

EIUG Reform Agenda for the UK Gas Market

**Discussion Paper on Proposals to Improve Security of Supply
and Competitiveness of UK Gas Supplies**

28 April 2006

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Proposals to Improve Security of Supply and Competitiveness of UK Gas Supplies

Executive Summary

For the past three years there have been a series of price shocks in the UK gas market. These price shocks have been getting progressively worse and reflect an underlying issue with the UK gas market. The UK is increasingly dependent on imports of gas during winter months to supply all the needs of households, power generation and industry.

Import infrastructure is being built to bring in the new gas and some of that infrastructure has already come on line. However the gas has to be sourced from countries that have not reformed their energy markets and as a result operate to a different set of priorities to the UK market. During cold winter periods the European countries reserve their gas for their own use, just in case they need it, regardless of the price they could get for that gas in the UK. This results in lower imports at exactly the same time that UK demand increases.

In the winter of 2003/4 the consequence was increased prices in the UK

In the winter of 2004/5 the UK experienced increased prices and growing concerns about security of supply to industrial consumers

In the recent winter the UK had the highest prices in the world, came uncomfortably close to a National Emergency and saw several industries close production sites.

EIUG believe the UK market will continue to fail until the European markets have fully reformed and liberalised. This process is likely to take 5-10 years. In the meantime it is imperative that the UK market is reformed to enable it to work effectively alongside the non-liberalised European markets. This document sets out the reforms that EIUG believe are necessary in the expectation that it will stimulate a debate and lead to significant improvements in the structure and operation of the market. In summary they are:

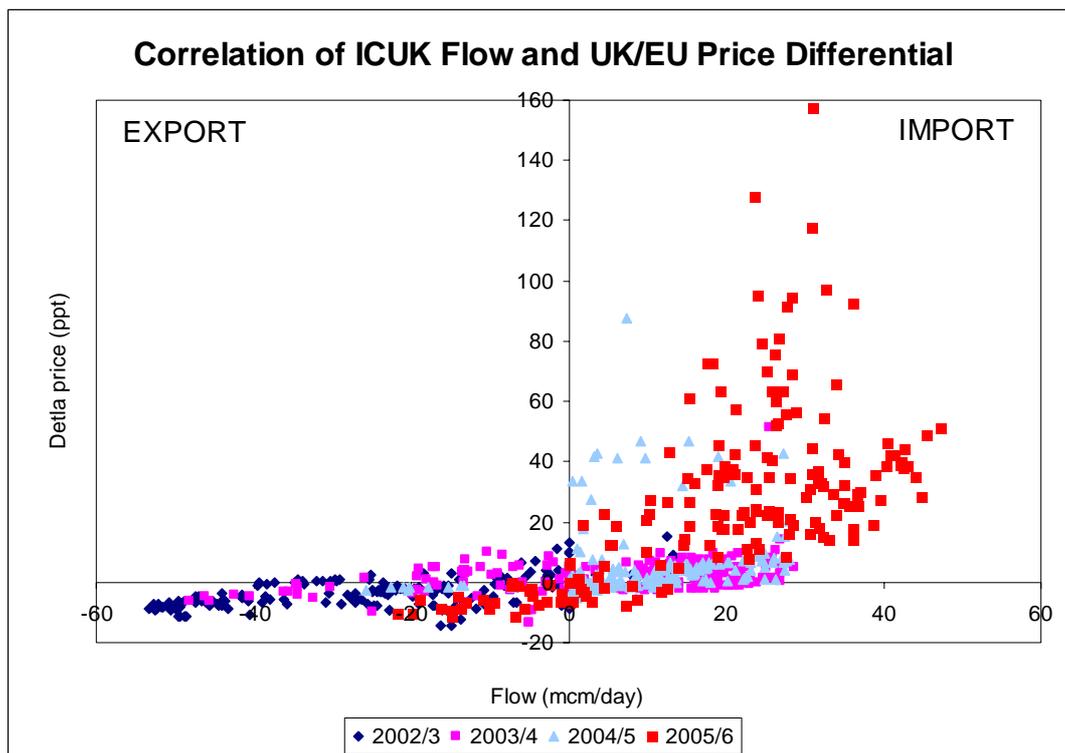
- **Improve the use of import infrastructure**
- **Improve the use of storage**
- **Implement common commercial terms**
- **Improve access to market information**
- **Increase demand side response**

Introduction

The UK gas market has seen a succession of supply/demand issues leading to price spikes in both the forward and spot markets during the last three winters. The magnitude and duration of the price spikes has been increasing at each occurrence. EIUG believe this is fundamentally due to failings in the structure of the UK market.

