

ADDITIONAL AMENDMENTS

- Amended layout of buildings/outside areas
- Additional background information
- Amended design
- Revised access arrangements
- Change of description of proposed development - as indicated on the previous page
- Change in site boundaries
- Other (as specified below)

M Hill Esq
North York Moors National Park Authority
The Old Vicarage
Bondgate
Helmsley
York
YO62 5BP



Your ref: NYM/2010/0262/EIA
Our ref: 17809/A3/PF/CMG

Dear Mr Hill

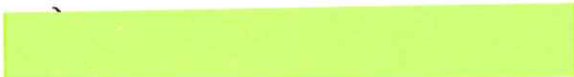
RYEDALE GAS PROJECT – ENERGY CONTRACT COMPANY REPORT

In support of the above planning application, we enclose five copies of a report commissioned by Moorland Energy to assess the importance of the Ryedale Gas Project in contributing to the future need for energy in the UK. The report has been prepared by the Energy Contract Company, a leading consulting company in the oil and gas industry.

The report concludes that by around 2013 or 2014, a number of deficiencies in the UK gas market will re-emerge leading to dramatic spikes in gas prices. In order to minimise the impact of these adverse market conditions, gas supply will need to be as reliable and flexible as possible. The Ryedale Gas Project is not large compared to many fields in the North Sea but it offers an unusual opportunity to add to the dependability of gas supply in Britain.

We trust that the report's findings are self-explanatory but should you require any clarification, please do not hesitate to contact me.

Yours sincerely



PAUL FOSTER
Associate

cc L Erasmus Esq



The Importance of the Ryedale Gas Project

Prepared by

The Energy Contract Company

NYMNP
- 7 JUL 2010

5th July 2010

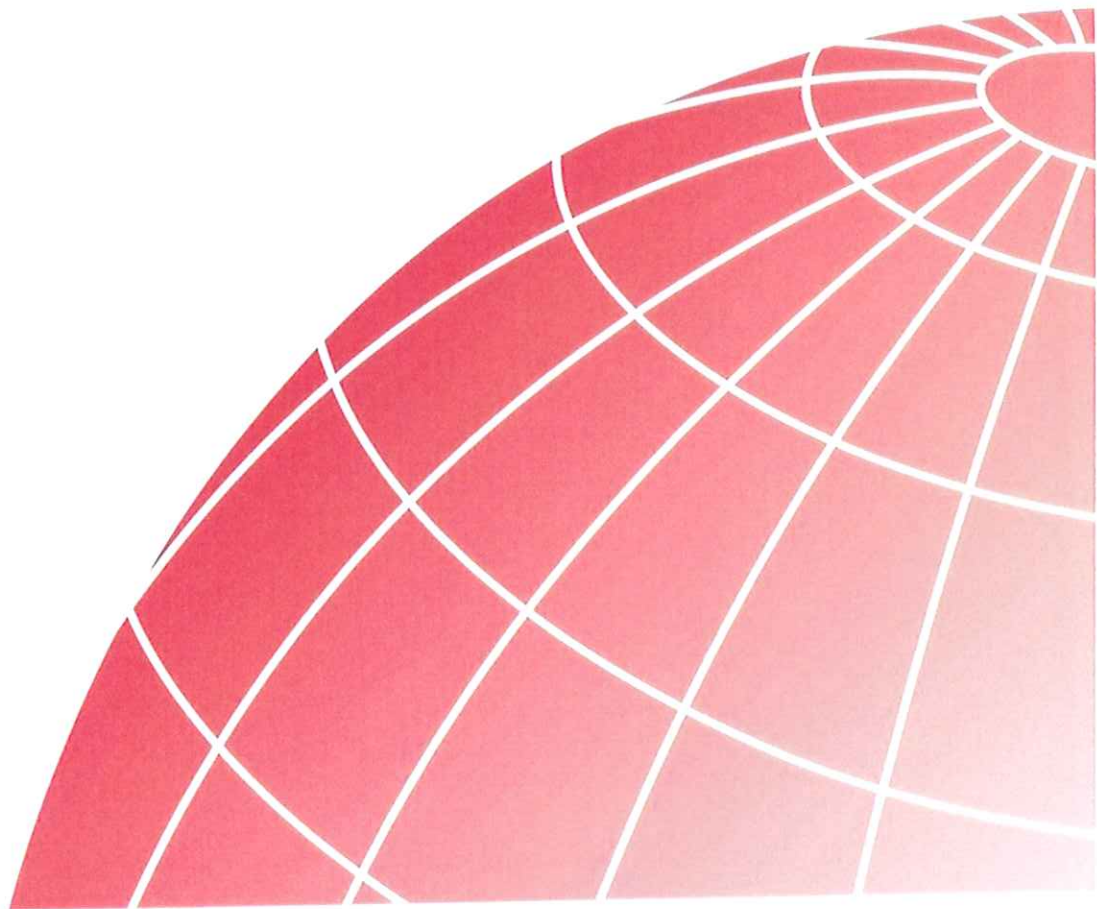


Table of Contents

NYMNP
- 7 JUL 2010

1.0	Introduction	3
2.0	Executive Summary.....	4
3.0	The Development of the Gas Market in Britain	6
4.0	Forecasts of Gas Supply and Demand	11
5.0	Future Problems in the Market.....	14
6.0	The Role of the Ryedale Gas Project	18
7.0	Conclusions	20

