



# **Future Export Potential of the UKCS Resource**

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**A short commentary on Hannon Westwood's  
Presentation at PROSPEX 2011**

Hannon Westwood has been advising the oil and gas industry since 1993 and provides a wide-range of UKCS intelligence and business development services underpinned by proprietary data systems. A team of experts offers clients unparalleled industry knowledge, commercial expertise and geo-commercial understanding.

**NOTE** - This report is based on meetings and conversations plus scout information and some speculation. Accordingly, while every care is taken in the preparation of these reports, no investment decisions should be taken based on their content. Potential investors should make their own independent investigations and assessments before doing so. Information is strictly confidential and neither the source nor the content should be divulged to third parties.

## ***FUTURE EXPORT POTENTIAL OF THE UKCS RESOURCE – A 2020 FORECAST***

This year's Hannon Westwood talk at PROSPEX 2011 highlighted the potential loss of oil and gas hubs and access to pipelines on the UKCS over the next ten years. This is based on a view that the large expansion in diverse ownership and the unaligned nature of drilling activity in any one area adds to uncertainty in hub investment and, in consequence, works to erode the hub/pipeline network. This report can be read in conjunction with the slides presented at PROSPEX, which are available to download from the Hannon Westwood website ([www.hannonwestwood.com](http://www.hannonwestwood.com)).

The UKCS has produced around 40 billion boe to date and contains a further technical risked upside of around 20 billion boe. The forecast in this report is based on an assessment of over 2,300 entities including undeveloped discoveries and undrilled prospects split into 15 billion boe of future resource in E&A and some field enhancements and 5 billion boe in current producing fields. But to assess what is realistic and commercial, we took a very holistic look at this future resource through the use of some new software that we have developed to simulate the drill bit, the tax take, the commercial threshold, prices, and – most importantly - export options. When we run all this data through the “drill-bit” and cull these assets through commercial and export filters we arrive at around 13 billion boe as a more conservative view of ultimate potential. Oil price, tax take, costs and export options all take their toll.

Activity levels on the UKCS in 2011 have fallen to a new low, despite the best run of oil price we have experienced in some time. The new tax increases introduced in March this year may have contributed to this low, but do not appear to be immediately causal. In fact, as we shall see, it is not all doom and gloom: we have retained the mobile rig count and drilled more development wells rather than E&A wells; and we see plenty of signs of potential E&A recovery over the next two years. So this might be a turning point; or it might be a switch to more development and more focus on what we already have in discovered resources – no bad things.

But by way of some more background, we need to look beyond wells and into acreage ownership. Over the past ten years, North Sea licensed acreage has grown and spread and has “atomised” in terms of ownership, from 78 companies in 2004, to 127 companies today; in other words, lots of smaller companies holding relatively small or diverse positions. Assets or fields in production have declined in terms of remaining reserves and have also, to some extent, diluted ownerships through a spread of equity over more companies through deals and mergers. Utilities, independents, small and new companies have benefited from the changes, but while assets and acreage may have changed hands, the hubs and pipelines haven't.

And while E&A activity has clearly enjoyed a new lease of life through these new players, our analyses show that the future lifespan of hubs do not appear to be directly connected to drilling activity, and remains very much dependent on cost support from the maturing parent field for which they were built. The large oil companies or oil majors still hold most of these mature assets and these oil majors are less likely to invest in the development of new hubs. It is not their core business. Yet they might often retain the asset beyond its sell-by date into the market through commercial inertia or lack of an obvious buyer. It's Catch 22 and this means that the hubs and export systems are locked in to current owners without much scope for reinvestment in the mature fields. It also means that, through such diverse ownership in surrounding acreage, the chance for the development of material levels of secure new throughput and hence of cost sharing, is low. These hubs are unlikely to have a future beyond their current parent field and are likely to die more quickly.

So with that background in mind, we can run some scenarios based on well activity and oil and gas price changes. We can then assess just how many projects can be channelled through our current population of 107 oil and gas hubs. Currently, in 2011, hub coverage looks comprehensive enough; and with an average sweep of 25 kms and a technical stretch of 45 kms, most prospects and discoveries could, in principle, be tied back to an existing hub. But if we run the drill-out model and look at 2020, we see a different story. Whether we use either low or medium drill-out rates (20 to 42 wells per year) we can see significant gaps appearing in hub coverage based on a 25 kms sweep.

