



SPECIAL REPORT

November 2009

UKCS 26th Licence Round Potential

Hannon Westwood has been advising companies active on the UKCS since 1993 - supplying a variety of subscription-based market, technical and well intelligence products and bespoke consultancy services. Providing technical details and market insight on over 1200 UKCS prospects and an in-house developed database graphic interface, Hannon Westwood offers clients unparalleled industry knowledge, commercial expertise, and geo-commercial understanding.

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HIGHLIGHTS

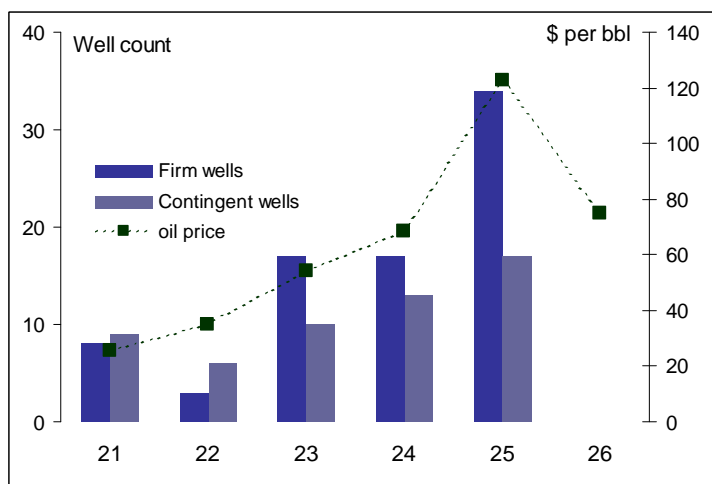
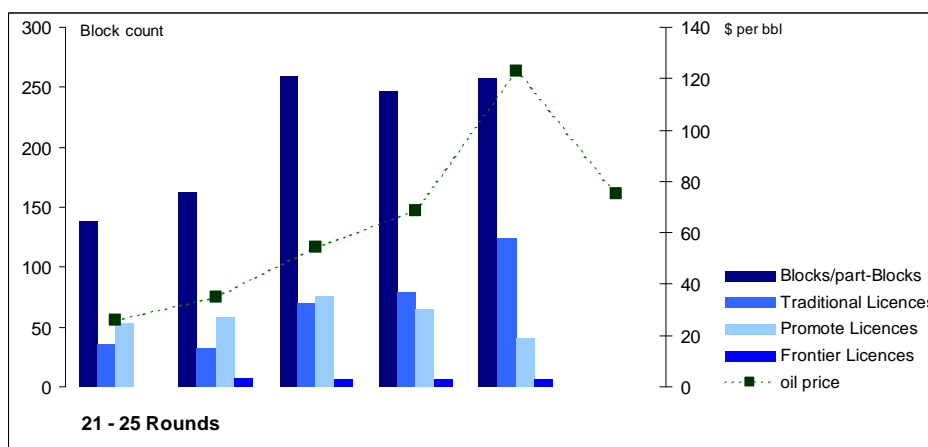
- 57 undeveloped discoveries, 518 undrilled prospects, six abandoned fields
- Unrisked resource potential of 513 mmbœ in discoveries and 22,655 mmbœ in prospects
- Greatest sum-total reserve potential in Tertiary, Jurassic and Rotliegendes discoveries though Middle Jurassic, Triassic and Tertiary discoveries have the largest average volumes
- Greatest resource potential in Tertiary and Jurassic prospects with Tertiary prospects having the largest average potential.
- Central North Sea remains area with the greatest number of undeveloped discoveries and prospects on unlicensed acreage. West of Britain has the largest average prospect size.
- 20 discoveries > 0.3 dpi (NPV \$1.6 billion value to the industry); 205 prospects > 0.3 dpi (NPV \$26 billion to the industry)

HISTORY

The 26th Round, currently scheduled to open in January 2010, will be the first UKCS Licensing Round for two years. The last, the 25th Round in 2008, was one of the most successful Rounds ever. In common with all five of the previous Rounds, the 25th Round was opened in an optimistic climate against a background of rising oil price and activity levels. Between the opening of the 25th Round to the submission of bids, oil prices continued to climb, but from then to the award of Blocks, sentiment went from optimism to pessimism as the oil price dropped from \$147/bbl to under \$40/bbl. This unprecedented decline, allied with the onset of the credit crunch, resulted in the