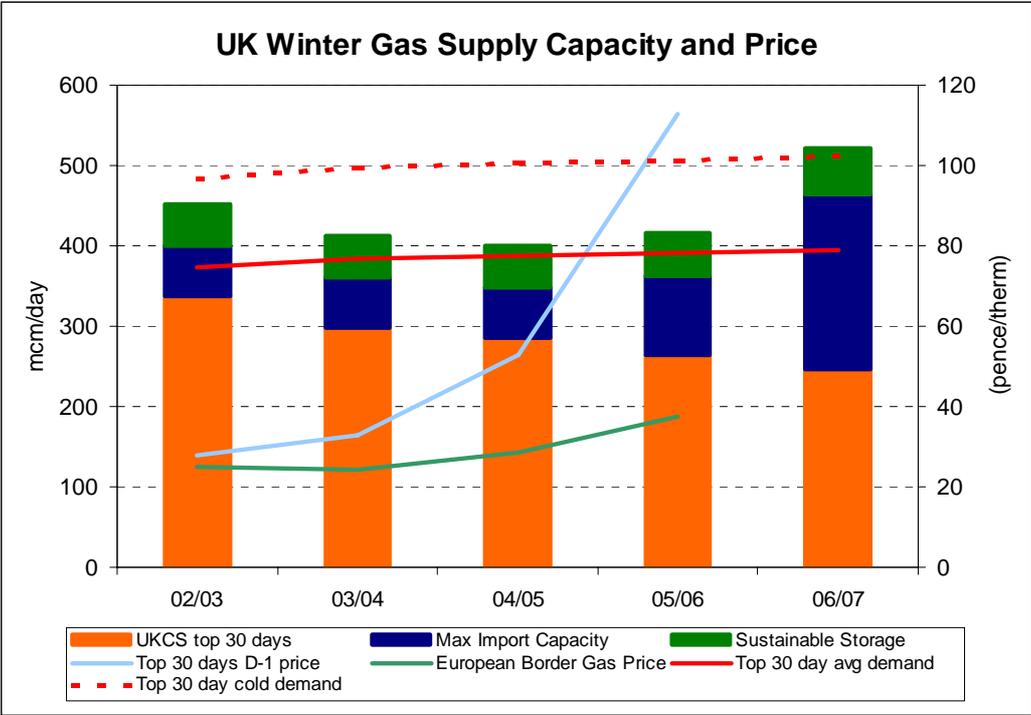
The UK market depends on pure economic signals to balance supply and demand. As demand for gas increases one would expect the price to increase, which would dampen demand and make it economic for more supplies to be delivered until a supply/demand balance is restored. There seem to be two issues with how this works in the UK: The majority of winter demand is due to space heating in the domestic sector and this is price inelastic; secondly, marginal supply of gas is from continental gas markets that are not liberalised and do not effectively respond to price signals to increase supply.

The following chart shows the interconnector flow vs. the difference in gas price between the UK and Europe (using average border gas prices for the continental price). The left side of the chart shows exports to Europe and shows the sort of price/flow response that would be expected. The right side of the chart shows imports to the UK.



For 2003/4 and most of 2004/5 a strong correlation is observed with rapidly increasing flows as the price differential increases. However for some of 2004/5 and most of 2005/6 the correlation breaks down and the UK price increase does not lead to significant flow increases. The price/flow correlation breaks down during periods of cold weather and high demand. This has dire consequences for the UK. During warm winters the economic market model should work, but during cold winters the market structure will fail to supply gas in sufficient quantities.