1.0 Introduction

- 1.1 Moorland Energy Ltd ("Moorland") is proposing to develop a gas field in North Yorkshire, together with a gas processing facility at Hurrell Lane (the "Ryedale Gas Project"). Moorland has applied for planning permission for the Ryedale Gas Project to both the North York Moors National Park Authority and North Yorkshire County Council. In order to help both planning authorities to understand the important contribution the Ryedale Gas Project can make to the development of the gas market in Britain, Moorland has asked the Energy Contract Company ("ECC") to prepare this background paper.
- 1.2 The paper will summarize the historic development of the gas market in Britain and highlight the changes in the market that have occurred in recent years and the way in which it will evolve. It will also identify some of the problems that are likely to arise in future and how the Ryedale Gas Project could make a notable contribution to solving these.
- 1.3 The Energy Contract Company ("ECC") has been deeply involved in the development of the gas market in Great Britain for the last twenty years. It has assisted clients to negotiate numerous contracts for the sale and purchase of gas and worked on several contracts for the new LNG import terminals. It has also published an annual review of the UK gas market since 1996, which is purchased by many of the leading players in the energy market in Great Britain. Its expertise in UK gas markets means it was chosen to act as an Expert on the gas market in most of the Planning Inquiries into gas storage projects in the UK, including the two in Yorkshire, Aldbrough and Caythorpe. Before starting ECC in 1988, Niall Trimble, the author of this report, worked for eight years for British Gas mainly on the negotiation of gas purchase contracts from fields in the North Sea.

NYMNP

- 7 JUL 2010

2.0 Executive Summary

- 2.1 Gas is of vital importance to the UK economy; it generates almost half the electricity produced and 85% of the people in this country live in homes heated by gas.
- 2.2 In recent years the market has changed considerably. Most gas now comes from the Spot Market and increasingly from imports rather than indigenous production. The nature of winter gas supply has also changed. The UK can no longer rely on flexibility from the older fields in the North Sea but will in future have to look to gas storage to meet winter peaks.
- 2.3 The changes in the market mean that the UK is now very exposed to variation in gas supply and this can lead to high gas prices, for example in the 2004 to 2006 period.
- 2.4 Prices in future will depend on the balance of gas supply and demand. The market is currently very over-supplied, which explains the recent low prices. However, this period of over-supply is likely to end around 2013 or 2014. At that point the deficiencies in our market, which have been concealed recently by the over-supply, may re-emerge.
- 2.5 There are three key concerns about the market:
- Although most gas comes from the Spot Market some aspects of this do not work well.
 - In a spot market the volume of gas supplied on a day is determined by the gas sellers. If they decide to withhold supply then prices could rise.
 - These two concerns are exacerbated by the lack of gas storage in the UK.
- 2.6 The lack of gas storage has been an issue in the UK for almost a decade but despite all of the official concern, recent additions to gas storage have been very modest. There are significant barriers to the construction of additional storage in the UK:

NYMNP

- 7 JUL 2010

- Onshore there are very few, if any suitable reservoirs for conversion to gas storage
- Offshore the costs and risks of field redevelopment are very high
- The economic driver for most new storage projects is the difference in price in the summer, (when gas is injected into storage) and in the winter (when it is withdrawn). Unfortunately the future price of gas in the Spot Market shows a very narrow range between summer and winter prices, probably insufficient to justify new storage projects offshore.

2.7 After 2013 and 2014 gas prices in the UK are likely to be both much higher and more volatile. As most of the gas used in Britain comes from the Spot Market these cost increases will inevitably have to be passed on to gas consumers.

2.8 The role of the Ryedale Gas Project is to create an additional reliable indigenous supply. This is very much in line with government energy policy, as set out in the most recent Energy White Paper.