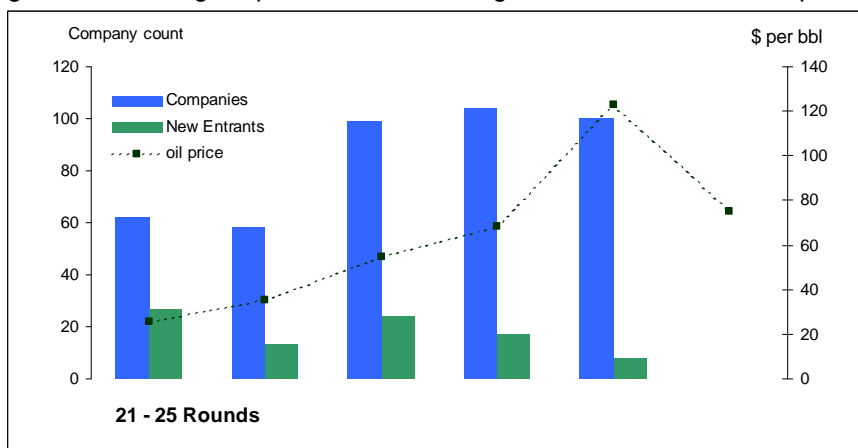
government offering companies the option not to take up the licences awarded. In the final analysis, although several Blocks were licensed to alternate groups, only seven of the awarded Blocks were not licensed and will be re-offered in the 26th Round.

Before considering the potential within the 26th Round, it is perhaps instructive to consider the impact of oil price on awards over the last five Rounds. The oil price plotted here is



that on the closing date for applications in each Round. The number of Blocks and part-Blocks awarded, after rising rapidly from the 21st to 23rd Rounds, has remained essentially static from the 23rd Round onwards. An interesting trend is that the number of Traditional Licence awards has continued to increase through all five Rounds while the number of Promote Licences has decreased from a peak in the 23rd Round, suggesting that increasing oil price, and increasing cashflow for those companies

with production, has been used to strengthen bids rather than make the applications more extensive. This is shown more dramatically in the number of wells committed per Round with the 25th Round doubling the firm well obligation of the 24th Round. This does not take into account any downward revision of work programmes that has occurred in cases

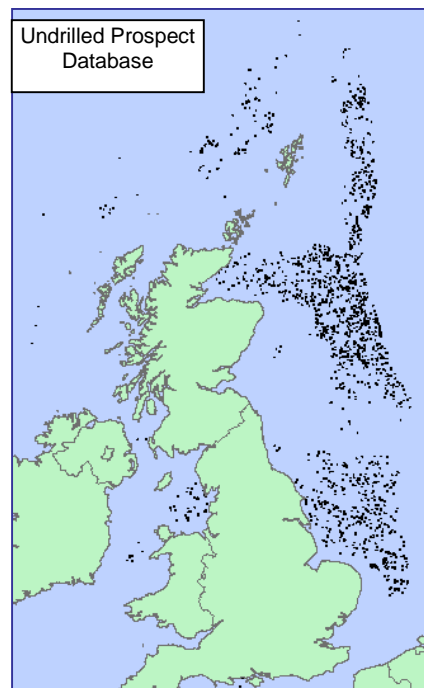


where the award was subsequently made to alternative companies that bid less than the withdrawn highest bid. In a similar vein, the competitive nature of the UKCS Licence Rounds has resulted in a reduction in the number of new entrant companies entering the UKCS through the Licence Round system although the number of applicant companies (current licensees and new entrants) has remained remarkably consistent in the last three Rounds at around 100.

At present (beginning November 2009), the oil price is around \$75/bbl, significantly above the historical average but well below the 2008 peak. Its level during Q1 2010 will undoubtedly influence the number and quality of applications, though the two-year hiatus between Licence Rounds has ensured that more mature area acreage has become available and this should garner more interest. It will be interesting to see how these two factors play against each other.

HANNON WESTWOOD DATABASES

Over the last decade, Hannon Westwood has been developing several databases to understand the resource remaining on the UKCS. These involve the reserves and production rates in producing fields, estimated reserves in undeveloped discoveries and estimated resource in undrilled prospects. In all cases, the figures have been derived from public sources, meetings, conversations plus scout information and some speculation. It also includes the prospects and discoveries mapped by DECC, and its previous incarnations, for the Promote UK CDs. In all, the databases now contain information on 386 individual fields, 448 undeveloped discoveries and 1,591 undrilled prospects. In addition, both Block ownership and GIS map parameters are maintained so that those prospects, discoveries and abandoned fields lying in unlicensed acreage can be rapidly identified and described.



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In respect of the 26th Licence Round, and based on the early October map of unlicensed acreage, as per the DECC website, the database holds six abandoned fields, 57 undeveloped discoveries and 518 undrilled prospects lying in unlicensed acreage with the unriskened potential to provide estimated reserves and resources of 513 mmbœ and 22,655 mmbœ, respectively. The undeveloped discoveries account for over 10% of the total number current on the UKCS while the undrilled prospects account for almost a third of the UKCS total. As further relinquishments are undertaken before the opening of the Round, then further potential will fall into the unlicensed pool of resources.

