



**THE ADVANTAGES OF FULL OWNERSHIP UNBUNDLING IN GAS
TRANSPORTATION AND SUPPLY: HOW THE EUROPEAN
COMMISSION GOT IT WRONG ABOUT THE UK**

A Briefing Paper

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Executive Summary

The European Commission is now pushing ahead strongly with its plans for the full Liberalisation of gas markets in Continental Europe. Arguing that integrated European gas companies should be split up into separately owned gas transportation and gas supply companies as in the UK, the Commission claims that 'The UK market experience of full ownership unbundling suggests that it significantly changes the behaviour of the transport undertaking: a fully unbundled Transportation System Operator (TSO) will focus on optimizing the use of its network.'

However SERIS finds that: -

- ❖ Full ownership unbundling of British Gas which involved (a) the demerger of the previously internally unbundled supply function into Centrica plc in 1997, and (b) the demerger of transportation into the Lattice Group in 2000, was not driven by the objective of 'optimizing the use of the network' but by purely commercial considerations.
- ❖ With respect to the possibility that full ownership unbundling in the UK (driven by purely commercial considerations) *coincidentally* resulted in 'optimization of the network', we identify five possible indicators of 'network optimization'. With respect to three of these indicators (degree of capacity utilization, access arrangements and gas balancing) we find no observable relationship between ownership unbundling and 'optimization'. The improvements which did occur in these indicators were entirely due to other factors – the mandatory release of gas previously controlled by British Gas, the introduction of the Network Code, and regulatory intervention, none of which had anything to do with ownership unbundling.
- ❖ In the case of the remaining two indicators (suppliers' transportation costs and adequate levels of capital investment), there is some evidence to suggest that these actually deteriorated following the ownership changes.
- ❖ The empirical evidence of full ownership unbundling in the UK does not support any assertion that gas network ownership unbundling 'significantly changes the behaviour of the transport undertaking' or that 'a fully unbundled Transportation System Operator will focus on optimizing the use of its network.'

THE DEMERGER OF TRANSPORTATION & SUPPLY AND ITS IMPLICATIONS FOR THE OPTIMUM USE OF GAS TRANSMISSION AND DISTRIBUTION NETWORKS: THE CASE OF THE UK

The European Commission argues (Energy Sector Enquiry–Issues Paper, DG Competition 15/11/2005, clause 28) that ‘The UK market experience of full ownership unbundling suggests that it significantly changes the behaviour of the transport undertaking: a fully unbundled TSO will focus on optimizing the use of its network.’

In considering this assertion, which the Commission does not explain or substantiate, this briefing will first of all consider its implication: that in 1997 supply was unbundled from transportation in the UK in order to optimize the use of the transportation network. Our first task is therefore to answer the question:

Was optimization of network use the driver of the demerger of Centrica from British Gas and the subsequent demerger of the TSO (Lattice Group) from BG plc ?

Secondly, the briefing will address the Commission’s assertion that demerger did in fact allow the transportation business to focus on optimizing the utilization of its network – with tangible results. Because the Commission gives no operational meaning to the concept of optimization we shall understand this to embrace five aspects of the performance of the transportation system:

- the degree of capacity utilisation
- access arrangements including the allocation of capacity
- daily gas balancing
- cost reductions
- investment

Our second task is therefore to answer the question:

Did the demerger of Centrica from British Gas and Lattice Group from BG plc result in observable improvements in network performance as defined by the above five ‘optimization criteria’?

1. The Demergers: The Facts

If European Union regulatory pressure is being brought to bear on European gas companies to undertake ownership unbundling on the grounds that this had a positive effect on the performance of the UK’s gas transmission and distribution network, the inferences which observers might reasonably draw from this are

- a) that ownership unbundling in the UK was undertaken with the objective of improving the performance of transportation, and
- b) that the UK Regulator (OFGAS at the time) required such an ownership unbundling.

Neither of these points is true.

