

Twilight years for the North Sea?

After a period of decline, exploration for hydrocarbons in British waters is experiencing a new lease of life. This is due in part to high oil prices, but is also in response to UK government initiatives aimed at arresting activity decline curves.

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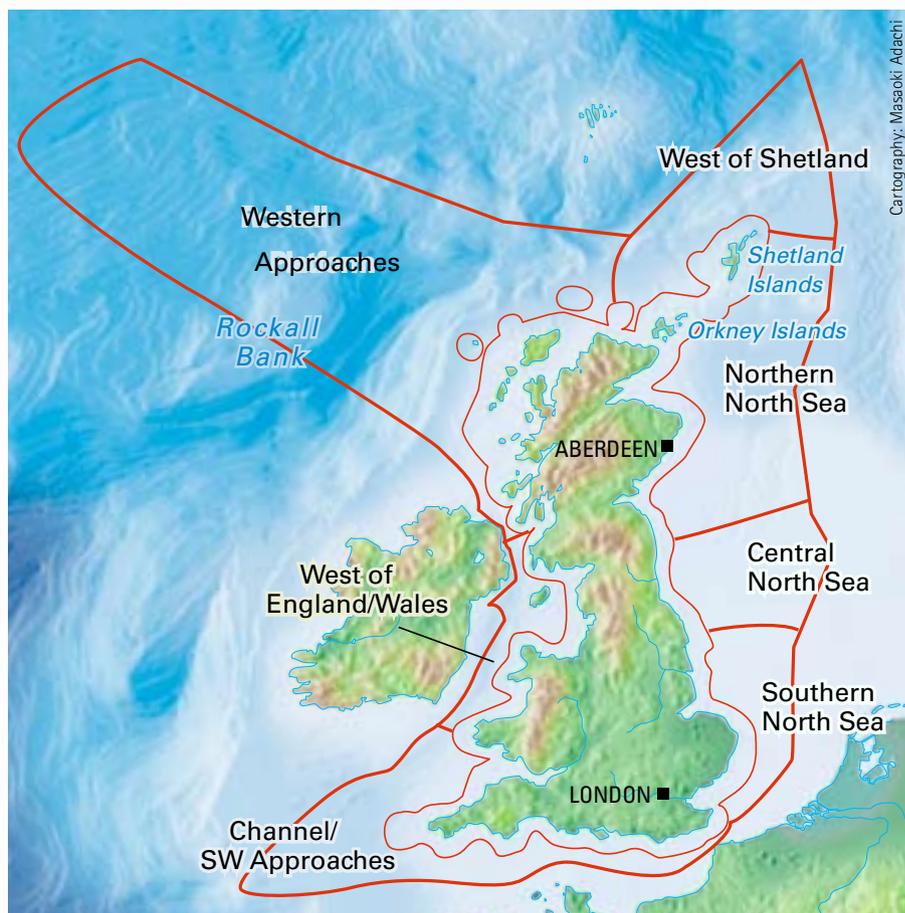
Since gas first flowed from the West Sole Field in the Southern North Sea in 1967, the exploitation of hydrocarbons has been a major source of revenue for successive UK governments. After a partial decline in the 1990's, the industry is once more buoyant, with more and more companies showing interest in the United Kingdom Continental Shelf (UKCS).

Evidence of this is shown by the most recent 24th Seaward Round, which closed in June 2006. UK Energy Minister Malcolm Wicks reported that the licensing authority (the Department of Trade and Industry, known as the DTI) had received the greatest number of applications for 35 years. A total of 121 companies sought acreage, 25 of which would be new entrants, one of the Government's aims being to attract new players to the arena. This strong interest follows on from a very successful 23rd Round in 2005, when 152 oil and gas production licences were offered on a record number of blocks to 99 companies, including 24 new entrants. Seventeen wells were firmly committed to, an amount unsurpassed for over a decade.

New initiatives needed

This is all in stark contrast to the situation 5 years ago, when the majors were withdrawing from the North Sea, viewing it as a mature province, while smaller companies found the area expensive to enter. Exploration drilling dropped to an all time low in the first half of 2002, and the UK Government realised that they had to introduce some major initiatives to encourage the sector.