26th ROUND POTENTIAL

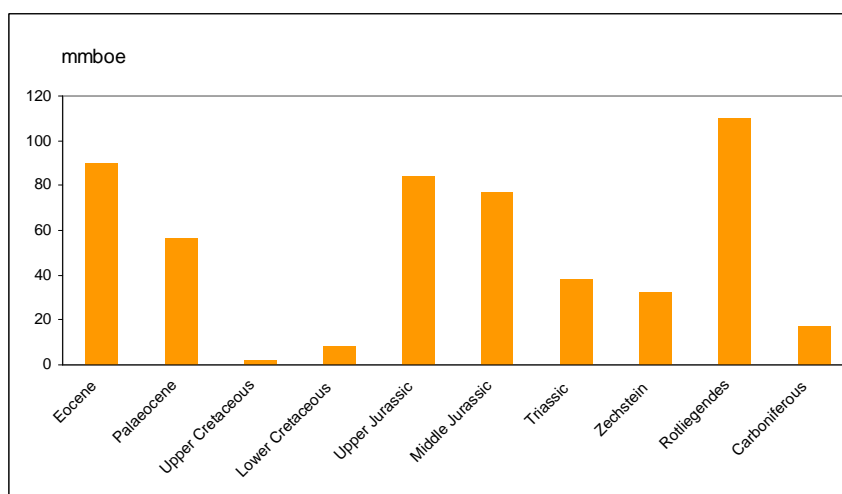
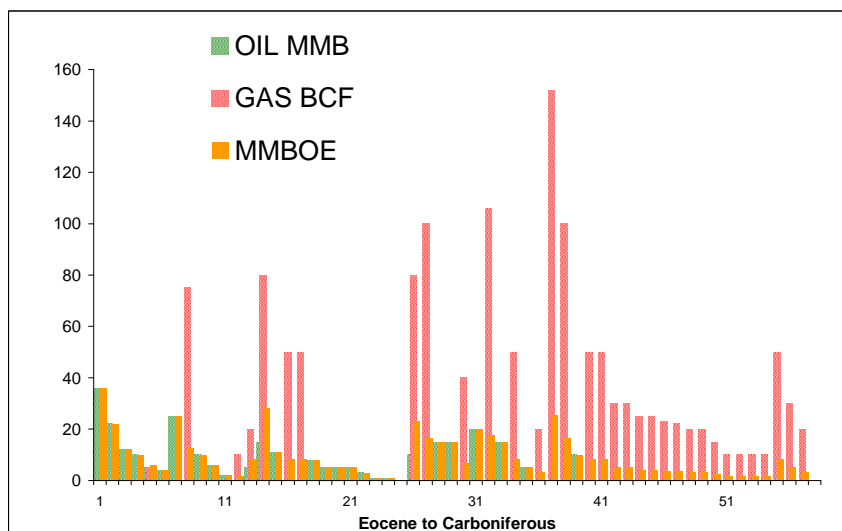
To understand the populations of undeveloped discoveries and prospects better, their distribution both stratigraphically and areally is considered. Note that in all of the following plots: red = gas; green = oil; pink = oil equivalent (oil plus gas components combined for each discovery or prospect); blue = number.

DISCOVERIES

Stratigraphic Split

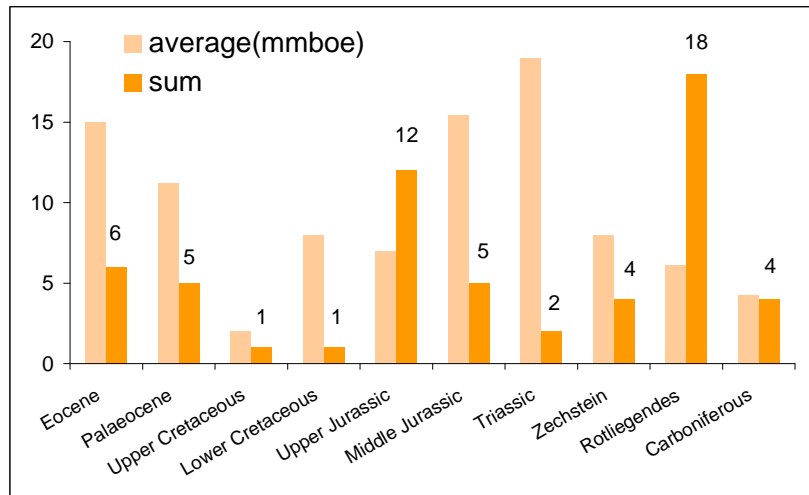
The 57 undeveloped discoveries and six abandoned fields (of which only one is assigned reserves and included in this analysis) are plotted by reservoir age, from Eocene through to Carboniferous, against mmbœ as the vertical axis. The first plot clearly demonstrates the preponderance of oil in the Tertiary undeveloped discoveries and gas in the Palaeozoic of the Southern