The following chart shows the three main supply sources available to the UK market and the winter demand in average and cold winters (source National Grid and DTI info). The chart also shows the price of gas for the top 30 days in the UK and the equivalent wholesale gas price in Europe. The difference in price between the UK and Europe has been increasing at an alarming rate. In 2002/3 the UK price was only 3 pence/therm higher than the EU price. Since then the difference has been increasing three fold every year and was 75 pence/therm last winter. This is despite an apparent increase in capacity last winter.



The picture for 2006/7 is also extreme. The import capacity is similar to the UK's own production capacity. If the markets were working there should be ample supply and the UK gas price should be similar to the EU gas price. However, the forward UK gas price for winter is more than double the EU price, presumably because the market does not believe gas will be available to use the capacity. The use of the import infrastructure cannot be relied on during cold weather (as seen on the first chart). There seem to be two modes of operation:

- 1) During warm weather there is ample gas in Europe to meet demand with some "spare" gas. The EU energy companies use this gas, in competition with each other, to supply the UK shortfall. This keeps the UK price close to the EU price.
- 2) During cold weather there is a shortage of gas in Europe (strategic reserves of gas are held back for domestic use) and there is no spare gas to supply the UK. At the same time, due to the cold weather, there is increased demand in the UK and an increasing dependence on the imported gas to meet demand.

With the current market structure it seems inevitable that the market will continue to fail during cold winter conditions until the European markets are liberalised.

EIUG believes the UK needs a market structure that works alongside the non-liberalised continental market to deliver security of supply and competitive international prices. It is not possible to rely on pure economic response mechanisms if the majority of demand and the marginal supplies are not-price sensitive. Price will not balance the market.

Reforms to the current market are therefore required with the primary objective of making as much gas flow into the UK as possible, in line with demand and according to fundamental market based principals. These reforms should deliver benefits for both industrial and domestic sectors in the UK. The reforms are outlined below:

1. Increasing the use of import infrastructure

One of the key measures needed to ensure effective European energy market liberalisation is that existing infrastructure is utilised in an optimum manner (see Appendix 1).

In the UK this applies particularly to the Interconnector(s) and LNG terminal(s) and, ahead of broader liberalisation, specific rules are required to enable effective operation of these assets.

Action 1.1 Effective “Use It Or Lose It” (UIOLI) systems for the use of import capacity

There are UIOLI systems currently in place, however they are either inadequate or are not being appropriately enforced. EIUG therefore makes the following proposals:

1. In the case of Isle of Grain it is recognised that inadequate notice of unused capacity is being given. The owners of capacity must declare the level of utilisation that they plan to use for each monthly period. If they have not made firm plans then this capacity must be made freely available to the market and EIUG would recommend that this is done a minimum of three months ahead of the contract month, for instance by 1st July 2006 for October 2006.
2. Owners of interconnector capacity, including associated shippers, must demonstrate the level of utilisation in advance by registering the relevant gas supply contracts with Ofgem. EIUG would recommend that this is done at least three months in advance.
3. Any unused capacity must be made available to the market on a cost related basis (regulated by Ofgem). This provision is to prevent prices being set at a level to deter third parties from entering the market e.g. offering Interconnector capacity at the UK summer / winter differential.
4. The owners of the capacity must be monitored against planned utilisation and any material shortfall in utilisation during periods of high demand, except for Force Majeure reasons, should result in capacity rights being withdrawn.
5. These rules must apply to all new and existing LNG and pipeline facilities.
6. The rules must stay in place until Ofgem is satisfied that competition is working effectively e.g. new LNG terminals are clearly competing against each other to attract new business.

Action 1.2 National Grid to arrange to use import capacity on “difficult days”

It is anticipated that the above proposal (Action 1.1) would lead to a dramatic improvement in the supply shortfall against demand and therefore UK price differentials with continental Europe. As a further protection against a national gas emergency being declared the following proposal would serve as a “safety net”:

1. Difficult Days are defined depending on the difference between the UK day ahead NBP with Troll price
 - a. If day ahead > Troll + 50% then designate as “difficult day” Type A
 - b. If day ahead > Troll + 100% then designate as “difficult day” Type B
 - c. If day ahead > Troll + 200% then designate as “difficult day” Type C

These prices are such that the normal price response mechanisms have broken down and a different market system needs to be used to bring gas into the UK.