NYMNP
- 7 JUL 2010

3.0 The Development of the Gas Market in Britain

3.1 Gas Market History

Gas has been used in Britain since the nineteenth century but the natural gas era started in 1967, when gas first became available from fields in the North Sea. In 2009 gas sales were around 1000 TWh per year, nine times the levels in 1967. One of the key characteristics of the gas market is that demand for gas is very temperature sensitive. As the temperature declines, gas demand rises and vice versa. As a result, demand is highly seasonal and can also vary a great deal from day to day. For example, in 2009/10 if demand on the average day is equal to 100, then on the warmest summer day it can drop to around 55 and also reach 185 on an exceptionally cold winter day. The range of daily demand levels can be 3 and 4 times between the lowest and highest demand days. One of the key priorities for the industry in Britain is to ensure that the demands of gas consumers can be met at all times.

3.2 Importance of Gas

Gas is the most important fuel in the non-transport part of the economy in Britain. The statistics set out in the online version of the Government publication Digest of Energy Statistics show that in 2008, gas generated 45% of all the electricity produced in the UK. In 2008 it supplied 41% of all of the energy used by industry and commerce, and 68% of all of the energy consumed by domestic customers. 86% of the UK population lives in homes heated by gas.

3.3 Recent Changes to the Gas Market in Britain.

Since the gas market started to open up in the early mid nineties, a number of profound changes have occurred, which have a deep significance for the future of the market:

NYMNP

- 7 JUL 2010

3.3.1 Increase in number of gas suppliers

Until 1990 all gas produced in Britain was sold to British Gas, which had a monopoly of gas sales. From the early nineties onwards a number of new gas marketing companies emerged. Over the years the dominant role of British Gas declined and there are now a large number of gas suppliers. Six companies supply the domestic market and around 15 – 20 companies serve the industrial and commercial market.

3.3.2 The emergence of the spot market.

Until around 1995, virtually all gas produced from UK fields was sold to companies such as British Gas, under long term supply contracts. These contracts gave a large measure of control to the buyers, as they were able to nominate varying levels of production each day. They were able to match the needs of gas customers largely from the long term contracts. From around 1995 an alternative spot market developed. This involved the supply of gas on standard terms with no daily flexibility. The contracts were also very short, typically for as little as one day or one month, although it was possible to sell for longer terms. Unlike the long term contracts, in spot sales it was the gas seller, not the gas buyer, who made the decision to make gas available, or not, each day.

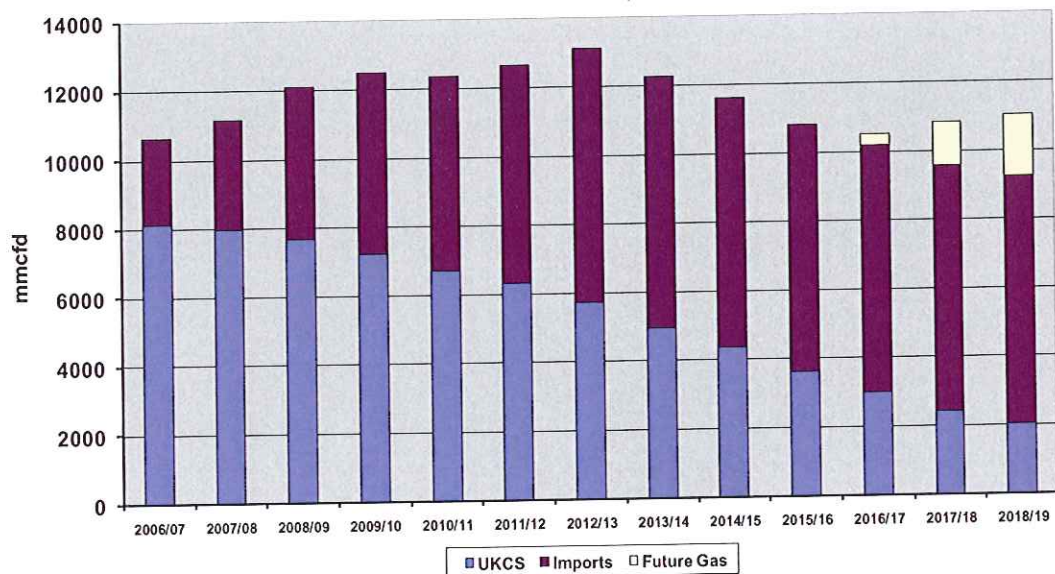
3.3.3 The Growth of Gas Imports

Although some imported gas came from Norway between 1977 and 1990, for the entire natural gas era in Great Britain up to 2004, all other gas was supplied from UK Continental Shelf fields. However, production from our offshore fields started to run down in the nineties and from 2004 onwards, Great Britain started to import gas. Now imports supply just over 40% of our market and this proportion is expected to rise to around 80% by 2020. Figure 1 shows the changing pattern of imports in the British Market. It shows gas produced from our own offshore fields (UKCS) and from Imports. There is also a category called

NYMNP
- 7 JUL 2010

Future Gas. The source of this gas is currently unknown but it will probably be mainly imports.