Gas Basin. The reservoirs of Mesozoic ages show a mix of oil and gas though in several cases these are gas-condensate that have been played out as oil and gas. When aggregated the overall highest reserves potential lies in the Eocene/Palaeocene, at over 130 mmbœ combined, the Upper/Middle Jurassic, at over 150 mmbœ combined, and the Rotliegendes, at over 100 mmbœ. In contrast, when



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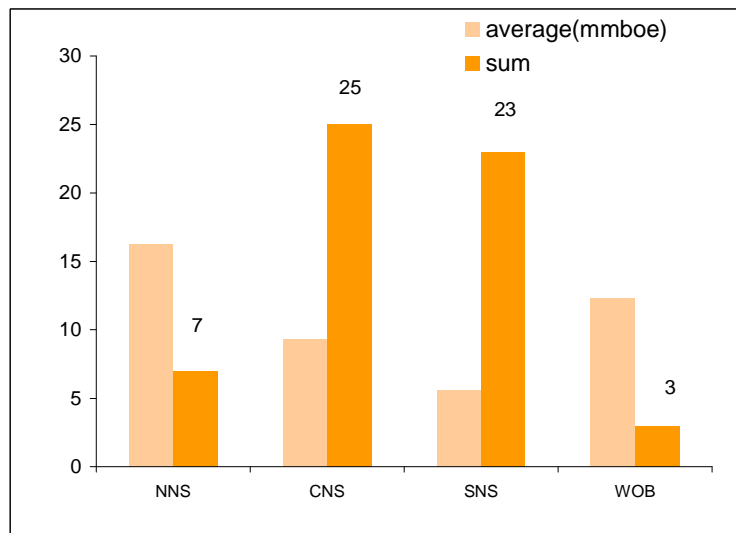
average reserves per discovery are considered, the Eocene/Palaeocene and Middle Jurassic discoveries maintain their pre-eminence with average reserves in the 10-15 mmboe range. On the other hand, both the Upper Jurassic and Rotliegendes discoveries, which account for just over 50% of the unlicensed undeveloped discoveries between them, appear to contain typically only 5-6 mmboe potential. It should be noted that although there are only two undeveloped Triassic undeveloped discoveries, these average close to 20



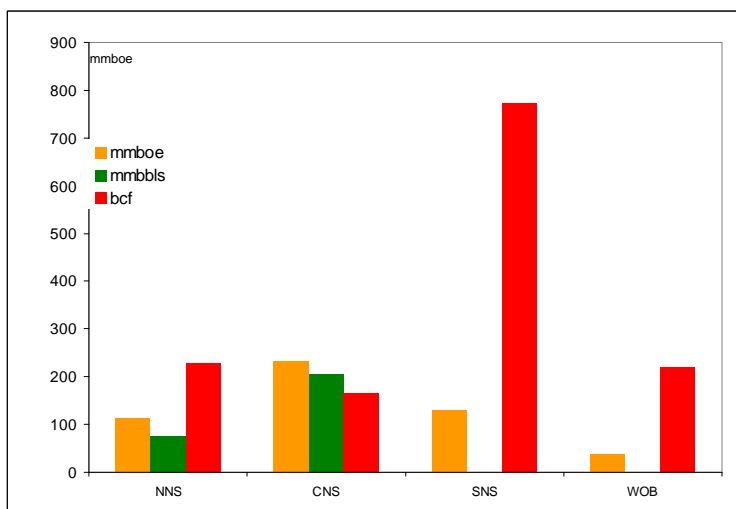
mmboe, albeit that one is heavy oil and the other is the up-dip potential from a well interpreted to have been drilled into a transition zone.

Area Split

The Central and Southern North Sea areas host the majority of the undeveloped discoveries with seven in the Northern North Sea and only three to the West of Britain. The average size of discoveries in the Central and Southern areas is estimated as 9 mmboe and 5.5 mmboe respectively, whereas the Northern and West of Britain areas average over 16 mmboe and 12 mmboe, respectively.