1a. Not the Result of Regulatory Initiative or Action

For convenience, dealing with point (b) first,

The ownership unbundling of British Gas into Centrica plc and BG plc **was not the result of regulatory initiative or action**. The relevant legislation is the Gas Act 1995 (passed into Law, March 1st, 1996) which created three types of licence: the public gas transporter's licence, the gas supplier's licence and the gas shipper's licence. However, while this legislation also prevented a person (legal entity) holding a public gas transporter's licence from holding either a supplier's or shipper's licence, it did not prevent such a multiple of licenses from being held within a single corporate group:

“A person who holds a public gas transporter's licence cannot also hold a gas shipper's licence or supplier's licence. There is no bar to a shipper's licence and a supplier's licence being held by the same person *nor to a transporter's licence being held by a person who is a member of the same corporate group as a holder of a shipper's licence and a supplier's licence.*” (Source: British Gas plc, Annual Report on Form 20-F, 1996, p.10 – our emphasis)

Now turning to point (a) above,

1b. The Demerger was the Result of a Company Decision announced February 6th, 1996 which was approved by shareholders on February 12th 1997

Moreover, this also means that the demerger should not be mixed up with the 1997 Monopolies & Mergers Commission Enquiry which was not concerned with ownership separation and did not report until June 1997.

1c. The Rationale: Not to Optimize Network Utilisation

The rationale for this private, corporate decision to demerge, was that British Gas saw two quite different markets emerging, which it felt would be best served by two separate companies. This outlook was clearly expressed at the time by Cedric Brown, the Chief Executive of British Gas:

“In the competitive gas market, our national pipeline and storage business, Transco, has its own type of customer – the companies which sell gas to end users – including our own gas supply arm, British Gas Supply. At the other end of the scale, British Gas Supply itself will soon compete with Transco’s other customers to supply gas to Britain’s domestic gas users. These are very different businesses and we believe that it makes sense for everyone – our staff, our customers and our shareholders – to separate them completely.” (Source: British Gas, Annual Report & Accounts 1995, p.5).

Moreover, one could also add that it was the supply function which was demerged from the rest of British Gas’ business to become Centrica – it was not transportation which was demerged from British Gas. It can consequently be argued that the demerger was driven by the development of supply competition, and not by a concern to make the transportation business more efficient.

1d. Transportation Remained Within a Group of Different Businesses

It should also be noted that, after demerger, Transco still remained within a group of businesses until it was demerged in October 2000 into the Lattice Group. In 1997 it was among the following BG businesses:

“The businesses retained by BG Group following the Demerger include: the Company’s gas transportation and storage business within the UK; all of the Company’s exploration and production business (other than the Morecambe gas fields); the Company’s international downstream business, including gas transportation, distribution and storage, power generation and third party pipeline inspection; and the Company’s research and property business units.” (Source: British Gas plc, Annual Report on 20-F 1996, p.10)

It is conceivable that the European Commission is in fact referring to the act of ownership unbundling which saw the ownership of transportation entirely separated into a transportation company – in other words when it became the main business of the Lattice Group plc. We will take this possibility into account in the analysis which follows. However, there was only a very short period when transportation was separately owned *as a gas transportation company* – by July 2002, less than two years later, it had joined National Grid Transco.

2. Ownership and the Optimization of Network Use

Optimization of network use may be conceived of as embracing the following five aspects of network usage.

- the degree of capacity utilisation
- access arrangements including the allocation of capacity
- daily gas balancing
- cost reductions
- investment

2a. Capacity Utilization

Gas transportation network capacity utilization is, *ceteris paribus*, a function of the level of demand. The *ceteris paribus* assumption requires two conditions to be satisfied: **a)** that all suppliers potentially have access to the network when and where they want to use it and **b)** that should the volumes delivered by suppliers be insufficient to meet the level of demand at any particular point in time, that a system operator will ensure that the system is balanced – so that demand is always matched by supply.

These simple facts immediately establish that there is ***absolutely no automatic relationship between the ownership unbundling of transportation and capacity utilization***: the level of demand is independent of ownership and there is no reason why the two enabling conditions, unimpeded Third Party Access and system balancing, should/would not be met under any form of ownership structure.

However, the European Commission may well be suggesting that network capacity utilization is affected by ownership because the way transportation is owned may (not automatically or necessarily) affect free Third Party Access to the network. With respect to the case of the UK, the implication is that access to the network was impeded until the ownership of transportation was separated. Is this correct? Was this the case?

