Network Code', which establishes a series of contractual obligations for those who use the Transco network. In particular, a daily balancing market is set up, the 'On the day Commodity Market' (OCM).

In sum, the British system now has the following features:

- About 15 producers and about 20 suppliers participate on the British market, with Centrica having no more than 71% market share. Centrica supplies 12% of demand in industry.
- There is total 'unbundling' of transport, distribution and supply, with:
  - regulated (published) third party access (TPA);
  - rules of non-discriminatory access, based on the 'Network Code' and balancing mechanisms.
  - A significant spot market has been developed.