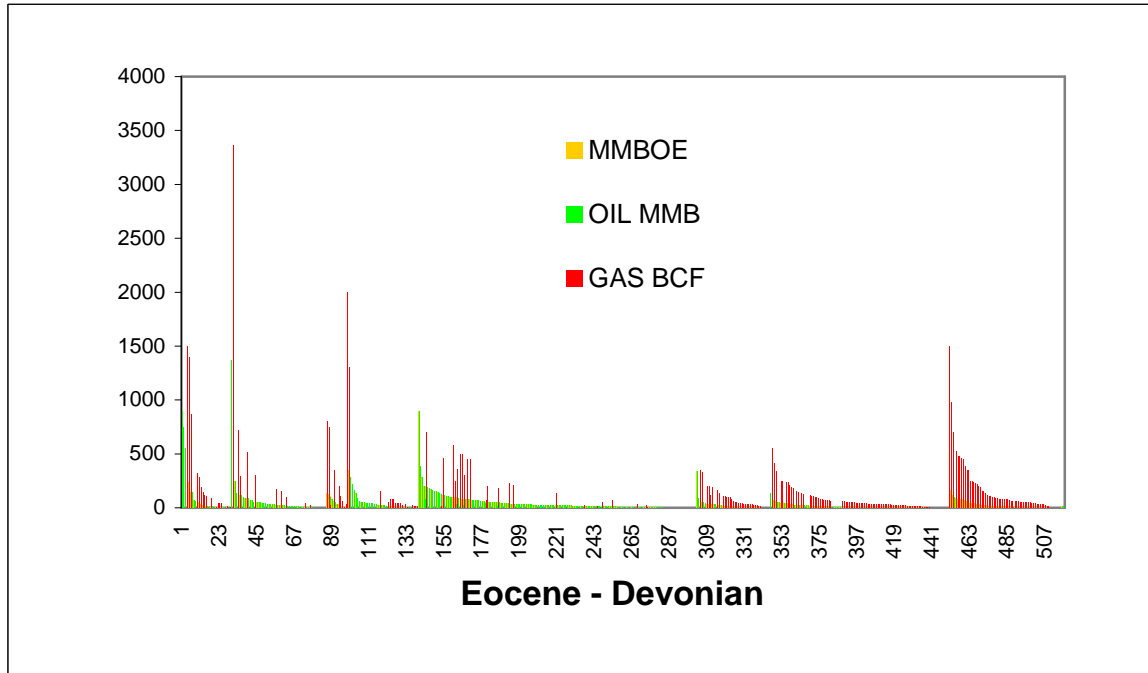
The main gas resource potential is in the Southern North Sea though the significant volume of gas in the discoveries in the Northern North Sea is more unexpected. The West of Britain discoveries are a combination of gas within the East Irish Sea and small stranded gas accumulations in the West of Shetlands. Oil dominates in the Central North Sea with most of the gas being from gas-condensate discoveries.



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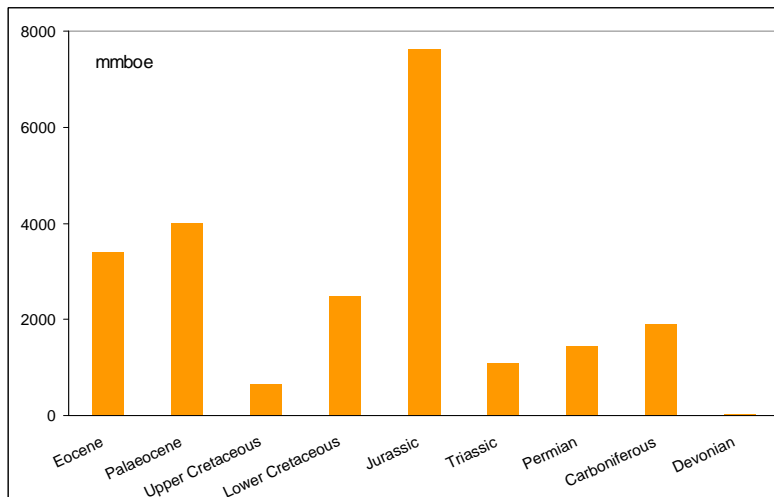
PROSPECTS

STRATIGRAPHIC SPLIT



The 518 undrilled prospects are spread throughout the stratigraphic column from Eocene to Devonian. The greatest mapped potential lies within the Jurassic, where about 7.5 billion barrels of unrisks potential resource has been estimated.

The Tertiary reservoirs have potential with a similar order of magnitude. The sometimes overlooked Lower Cretaceous has over 2 billion barrels of unrisks potential resource although it is considered that much of this potential lies within the Central Graben where the Lower Cretaceous reservoir is unproven and will therefore fall into a higher risk category.



The plot of prospect reserves against stratigraphic reservoir is more complex than for the undeveloped discoveries. One significant difference is that there appears to be a greater number of gas-prone than oil-prone prospects within the Tertiary. This is probably the result of the inclusion here of many