Figure 1 Sources of gas for the UK, 2006/07 to 2018/19

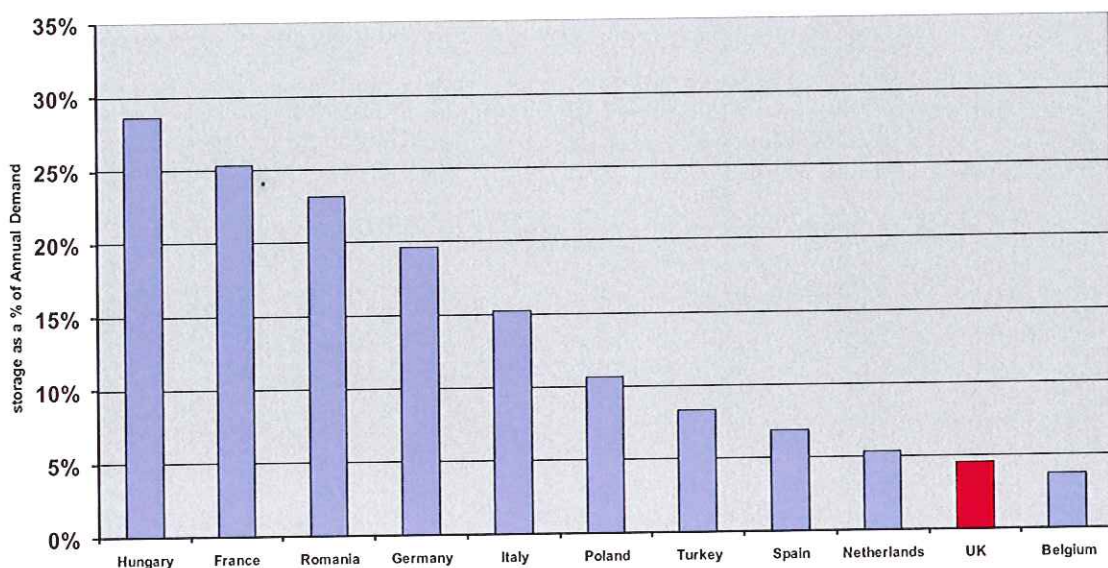


3.4 Declining Levels of Flexibility

In the past, the way in which gas was sourced for the peak demand periods in the winter differed considerably between Great Britain and the other gas markets in Europe. In the rest of Europe, apart from the Netherlands, gas came predominately from imported sources and these contracts had very little flexibility to offer extra volumes. This meant that the gas suppliers had to rely on gas storage to make up the supply deficiencies in the winter. In contrast, in Great Britain the fields in the North Sea were able to offer additional volumes to meet winter peaks. As a result, the reliance in gas storage in Britain was historically very low, compared with the rest of Europe. Although the requirement for winter gas has increased in the last decade, little new storage has been built and levels are very low compared with the rest of Europe. The key indicator is the level of gas storage capacity as a % of annual gas demand. In 2007 the average figure for Europe (excluding the UK) was

16%. In contrast the UK storage capacity was only equivalent to 4.4% of demand. Figure 2 shows the level of storage capacity in relation to annual gas demand for the ten biggest gas markets in Europe.