These gaps are most evident in the Outer Moray Firth and the Gas Basin, with parts of the Central North Sea beginning to look under-supplied with export facilities. We estimate that around 2 to 3 billion boe would be located outside the hub system from our current estimated stock of prospects and discoveries (about 7 billion boe risked). This does not necessarily mean that these reserves are lost, but the options for export are reduced and it may be that those projects that have less than 30 mmbob potential might struggle to find standalone alternatives, whatever the technology on offer at the time.

Of particular note is the observation that, while more than double the quantity of E&A wells are drilled in the medium scenario (42 wells per year) compared to the low scenario (20 wells per year), the impact, on hub closure is minimal, with only four more hubs operating in the medium scenario compared to the low scenario. The evidence for a limited relationship between hub closure and drilling is self evident. It simply means that, even with 42 wells throughout the UKCS, this pace of drilling does not provide an adequate density of results in any one concentrated (hub) area and therefore to offer a "market" with which hubs can interact. The real answer lies in cost sharing on hubs, and complex acreage ownership and the inability or lack of inclination of the various owners in hubs and acreage to formulate a plan for throughput. Differing priorities for investment and differing levels of funding, override the need for alignment in most hub areas.

To put it another way: despite the plentiful supplies of undrilled resources around most hubs, the fact is that most hubs will not secure guaranteed throughput from a disparate set of acreage owners, whose drilling plans and priorities are not aligned and whose funds are not secured. It is this lack of alignment and lack of guaranteed throughput and cost share that kills the hub once the parent field goes into decline and can no longer provide the income required to support the hub. In fact, cost share of marginal discoveries over a mature hub are often seen to be disproportionate with new field owners seeking alternative development strategies. The conclusion we draw is that the ownership structure that we now have, and the density of new wells around any one hub, is not adequate to serve the hub population. The fact is that we now have no suitable commercial structure or practice in acreage ownership in the North Sea to secure the long-life management of hubs.

To see the practical consequences of this situation, we can switch from a macro-scale to a one Block scale and the question we ask is: what steps have been taken to secure or manage export options in the event of striking oil or gas? The question may be more pertinent in new Licence Rounds, where acreage is typically on the geographic margins of current activity and may be the first to be exposed to the disappearance of nearby hubs. And it will be equally valid to ask the question of any farm-in or acquisition. Acreage is often deemed attractive on the basis of technical merit, such as seismic or nearby well results, but the contention here is that the ground rules may be changing on export, and that applicants or acquirers may want to consider a more holistic or complete look at the commercial context in which the prospect is located. This question was not an issue twenty years ago, or even ten years ago, but perhaps a lot of North Sea Blocks might now require this level of scrutiny.

In terms of conclusions, we've seen a major decrease in activity on the UKCS which does not help hub closure. We note that while we cannot draw strong evidence to link short-term activity to tax take, the high take tax regime in Norway has actually seen activity levels increase in the same period. Whilst we cannot today make a direct link to the new SCT increase on the UKCS, it reminds us that a high tax take on production in Norway can successfully be combined with encouragement of new wells, so long as government is prepared to invest directly in the E&A scene through a "cash-back" scheme. Meantime, our UK industry has to spend time and money and resources to continually convince our own successive Governments to leave the North Sea some space to attract investment rather than continuously erode its competitive position through tax raids; a bizarre circumstance when you consider the strategic value of indigenous energy and the pay-back to government in jobs and longer term tax take.

However, the decline in the hub/pipeline export system seems to belong with another family of problems. It does not appear so sensitive to drilling activity as we might think and it suggests some big gaps are opening up in the Outer Moray Firth, the Central North Sea and large swathes of the Gas Basin. Around 3 billion boe or more are at risk; that's \$300 billion in sales at today's prices and these sales are on offer in our own back yard with obvious impacts on jobs and tax take.

The solution could be indifferent to taxation and CT and SCT, and probably requires an inspired approach from within industry. The solution may be centred on costs, and collaboration and acreage ownership, and tax incentives may take on a role in terms of encouragements to change ownership, rather than increase drilling activity; or it may be some other dramatic intervention. Nationalisation is sometimes mentioned in industry as a pipeline solution but does not sound so practical at this stage in the UK's political journey; or perhaps some form of central control and investment, such as offered by the former British National Oil Corporation in terms of a powerful, organised centrally funded resource to focus activity. But again, there are plenty of reasons to resist change with a radical intervention.

We think therefore that the UK deserves a debate on this subject to see if we can develop a UK - wide export infrastructure strategy to compensate for the inevitable loss of hubs. Technology and standalone developments could provide some alternatives but may struggle to cover the smaller projects. 3 billion boe could be at stake and this might be a conservative number. We think, therefore, that this resource is well worth saving and well worth the effort to engage government and industry at the next level of debate.

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