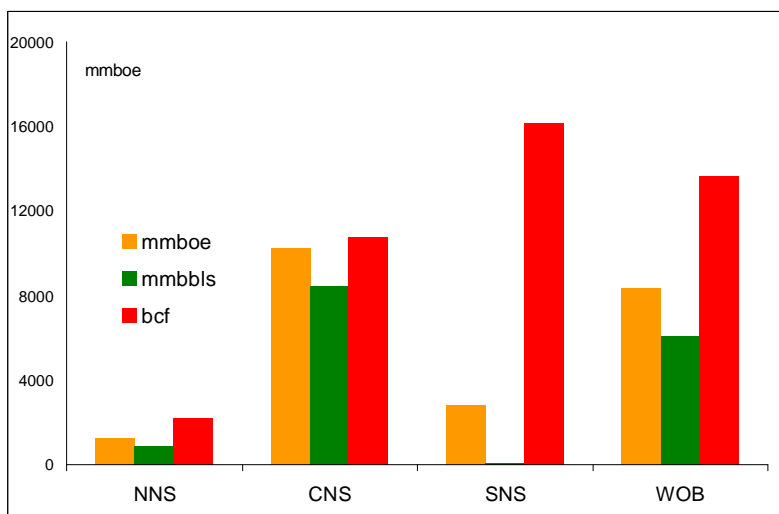
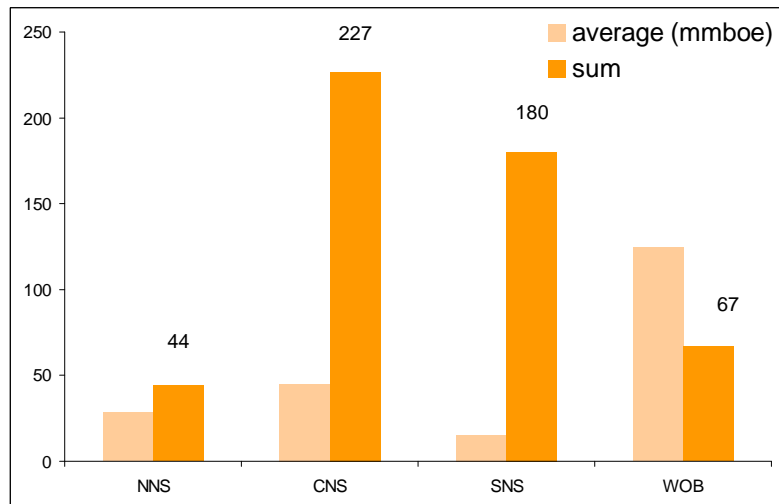
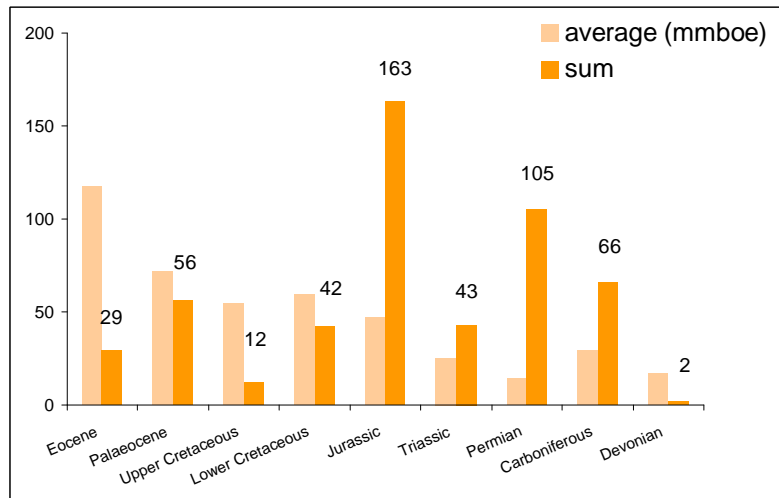
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prospects to the West of Shetlands that are gas-prone. When the average size of each prospect is considered, there is a general diminution with age, excepting the slight reversals in the Lower Cretaceous and Carboniferous. It might not normally have been expected with larger deeper Jurassic and Triassic HPHT prospects in the mix but their number in this 26th Round population includes small oil-prone prospects with only a few million barrels of potential, which tends to weigh down the average.

Area Split

As with the undeveloped discoveries, the majority (80%) of prospects are located in the Central and Southern North Sea. However, as well as hosting the greatest number of prospects, the Central North Sea also boasts the second highest average prospect size, above both the Northern and Southern North Sea. The highest average by some way is for prospects located in the West of Britain. In this area, the project economics demand that only large prospects will get drilled so only the leads with the larger potential have been mapped to

prospect status. The smaller leads tend to be held in abeyance and will only be considered once a viable infrastructure is developed. That such large potential is present on open acreage may indicate the stratigraphic rather than structural nature of the prospects, whereas with the exception of Tornado and Laggan/Tormore, it is the former, such as Rosebank, that have been the most successful recently. The main gas resource is in the Southern North Sea, though both West of Britain and the Central North Sea both have