Figure 2 Gas storage capacity, as a % of demand in major European markets



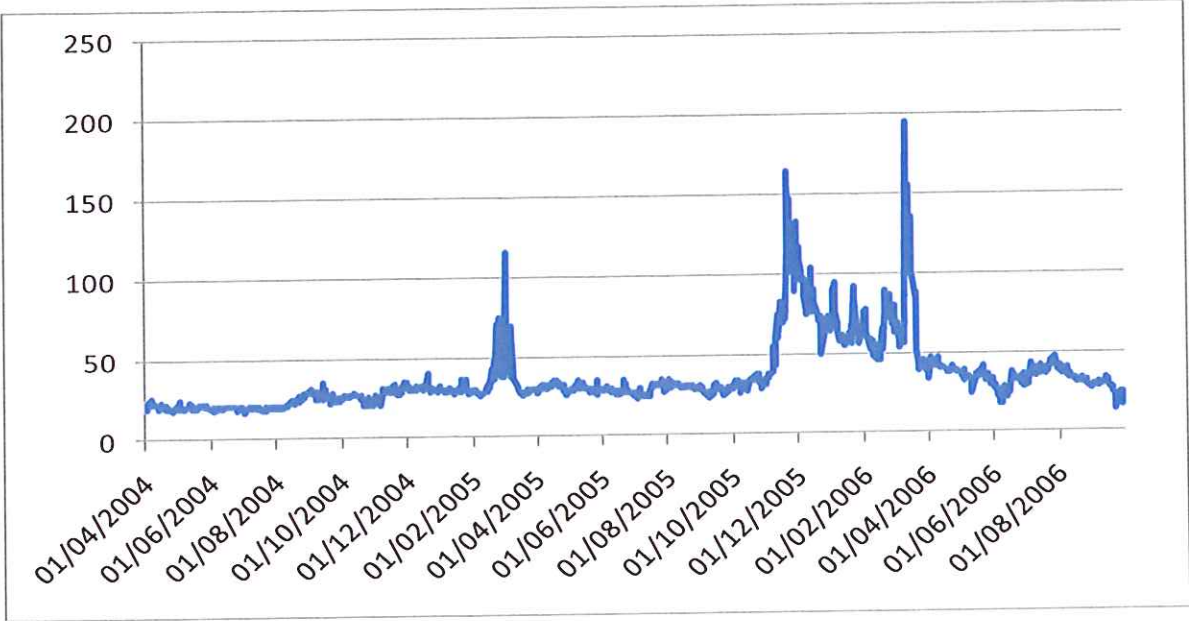
3.5 Problems in the Gas Market

The development of the gas market in general proceeded fairly smoothly from 1990 onward, although there was a noticeable decline in wholesale prices in 1995, which was reversed around 2000. However, in the background the pattern of peak supply, relative to demand was deteriorating and the market was tightening up. The underlying cause of the problem was a change in the way in which UK gas fields were developed. Historically, influenced by British Gas, the gas producers offered significant additional supplies in winter to meet peak demands. From 1990 onwards the declining influence of British Gas and pressures to reduce costs meant that increasingly, gas producers developed new fields with very little spare

NYMSPA
- 7 JUL 2010

capacity. Over time the old flexible fields declined and constituted a smaller proportion of total supply. They were replaced both by newer UK fields with less winter flexibility and by imports with similar characteristics. As a result, the availability of peak winter gas supply declined quite noticeably relative to demand. This led to a tightening up of the market and a surge in prices in the 2004 to 2006 period. During this period Day Ahead prices shot up to series of peaks in price, reaching 196p/therm in March 2006. In contrast, between 1999/00 and 2003/04 Day Ahead prices had averaged only 19.1p/therm. Figure 3 below shows Day Ahead gas prices between April 2004 and September 2006.

Figure 3 - Day Ahead Gas Prices, April 2006 to September 2006 (p/ therm)



NYMNP
- / JUL 2010

4.0 Forecasts of Gas Supply and Demand

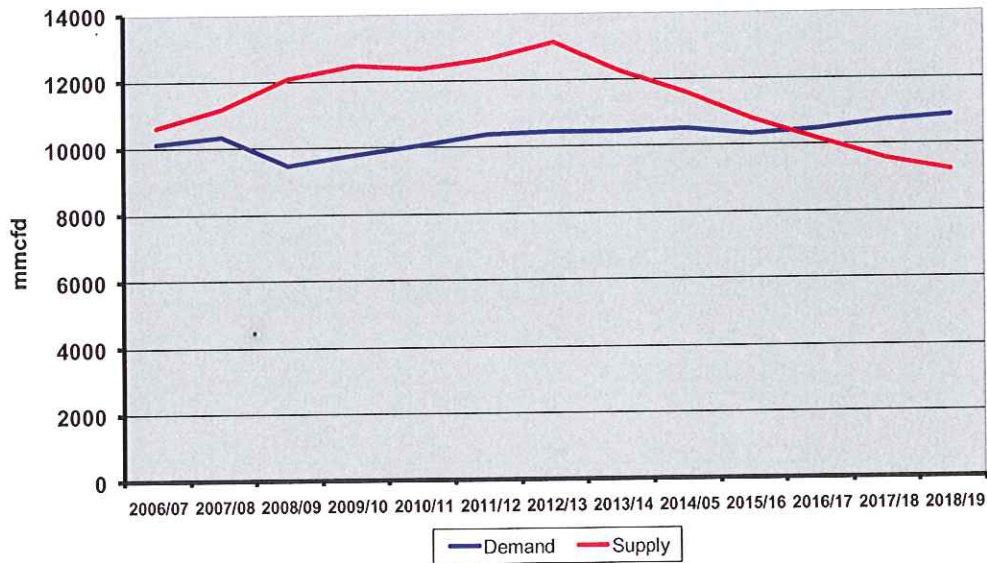
4.1 Annual Trends

The level of wholesale prices in the gas market in Britain is driven by a number of factors but the most important of these is the balance of gas supply and demand. Slack markets exist when available supply is greater than demand, and prices are often quite low. However, if demand rises relative to supply, then the market will tighten up and prices will rise. In order to understand what is going to happen in our gas market, it is necessary to forecast what will happen to these key drivers. Our forecast of supply and demand is set out below in Figure 4. These figures are shown in millions of cubic feet per day (mmcf/d).