A government survey undertaken in 2003 indicated that companies ranging from major to small independents saw a number of barriers to successful exploration on the UKCS at the time. These included global competition for limited funds, and the high costs of exploration and production. There was a lack of confidence



Cartography: Masaoki Adachi

The DTI split the UK continental shelf into seven designated areas. In the last two rounds the whole of the North Sea was open for oil and gas exploration for the first time since 1968. The next round will also include the largely unexplored Rockall Platform and Western Approaches, a huge tranche of acreage to the west of Scotland.

in the fiscal regime, while prospects were considered too small and exploration risk too high, with restricted access to attractive opportunities on the UKCS.

Some of the funding issues have been helped by the substantial rise in oil prices seen in recent years, while the government addressed the lack of confidence in the fiscal regime through enhancing tax relief on exploration costs. The major initiatives introduced, however, looked at the issues of risk and the lack of attractive opportunities, particularly for smaller companies. These included simplifying the

sale and purchase of offshore assets to ease the entry of new players, devising new ways of licensing acreage and initiatives to encourage companies to look at 'fallow' areas.

Promote brings in £90 million

In 2003 the UK government introduced the Promote Licence to encourage small companies with knowledge and expertise but limited funding, to enter blocks on a shorter-term basis for a reduced initial fee (GeoExPro 2005, No 4/5, p.42), for further information on the Promote Initiative).

Two years on, the UK Government considers that the results of this initiative prove both the innovative drive of the firms involved and the success of the Promote Licence concept. Of the 54 such licences awarded in 2003, 24 have been given approval to continue into the next phase of the licence. Work commitments include 15 wells, seven new seismic surveys and one proposed development. Importantly, it is thought that the Promote Initiative has resulted in around £90 million (US\$157 million) being secured for further exploration on the UKCS.

Another new concept was the Frontier Licence, introduced to encourage exploration in the west of Shetland and Rockall areas, which to date have had relatively little exploration when compared to the North Sea. By allowing companies to take on larger areas for initially lower fees and with less commitment, huge swathes of the underexplored offshore can be reviewed and analysed, allowing them to focus down on the areas they identify as being more prospective.

To help unlock the potential of acreage held but not being exploited, the DTI introduced the Fallow Field Initiative in 2002 to ensure these assets are either worked up or divested. Both blocks and discoveries are considered fallow after three years of inactivity. The Initiative aims to promote the development of these fallow blocks and discoveries, either by providing the current licensee with a farm-in opportunity, by finding an outright buyer or by enabling the release of the acreage back for re-licensing.

What might the future hold?

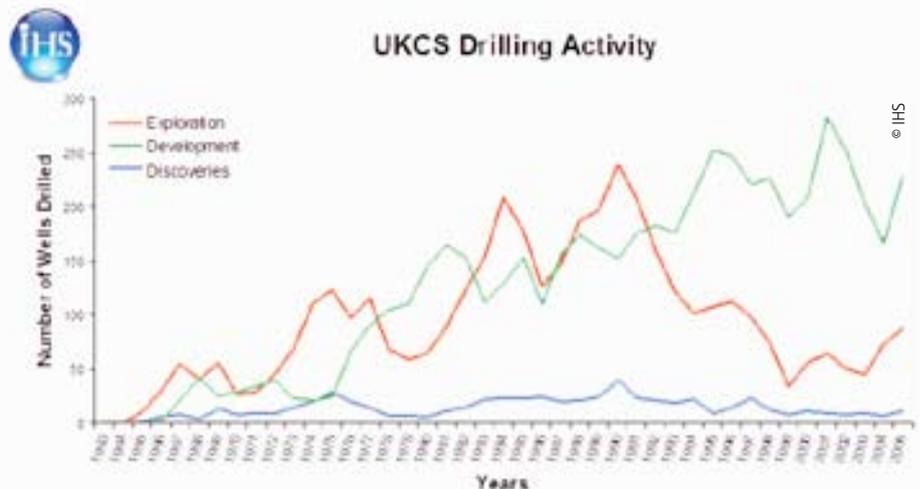
The Promote and Frontier initiatives have certainly encouraged further investment in exploration, but they have also raised some fundamental questions about the economics of the hydrocarbon industry.