2. National Grid set up gas purchase contracts ahead of time with suppliers that can be called upon to use import infrastructure during these “difficult days”. The contracts can be set up to increase the amount of gas that is imported as the differential increases. This gas needs to be demonstrably additional gas, not gas that would flow anyway.

3. The cost of these contracts could be financed in either or both of the following ways.
 - a. Costs could be charged to consumers as part of a general balancing charge.
 - b. Revenues could be raised from UK producers who would enjoy significant additional profits on these “difficult days”.

Action 1.3 An obligation on suppliers to replace exports

A potential solution, amongst others, to the problem of gas being freely exported in the summer and imports being severely restricted through the winter could be as follows:

1. Introduce an obligation to use import infrastructure tied to the use of export infrastructure. If a producer/shipper exports in the summer then they shall be obliged to import at least an equivalent volume in the winter.
2. If they fail to do so then the regulator should be able to penalise them with either a financial penalty or the loss of their shipper/supplier licence.

2. Improvements to gas storage systems

Currently the UK is short of storage. The capacity auction price paid for access to Rough drives the differential between the summer and winter price. Hence the winter price is hugely influenced by the price of a facility for which there is currently no competitive alternative in the UK.

Storage thus determines the price of futures contracts which in turn drives the price of Rough. EIUG believe that steps need to be taken to break this price spiral. Auctioning is not a suitable mechanism in the current market and it will be necessary to introduce an alternative means of allocation.

Action 2.1 Gas storage - Commercial

1. National Grid procures gas storage capacity plus the necessary transportation capacity to store gas in continental storage facilities in for example France, Belgium or Germany. The cost of such storage and transportation capacity should be smeared across the gas market.
2. The price of access to Rough Storage and short-range storage facilities, which are monopoly assets, to be set at cost reflective levels as determined by Ofgem. Current price levels provide significant additional profits but generate no responding new investment in short or long range storage facilities. Investment in medium range storage would not be compromised.

It should be noted that in the above proposal (2.1(2)) there is no recognition of the role of traders. Currently some traders buy storage and ensure it is used efficiently by buying cheaper summer gas and selling more expensive winter gas. It is crucial that this activity is not curtailed, which could result in even higher forward winter prices (if one argues that it is these traders who effectively set the winter price).

Therefore action 2.1(2) is in detail:

- (i) Storage price to be set at a regulated cost reflective level by Ofgem;
- (ii) Storage to be allocated based on current use of storage systems. Participants who currently use storage will have the right to it in future;
- (iii) UIOLI provisions to ensure storage is not sitting idle;
- (iv) Any secondary market in storage will be released at the same regulated prices.

Action 2.2 Gas storage - Planning

1. National Grid, as national infrastructure owner, to develop a second long range storage facility (Rough 2) as a national strategic storage facility to ensure domestic security of supply. National Grid would finance such an asset as part of their duty to protect domestic supply, taking it onto their long-term asset base and providing a mechanism of charging for such a facility in relation to the benefit to the domestic sector (responsible for the swing in summer/winter demand).
2. Planning Processes must be shortened to minimise time to develop new facilities.

Action 2.3 Gas storage - Operational

1. LNG off-loading facilities must be installed at all LNG peak shaving facilities thereby enabling tanker deliveries of LNG from the LNG import terminals to provide additional peak shaving capacity.

3. Common contractual terms

According to the underlying principles of free trade in the Common Market gas producers and shippers should offer common contractual terms across the EU and allow the market to arrange appropriate supply to meet those contracts. If the marketplace is not allowing this to occur then change to the market structure must be imposed.

Action 3.1 Offer common contractual terms

1. The Commission should be asked to investigate why gas suppliers or shippers that operate in the other EU states are refusing to offer equivalent contract terms to their UK customers (subject to reasonable cost related transport charges, as defined by Ofgem) and to take appropriate action to ensure that this distortion in trade is eliminated.