2b. Ownership and Third Party Access in the UK: the Facts

The important fact to establish here is that free and fair Third Party Access to the UK's gas transportation network was fully established and functioning ***before ownership unbundling – under internal juridical unbundling***. Secondly, this was a ***regulatory imposition which could be applied irrespective of ownership***. Thus after transportation had been internally unbundled within British Gas in 1994, enabling a separate transportation price control to be applied, a new system of governance was developed to ensure that Third Party Access was non-discriminatory and operational according to specific rules agreed between the System Operator (internally-unbundled Transco), the Users and the Regulator

(OFGEM). This was the **Network Code**, drawn up in 1995 and introduced in 1996, well before demerger, as part of the requirements of British Gas' Public Gas Transporter Licence. The Network Code was therefore quite independent of ownership, something which is unequivocally demonstrated by the fact that modifications to the Code are proposed by a Modification Panel, hosted by Transco, and consisting of Users (Shippers – at least half the membership), independent transporters, suppliers, terminal operators, consumers and OFGAS (later OFGEM). Any modification proposed then had to be approved by the Regulator. In other words the governance of the network was quite independent of the nature of the ownership of the transportation network. Moreover, coming from the 1995 Gas Act, Transco also had “the objectives of promoting the economic operation of the system and encouraging competition in all markets” (Transco Summary of the Modification Rules, p.1, undated).

Of course modifications meant that the Network Code changed substantially over time – there were, for example, almost 600 modifications between its introduction and November 2002. However, until the recent sale of Distribution Networks, these were not principally a function of ownership unbundling – rather, they were part of an endogenous process of problem-solving and evolving incentives (which were frequently contradictory).

A final point to make about Third Party Access to the transportation system is that its success depended fundamentally on the presence of Third Parties. And Third Parties (competing suppliers) could not develop without access to gas. In this respect, the decision by the Office of Fair Trading in 1991 to compel British Gas to release gas to competitors from its upstream contracts was much more important to the development of competition than the ownership of the transportation network.

2c. Gas Balancing

The way in which the gas transportation system is balanced on a daily basis could be said to concern the optimization of network use. However, just like the development of non-discriminatory Third Party Access, the development of the gas balancing regime was also independent of the ownership of transportation and was a function of regulation.

The basic concepts and mechanisms for achieving the daily gas balancing essential to the safe operation of Third Party Access were established in the consultation document OFGAS (1993) four years before the Centrica demerger. The Document explained the central ideas of what was later to be known as the **Flexibility Mechanism**, implemented in 1995, which required suppliers to balance their positions at the end of each day and penalised them for being out of balance. At the same time Transco was required to balance the whole system on a daily basis and would trade with suppliers to achieve this end.

Over time it was appreciated that the Flexibility Mechanism had certain deficiencies, primarily problems with capacity balancing at system entry points and the financial costs born by Transco in buying-back over-sold entry capacity. At the same time it was decided that the actual day-to-day operation of gas balancing would be more effectively managed by an anonymous, transparent screen-based system operated by a third party. This new balancing regime, the On-the-day Commodity Market was introduced in October 1999. Since then OFGEM and the market participants have continued to agree adjustments to the gas balancing scheme which have generally succeeded in reducing gas balancing costs (ultimately paid by gas consumers).

The key point to make in relation to the foregoing narrative is that **at no time was it ever suggested by OFGAS or any other gas market participants that full ownership separation of Transco was required to allow the development of a successful gas balancing regime**; and whatever improvements in the regime were achieved from 1999 onwards could equally well have been made had Transco remained internally-unbundled within British Gas.

2d. Costs of Transportation

Average Unit Cost of Transportation 1995-2004

	Transco Revenue (third parties only. Inc Metering etc) £ million	Gas Input to Transmission System, Million KWh	p/KWh	% change in unit revenue
1995	3,000	778,874	0.385	
1996	3,324	923,798	0.360	-6.50
1997	3,071	928,871	0.331	-8.10
1998	3,062	955,342	0.321	-3.00
1999	3,058	1,011,284	0.302	-5.90
2000	2,975	1,063,606	0.280	-7.30
Jan01-Mar02	3,922	1,359,874	0.288	2.90
Mar02-Mar03	3,037	1,036,157	0.293	1.70
Mar03-Mar04	3,122	1,043,906	0.299	2.00

Source: Transco Annual Reports & Accounts; Department of Trade & Industry (for gas input to transmission system) N.B. Transco was unbundled in 1993, but comparable data for first two columns only available back to 1995.

There is no available data to illustrate the average transportation costs incurred by all gas suppliers using the network. However, we can calculate the average unit transportation revenue received by BG Transco. Logically, this must be equal to the average transportation cost paid by suppliers. The available evidence on the behavior of average suppliers' transportation costs is given in the above table.