For example, have these innovations actually been responsible for the discovery of hydrocarbons that would not have otherwise been found? Will a strong oil price result in the majors taking advantage of Government initiatives to encourage exploration in 'frontier areas' such as the Atlantic Margin? Alternatively, if the majors begin to withdraw from the UKCS, will the small 'Promote' companies be able to cope financially with a decaying infrastructure and will they become increasingly sensitive to fluctuations in the oil price?



Photo: BP PLC, 1996

BP's Andrew Field in the Northern North Sea came on stream in 1996 and has produced more than 300 million barrels of oil. It lies in 115m of water about 200km from Aberdeen, close to the Norwegian border.



The introduction of the "Promote" Licence in 2003 resulted in an upturn in drilling and discoveries on the UKCS.

As these small companies begin to invest more heavily in their acreage and need to transform their cheap Promote Licences into fully-fledged Production Licences, what funding options will be available to them? Will the temptation be to sell up and move on?

Time will eventually give us answers to these questions. For the moment, the hydrocarbon industry certainly seems to be rewarding the efforts of the UK Government and DTI with interest and commitments which provide a great vote of confidence in the future of the UKCS.

Acknowledgements: Many thanks to Paul Webber, Regional Manager, NW Europe, IHS, for assistance with this article.

UKCS Licence Types

To encourage investment in the UK Continental Shelf, companies can apply for acreage under three different types of licence.

The **Traditional** seaward licence has an initial term of four years for exploration, after which there is an additional four years period to compile and submit a field development plan. This is followed by a production period of 18 years, which can be extended. After the first term 50% of the licence must be relinquished, with a further relinquishment of all acreage not covered by a field development plan at the end of the second term.

To encourage smaller companies and new entrants to assess and promote the potential of an area, the DTI introduced the **Promote** licence. Acreage is taken for an initial two-year period, followed by a two-year 'Drill or Drop' option. The licence rental fee for this initial period is 10% of that for a traditional licence.

The **Frontier** licence, introduced in 2004 has been designed to increase the amount of oil and gas activity in the underexplored parts of the UKCS such as the West of Shetland region. Under this Licence the rental fee will be cut by 90% of the rate for a traditional licence for the first two years, and extended exploration and development periods are allowed. This allows companies to acquire relatively large amounts of acreage, although 75% of this must be relinquished after two years.

In the 2006 24th Seaward Licensing round 62 applications were for Promote Licences and 80 for Traditional Licences, in addition to seven Frontier Licences.

Ageing Infrastructure

While the UK government are encouraging the continuing exploration of the UKCS, the industry is having to face up to an increasingly pressing problem – the age and state of decay of much of the existing infrastructure.

The first gas from the UK continental shelf came ashore back in 1967 and the first oil in 1975, so many of the platforms, pipelines and associated structures are over 30 years old and ageing fast. The harsh environment of the North Sea is taking its toll, compounded by the fact that many companies cut investment levels in infrastructure sharply after the oil-price collapse in 1998. At least 11 pipelines have already been mothballed and others are showing signs of decay.

Therefore a major issue for oil companies in the North Sea is that of maximising the return from an ageing infrastructure with a minimum of further capital expenditure. Shell, for example, is reported to be spending \$1 billion (£600 million) to renew old platforms and infrastructure in the North Sea just to keep the facilities fit for use over the coming decades. Indus-

try experts estimate that most North Sea platforms are capable of surviving another two decades of production, but only if sufficient investment is made.

Commercial discoveries in the North Sea are now much smaller than 30 years ago, the average field being 30 million barrels of oil equivalent, compared to Brent and Forties, whose reserves were estimated at over 2,500 million barrels. These new fields are too small to support their own pipelines and production facilities and most will rely on existing installations for their economic development. Initiatives aimed at encouraging smaller, ideas-rich but cash-poor companies to explore in the North Sea assume a mature environment with infrastructure offering spare capacity. This results in tensions between the owners of infrastructure and companies seeking access. More importantly, it raises the question of who will cover the cost of maintenance and repairs to this aging network.

Jane Whaley



The Elgin Platform is one of the most advanced in the world. The jack-up design means that, unlike older rigs with concrete bases, it could eventually be lifted from the sea floor and reused elsewhere.

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