The figures set out in Figure 4 show that four years ago, around 2006/07, annual gas supply and demand were roughly in balance. However, in the latter part of the last decade, gas supply increased significantly, as a number of major gas import projects came on stream. At the same time gas demand in Britain fell as a result of the global recession. This led to the emergence of a substantial over-supply of gas from around 2008/09. This over-supply should last until 2013 or 2014 and then continue at a lower level for a further three years, before it is finally eliminated around 2016/17.

NYMNP
- 7 JUL 2010

Figure 4 - Forecast of Annual Gas Supply and Demand until 2018/19

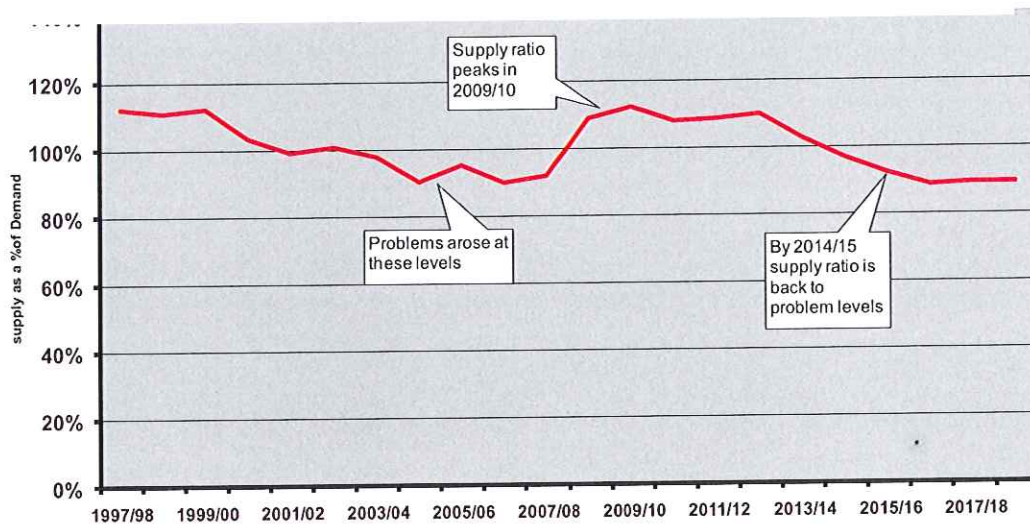


4.2 Peak Winter Forecasts

A further insight into the problems in the British gas market can be seen in Figure 5. This focuses on Quarter 1 each year, when demand is at its highest. It shows for each year the level of maximum beach gas supply as a percentage of gas demand in Quarter 1. Maximum beach gas supplies are defined as all sources of gas producing at maximum, other than gas storage. This would include all UK fields and all import sources. The calculations are shown for the historic period from 1997/98 to the present day and on a forecast basis from 2009/10 to 2018/19.

NYMNP
- 7 JUL 2010

Figure 5 Max Gas Supply as a % of Q1 Gas Demand (1997/98 to 2018/19)



The analysis in Figure 5 is of huge significance for the gas market in Britain. The figures show that in the late nineties maximum beach gas supply was equal to around 110-115% of Q₁ demand. From around 2000/01, the impact of declining winter flexibility from North Sea fields can be seen. Maximum supply, as a percentage of Q₁ Demand, declined over several years to a level of around 90-95% in the period 2004/05 to 2007/08. Over the last two years the level of maximum supplies relative to demand has surged upwards, to 109% in 2008/09 and to 112% this year. This explains why wholesale gas prices have been so much lower in the last 1 – 2 years. This key ratio remains at a high level of 108 – 110% for the next three years and then starts to fall quite rapidly. By 2015/16 the Supply/Demand ratio is back down to the levels that caused such problems in the middle of the last decade. The implication for the gas market is fairly clear. The current benign gas market conditions and the low wholesale/spot prices will last for another 3 – 4 years. Thereafter we will be in very different market, with much higher prices.

NYMNP
- 7 JUL 2010

5.0 Future Problems in the Market

Over the last few years the position in the gas market has been very favourable for gas buyers. There is a significant over-supply and prices are relatively low. The issue of the balance of gas supply and demand is of much greater significance in the UK than it is in other gas markets in Western Europe. The bulk of our gas comes from the spot market or from spot linked contracts. As a result, the price of gas to the gas suppliers and hence to customers, can vary significantly, depending on what is happening in the market. The lesson of the last few years is that spot gas prices can vary a great deal with the forces of supply and demand. When the market is tight, as it was around 2005 and 2006 in particular, prices can rise dramatically. However, there are a number of underlying problems in the market that have been concealed at the moment by the current benign market conditions. As market conditions are likely to deteriorate in 3 – 4 years time, these problems will then re-emerge. This section will explain the nature of these problems and will also demonstrate why the lack of gas storage has not been solved. It will then go on to show why these issues are potentially a problem for gas consumers, as well as the gas suppliers in the UK.