The first point to make is that it was **regulatory action** under the 1997-2002 Transportation Price Control, which determined suppliers' transportation costs during this period – not a change in the nature of Transco's ownership. As in the case of gas balancing, such regulatory action could of course have been taken had Transco continued to remain unbundled within British Gas.

Nevertheless, although *a priori*, there should be no connection between network ownership and regulatory action relating to Transco's charges, it may be worthwhile investigating this possibility a little further using the empirical data above. We therefore ask the question: **is there any observable relationship between the periodicity of the above changes in Transco's unit revenues (supplier's transportation costs) and the ownership changes which occurred over this period ?** The following conclusions may be drawn:

- a) In 1995-1996 (internal unbundling only) Transco's unit revenue (average suppliers' cost) fell by 6.5%
- b) The largest fall in unit revenue/suppliers' costs (8.1%) occurred in 1996-1997. However it is difficult to relate this clearly to ownership change because the demerger of Centrica occurred *within* this financial year.
- c) Following the demerger of Centrica, between 1998 and 2000, the annual percentage fall in unit revenue/suppliers' cost varied between a maximum of 7.3% and a minimum of 3%. The arithmetic average for these three years was therefore 5.4%, slightly lower than average fall during internal unbundling (6.5%).
- d) From October 2000 to July 2002 Transco did operate as a virtually stand-alone company, following the demerger of the Lattice Group whose principal asset was Transco. Although the periodization of revenue/cost data is rather difficult to relate to the periodization of the ownership changes, it would appear that **for the first time, this period experienced actual increases in unit revenues/suppliers' costs**, increasing by 2.9% in the 15 month period January 2001 to March 2002 compared with the 2000 revenue/cost figure. Thereafter, unit revenue/suppliers' cost continued to increase (1.7% and 2.0%), reversing the trend of earlier years.

Reviewing these points the following two principal conclusions may be drawn.

(i) The demerger of Centrica from the previously internally-bundled British Gas in 1997 **had no clearly observable impact on unit revenue/suppliers' cost**, which declined at varying rates throughout the whole period.

(ii) Since Transco was demerged from BG Group in October 2000 and has become a free-standing transportation company (either as Lattice, or as a separate company within the National Grid Group), **unit revenue/suppliers' cost has actually increased.**

2d Investment

Adequate levels of investment in both increasing network capacity and in the timely replacement of degraded sections of the network may be considered one of the most important considerations in assessing the degree of optimal/sub-optimal network use.

Both before and after the Centrica demerger, there were complaints that British Gas and its successor BG were failing to make adequate investments in the system. The extent to which investment is 'inadequate' can be estimated in two ways.

- (a) comparing the level of required investment agreed with the Regulator at the time of determining the next price-control with the out-turn investment made by the company over the same period.
- (b) identifying specific 'physical' system failures such as entry capacity constraints at terminals and the occurrence of major safety incidents.

In relation to point (a), in 1994, before the demerger, Transco's actual capital expenditure during the year was £175 million (21%) lower than the company had originally projected. However in 1997 and 1998, *after* the demerger of Centrica, Transco reported an under-spend in relation to the price-control of £195m (23%) and £163m (19%) respectively. Over the 1997-1999 period of the price control, Transco's underspend in comparison with the price-control projection was £603 million (2000 prices) (OFGEM 1999; 2001).

In the case of Gas Storage, a key component of optimal network use, it should be pointed out that over the whole period between privatization (1986) and the demerger of Lattice from BG plc (2000) – and indeed, up until 2003, no new gas storage facilities were constructed for the national gas network over and above small improvements to those facilities which were built during the period of state ownership.

In relation to point (b) above, severe entry capacity constraints were encountered at the St Fergus Terminal in 1998, problems which were attributed to Transco's delay in making the required investment. Furthermore, in 1999, 2000 and 2001 there were gas explosions at domestic premises involving a total of 6 fatalities. These were attributed by the Health & Safety Executive to inadequate levels of replacement expenditure, such that Transco was served with an 'Improvement Order' in September 2000.

It should be clear from the above observations that whereas British Gas' level of investment was inadequate before the demerger of Centrica, the situation appears to have deteriorated since the demerger. However since some of the 'physical' failings observed in 1998-2001 may have been caused, in part, by inadequate investment in years prior to this period, it is rather difficult to be certain about this.

However, what we can conclude categorically from the above evidence is that changes in the ownership of the transportation network do not appear to have had any positive effect on the level of capital investment required for optimal system operation.

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