4. Improvements to market information

Action 4.1 Access to information

1. Ensure timely access to market information already shared between producers and shippers (e.g. Mod. 006), including but not exclusively:
 - a. Daily reporting of physical stock in all storage facilities.
 - b. Within day reporting of all sub-terminal flows.

5. Increasing demand side response

Industrial consumers do not wish to operate in a market where interruptions to supply are the norm – their first priority is to operate their business, not sell gas. However, given fair compensation, some are willing to consider interruptions or temporary closures in order to provide relief to the gas market and help the system operator balance supply and demand.

Industrial consumers often secure firm gas at a site for processes that do not have back-up fuel or cannot be shut down quickly without the risk of major plant damage occurring.

EIUG recognise the need to protect domestic supplies from a safety viewpoint but believe the present arrangements discriminate against industry. The demand increase during cold weather is caused by the domestic sector and we believe it is fair to have a system where the domestic sector helps fund demand response from industry. With the current system firm industrial customers are required to load shed in stage three of an emergency yet do not receive any compensation, while shippers are compensated when storage is curtailed in stage one of an emergency.

Volatile gas prices and the experiences of winter 05/06 may result in different purchasing strategies and it is not certain that all large firm sites will be as price responsive as they have

been in winter 2005/06. More certainty of demand response will deliver a number of market benefits (as recently outlined by Gaz de France – see Appendix 2):

- Greater certainty about actual demand reduction deliverable on the day
- Industrial customer response avoids passing through problems to electricity market
- Diversifies risk away from storage only options
- Restores confidence in supply/demand balance which may reduce wholesale market volatility and smooth market prices
- Gives better knowledge of firm customers that may be available to respond

Action 5.1 To stimulate demand side response

1. Compensation for firm users in the event of load shedding.
2. Incentives to ensure that industrial loads that can reduce production will respond in order to prevent the market from entering into an emergency. Electricity industry demand side response mechanism should be considered as a model.
3. Improved real-time data to enable consumers to make informed decisions regarding their purchasing strategies and decisions to reduce or temporarily shutdown production.

EIUG
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Appendix 1

Use of Interconnector and LNG Terminal

Occupancy of existing infrastructure is given below.

Table 2 – Infrastructure occupancy (mcm/day)

Base Case	Winter Outlook Report	Actual Winter 05/06	Shortfall
Interconnector	42	26	16
Isle of Grain	13	8	5

Maximum	Maximum	Max Winter 05/06	Shortfall
Interconnector	48	47	1
Isle of Grain	17	17	0

It is clear from the table that the facilities (Interconnector and Isle of Grain) are capable of meeting maximum rates. However it is also clear that this winter (which has been taken as 15 November 2005 – 20 March 2006, the high demand period) both facilities have been under utilised.

Isle of Grain is operated by NGC on behalf of BP and Sonatrach.

The Interconnector is owned by a number of major gas producers / suppliers: BG 25%, ConocoPhillips 10%, Distrigas 16%, ENI 5%, E.ON Ruhrgas 24%, Gazprom 10%, and Total 10%. Shippers with primary capacity are: BG, BP, Centrica, ConocoPhillips, Distrigas, EDF trading, E.on Ruhrgas, Total, Eni, Essent Energy, GdF, RWE trading, Norsk Hydro, Gazprom and Statoil.

In current circumstances the marginal gas in the UK comes to market via these facilities. If the ‘controllers’ of these facilities either fail or choose not to utilise the available capacity the result is the removal of marginal gas that has the immediate effect of price increases across the whole market.

As is the case throughout the EU the owners of these assets applied for exemption from the need to offer Third Party Access under Article 22 of the EU Directive (ref 2003/55/EC). This effectively means that a few gas supply companies have the ability to control the market. No “Use It Or Lose It” (UIOLI) principles have been applied.

Appendix 2

Demand Side Response

Gaz de France, Mark Bailey presentation to Ofgem 22 March 2006

http://www.ofgem.gov.uk/temp/ofgem/cache/cmsattach/14427_Mark_Bailey_GDF_22_March.pdf?wtfrom=/ofgem/work/index.jsp§ion=/areasofwork/wholesalemarketmonitoring