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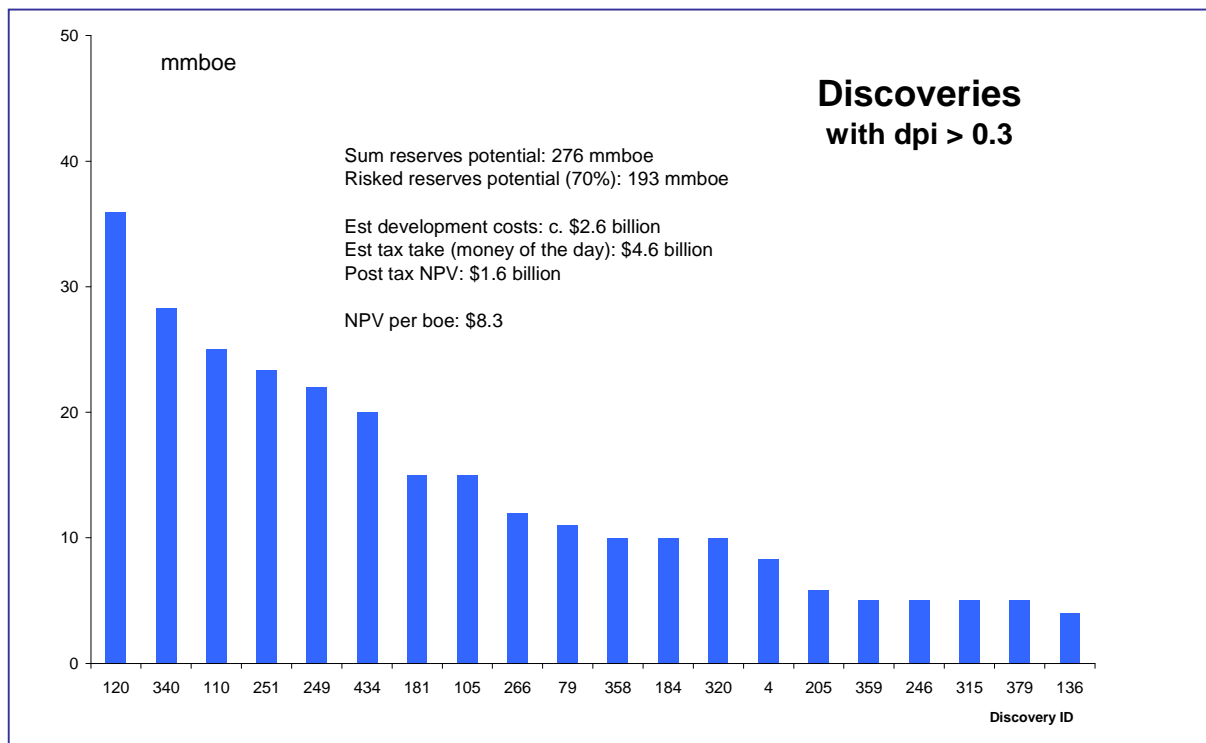
substantial mapped gas resources, albeit that some of that potential in the Central North Sea is associated with gas-condensate.

Prospectivity for oil is predominantly split between Central North Sea and the West of Shetlands. The gross potential within the Northern and Southern North Sea areas is minor compared to the Central North Sea and West of Britain. This, perhaps, recognises the multiplicity of plays in the CNS and the relative immaturity in the WOB. Recent moves to progress the WOS area through the commissioning of gas-gathering infrastructure could lead to a significant increase in activity and the commercialisation of hitherto stranded reserves and better economics for the smaller prospects.