5.1 Underlying Deficiencies in the Market

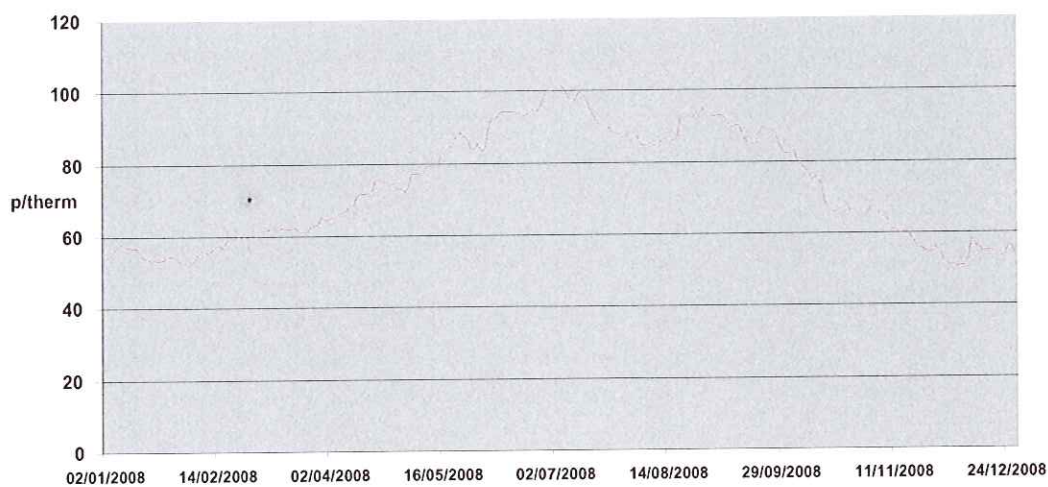
5.1.1 Forward Curve is illiquid

It is possible to trade gas for many different time periods, from the next day to periods as far as 4-5 years away. The very near-term spot market is very liquid with many buyers and sellers and this works relatively well. However, as you trade a little further out in time, the number of buyers and sellers active in the market declines significantly. These prices are known as the Forward Curve and the lack of liquidity means that it is often highly erratic and volatile. Figure 6 shows what happened to the spot market in 2008. The example used is for spot gas for the entire calendar year of 2009. The figures show that at the start of

the year 2008 this gas was trading at around 52p/therm. The surge in market volatility in Q2 2008, doubled the price to £1.03/therm by early July. It remained at around 80-90p for several months and then plunged back down to 52p by the end of December.

NYMNP
- 7 JUL 2010

Figure 6 - Spot Gas price in 2008 (for 2009 gas)



5.1.2 Potential for Market Manipulation

The dominance of the spot market has led to another potential difficulty for the gas market in the UK. In more traditional gas markets, such as those in Italy and Germany, virtually all gas is supplied under buyer nominated long-term contracts. This means that the buyers determine the volume of gas being supplied to the market each day. In contrast, in a spot dominated market, such as Britain, the decision to supply each day rests largely with the gas producers and importers. The price on the day will be determined by the level of supply relative to demand. There is a concern therefore that if some sellers decide to withhold supply; they could artificially push up prices. There is some evidence that this has already happened in the UK. The very high prices in late August/early September 2008 may well have been linked to the 70% decline in gas volumes supplied by Norway through the Langeled Pipeline at that time. Around 65% of all Norwegian gas production is controlled by a single company,

NYMNP

- 7 JUL 2010

Statoil. The vulnerability of spot markets to manipulation is much more of a concern in Britain than in the United States. Here the market will increasingly be dominated by a few very large gas importers. For example, by 2014/15 around 35-40% of our gas will be supplied by 5 large importers/producers. In contrast the % supplied by the five biggest importers/producers in the United States is much lower, probably around 10%. It is not to say that large producers would go out of their way to manipulate the gas market in Britain, but they have the capacity to do so.

5.1.3 Lack of Storage Capacity in the UK

The US gas market also tends to avoid dramatic price spikes because of the very high level of gas storage there. Whenever prices rise significantly gas will flood out of storage, and increase supply relative to demand. This will moderate the price level. The concern for the UK, is that this moderating influence in the market will be much less, simply because the level of gas storage is so much lower. In the United States in 2007 total gas storage capacity was equal to 17.9% of annual gas demand. In contrast the equivalent figure for the UK was 4.4%. Even after construction of all of the new facilities with planning permission and some of the other proposed storage projects, the level of storage capacity in the UK, as a % of demand, is unlikely to exceed 8% by the middle of the next decade.

5.2 What will happen in the future?

In the future when the gas market tightens up, then not only will the general price tend to be higher, but prices will also become more volatile, that is they will tend to rise and fall much more on a daily basis. The price spikes when daily spot prices rise by 50 – 100p therm on a day will become much more common.

The problems with the price spikes are not just the high prices on the few days that the spike occurs, but the fact that they raise the market's expectations of what the price should be in the medium term. This can push up prices in the market as a whole, which ultimately will feed through into prices to the consumer. For example at the beginning of November 2005 the spot price of one year gas for 2006 was 50p/therm. By 1st December (following the price spike on 22nd November) it was up to 57p/therm and by the end of December it was up to 62p. Even six months later, the price for one year gas was still just over 60p/therm. This represents an increase in price of around 20 – 25%. Price spikes can lead to even higher prices overall, when markets are tight.

NYMNP
- 7 JUL 2010

5.3 The Impact on Gas Consumers

The UK is uniquely vulnerable to price disruption and that dealing with this is critical if we are to avoid high and volatile prices in the future. This will initially affect the spot market and some may say that this is of little concern to gas consumers directly, as the sales prices to domestic and small industrial and/commercial customers are not generally linked to spot prices. However, there is a very powerful indirect influence. Gas from the spot market forms around 80% of all gas supplied in Britain today and this figure is likely to rise still further in future. Gas companies which supply domestic customers such as Scottish and Southern and British Gas will buy 80% of their gas from the spot market. If these prices rise they will inevitably have to be passed on to gas consumers. High spot prices will ultimately mean high prices for gas consumers.

6.0 The Role of the Ryedale Gas Project

The development of the Ryedale Gas Project will mean a significant advantage for gas consumers in the UK in improving the dependability of supply.

BYMNP
- 7 JUL 2010

6.1 Dependability of Gas Supply

Sections 4 and 5 above have demonstrated how vulnerable the gas market in Britain is to variations in gas supply. Almost all of our gas comes from the spot market and so any problems in gas supply will cause a rise in spot prices. There is therefore a concern that major gas suppliers to the UK gas market could choose to withhold supplies, thereby freeing up gas prices and raising their own revenue levels. Although there has been an active and rapidly growing spot market in Britain since 1995, the issue of potential withholding of supplies has only emerged recently. Until 2004 spot supplies came entirely from British fields. This is significant because the operating philosophy of gas producers in Britain seems to be potentially different from that of foreign gas producers. Gas producers here have always adopted a philosophy of maximizing gas production where possible, in virtually all circumstances. In contrast some gas companies which export gas to this country may feel that they have more discretion over gas production levels and hence over export levels to Britain. Given the expected vulnerability of the UK market to supply problems from 2014 onwards, it would be helpful to add even modest amounts to indigenous gas supply, which is less likely to be subject to interruptions.

6.2 Government Energy Policy

The main long term energy policy objective is to reduce the level of CO2 emissions but there are many other key policy elements. Probably the most importance of these is the need to improve the security of energy supply. This is a particular concern in the light of the growing level of energy imports. This aspect was dealt

with in the most recent Energy Policy White Paper in 2007. In the summary of the section on Oil Gas and Coal, government commented:-

“Our policies recognize the importance of fossil fuels (such as gas) in maintaining reliable and affordable energy supplies, but aim to manage our reliance on them, their potential environmental effects and the risks associated with higher levels of import dependency , by

- *Supporting and maximizing economic production of fossil fuels in the UK, we*
 - *Will continue to work with the industry to maximize economic recovery of the UK’s oil and gas reserves”*

The concern over Security of Energy Supply is still an issue for the new Coalition government. In the Energy Policy section of “The Coalition: our programme for Government” they note:-

“We will reform energy markets to deliver security of supply and investment In low carbon energy”

“We will instruct OFGEM to establish a security guarantee of energy supplies”

The development of new gas fields in the UK, such as the Ryedale Gas Project, is therefore in accordance with government energy policy

NYMNP
- 7 JUL 2010

NYMNP
7 JUL 2010

7.0 Conclusions

At the moment, conditions in the gas market in Britain are extremely benign. There is a significant over supply of gas and prices on the spot market are relatively low. However, these favourable market conditions will not last forever. From around 2013 or 2014 the over-supply in the winter will ease and the market will start to tighten up. This market change is highly significant as there are a number of deficiencies in the gas market in Britain, which have been concealed by the current over-supply.

In the medium term these problems are likely to re-emerge and we are likely to move into an era, not only of much higher prices but also of considerable price volatility. Dramatic spikes in gas prices are likely to re-appear. In these circumstances, in order to minimise the impact of these adverse market conditions, it is essential to make gas supply as reliable and flexible as possible. The Ryedale gas project is not large compared to many fields in the North Sea but it offers an unusual opportunity to add to the dependability of gas supply in Britain.