COMMERCIAL CONSIDERATIONS

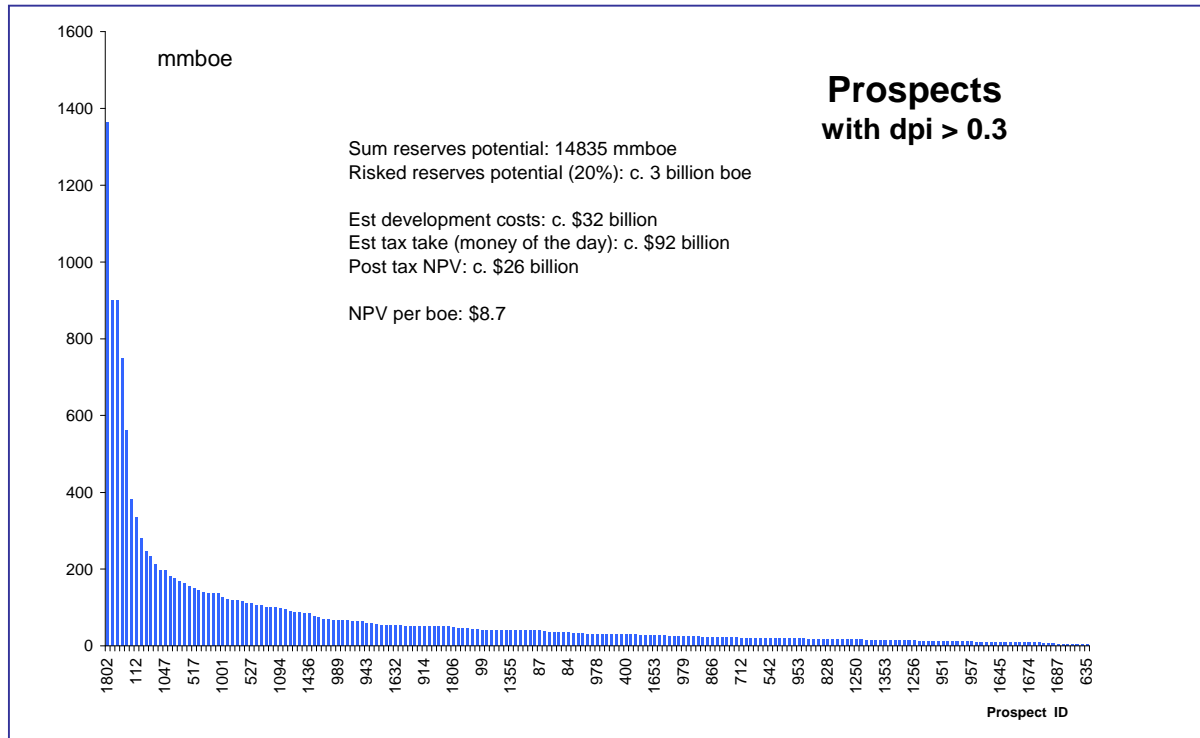
In order to determine the potential impact of these discoveries and prospects on industry and for government, by way of tax-take, we have run them through our proprietary GTools programmes. The runs have been based on \$70/bbl oil and 37p/therm gas and those discoveries and prospects with dpi's (discounted profitability index) less than or equal to 0.3 have been culled as unlikely to proceed to E&A drilling. Based on long-term drilling success rate averages achieved on the UKCS the success rates applied to reserves post-calculation and filter using the dpi measure, were 70% for discoveries and 20% for prospects. This provides a conservative figure of culled and risked reserves potential and might be considered unduly severe by some within the industry.

Discoveries remaining after exclusion and risking leaves: 20 discoveries > 0.3 dpi; 193 mmboe risked reserves potential; \$2.6 billion new development investment; c. \$4.6 billion tax-take in MOD; and average NPV per boe of \$8.3 (NPV \$1.6 billion value to the industry).



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Prospects after exclusion and risking leaves: 205 prospects > 0.3 dpi; c. 3 billion boe risked reserves potential; \$32 billion new development investment; \$92 billion tax take in MOD; and average NPV per boe of \$8.7 (NPV \$26 billion to the industry).



HW COMMENTARY

The 26th Round will be the first UKCS Licence Round since 2007, since when the industry has been on a roller-coaster ride with huge swings in the oil price and the credit crunch both impacting activity levels and confidence within the industry. The last five Rounds have all been held in a rising oil price environment. The oil price drop between application and award in the 25th Round resulted in several applicant companies rethinking their commitments, although the major changes in applications from Venture and Oilexco have not significantly impacted the overall number of Blocks and licences awarded. The question remains therefore how the uncertainty in the current climate versus an improving oil price will affect the industry’s appetite for exploration and the acquisition of acreage through the Licence Round and whether companies will be more selective in their applications, preferring to ‘top-up’ their portfolios through targeted farm-ins or asset acquisition outside the Round.

There remains significant potential on the UKCS, with the 26th Round providing access to perhaps 10% of the total potential reserves in undeveloped discoveries and about a third of the total potential within undrilled prospects, but with potentially large volumes needing to be de-risked to a manageable level before drilling or development activity can be undertaken. The Round remains important in that we have seen over the last decade the introduction of new operators to the UKCS that have successfully extended the life of some very mature fields, through a variety of methods, but the infrastructure in the North Sea is ageing, thereby implying that E&A activity needs to be accelerated rather than delayed to make the most of the existing facilities before abandonment is necessary. To the West of Shetlands,

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the introduction of new gas-gathering infrastructure provides an opportunity to participate in E&A activity that could directly impact the sizing and routing of the new pipeline network, though the time-lag before 26th Round awards can be drilled probably precludes them from influencing the primary gathering network, though not secondary phases of work.

The government initiated various Field Allowances in the 2009 Budget, at a time of \$40-50/bbl oil, to assist with the development of small fields and difficult ultra-HPHT and ultra-heavy oil fields. In practice, it turns out that the number of fields assisted is limited for the ultra HPHT and heavy oil plays, and further lobbying is understood to be underway to extend the range of these Allowances amongst the more practical part of the HPHT and heavy oil population. Other activity that has been lobbied for fiscal stimulus includes Tight Gas, Brown Field development, and exploration West of Shetlands. Given the normal late March timing of the Budget, any such changes are likely to be announced just prior to Round closing in April, which might make for an interesting review of application plans at short notice.

Hannon Westwood Special Report

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