

WHO GETS WHAT IN OFFSHORE DRILLING? Sharing out the Drilling Spend – PART 2 (of 2)

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This is the second of two articles discussing spending in the offshore drilling sector. The first, examining drilling spend by discipline, appeared in the July/August issue. This part looks at spend by geographic area. If you would like detailed analyses and forecasts, they are available in the report from which both articles are derived.

Offshore drilling represents a substantial part of CAPEX in all operating regions. The latest edition of the 'World Offshore Drilling Spend Forecast 2007-2011' (published by Douglas-Westwood) estimates that drilling attracts nearly 45% of offshore capital expenditure and that, by 2011, the market will be worth around \$62 billion, having grown from \$58 billion in 2006.

Each region of the world holds significant offshore oil and gas producing centres exhibiting variation in and between them. In particular, disparities have appeared between shallow waters, where petroleum potential is reaching maturity, and deep waters, where new areas are still being exploited. In deep waters expenditures will have increased to \$18 bn by 2011 whereas in shallow waters they will have declined slightly. Meanwhile exploratory drilling is losing ground to development drilling. These are the main reasons for the trends in Figure 1 in which North American, African and Latin American spending is growing whilst Western European and Asian spending falls.

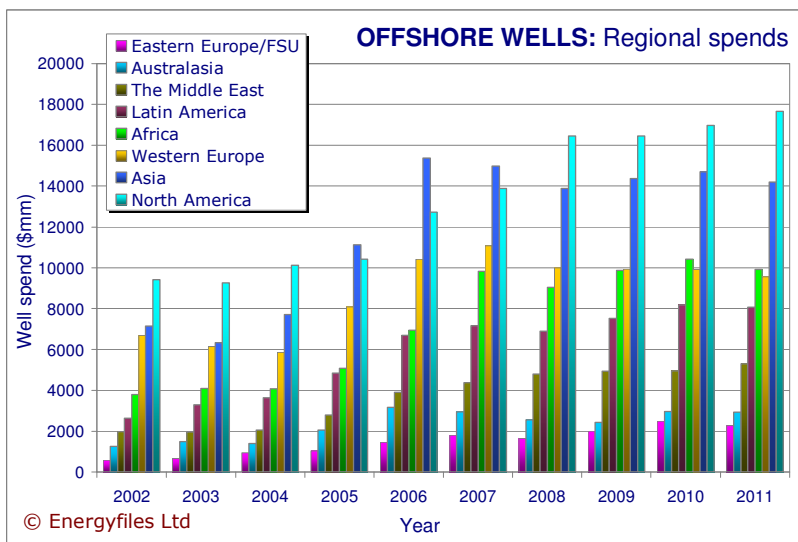


FIGURE 1: OFFSHORE DRILLING SPENDS 2002-2011

BACKGROUND TO WELL NUMBERS

Well number forecasts come from the 'Energyfiles Global Well Database,' obtained from a large variety of sources. Although some numbers are very precise, particularly in developed countries and where few wells have been drilled, some are less so. Inaccuracies may be due to poor reporting and differences in attribution.

A few definitions are worth mentioning. A well is drilled in the year in which it is spudded. Sidetracks are defined as wells only if the original has seen its rig depart and if the intent is to acquire new data and/or production. As more multilaterals are drilled this will represent an increasing uncertainty in development well numbers. Development wells include producers and dedicated injectors.

Offshore wells are drilled with rigs designated for offshore use, but not including shallow water barges, such as used in Lake Maracaibo in Venezuela. Thus wells are onshore if drilled from onshore sites to tap offshore accumulations or from artificial islands used to support land rigs, for example Wytch Farm in the UK, Sakhalin I in Russia and Kashagan in Kazakhstan. Deep water wells include those in over 500m of water, except the US where 1,500 feet (457m) is the cut-off.

Of course forecasts are speculative. The oil and gas industry is dynamic and forecasts beyond one or two years, especially of exploration activity, incorporate an opinion on the state of the world economy, the oil and gas price, the willingness of companies to invest, and the willingness of governments to encourage or discourage investment in fossil fuels.

A view is taken on whether private and government companies will carry out drilling programmes as announced and develop new drilling programmes in the future. Forecasts consider the prospectivity of an area being explored and appraised and assume that the world does not suffer dramatic economic upheaval. The regional share of wells drilled in 2006 is shown in Figure 2.

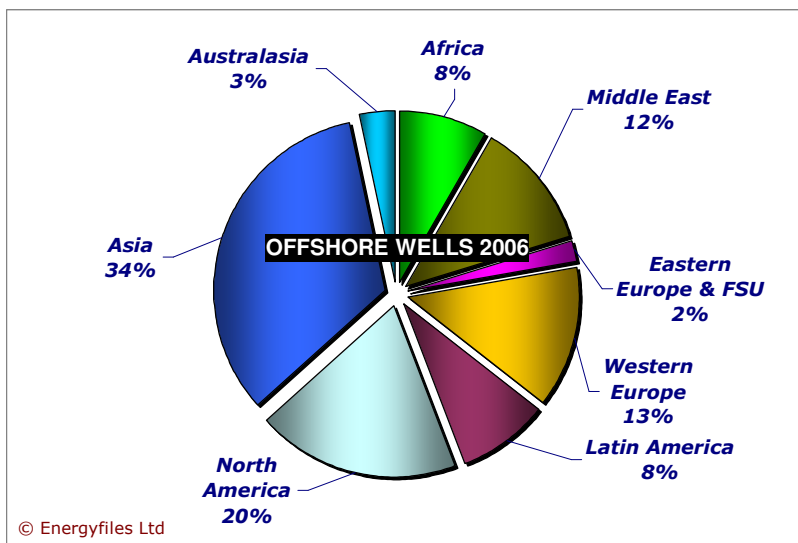


FIGURE 2: DRILLING NUMBERS BY REGION IN 2006

REGIONAL DRILLING SHARES

The world splits into 8 regions, coinciding with subdivisions into regional business units used by many of the major oil companies:

- North America
- Latin America
- Western Europe
- Eastern Europe/FSU
- Africa
- Middle East
- Asia
- Australasia

North America comprises Canada, Greenland and the USA. Greenland lies in the Atlantic whilst Canada and the USA border the Pacific and Atlantic on their west and east coasts respectively. The Gulf of Mexico, in the southeast of the USA, is the most important offshore area. Nearly 5,000 wells were drilled offshore North America from 2002 to 2006, 93% in the Gulf of Mexico. The numbers are expected to remain flat over the next 5 years with around a fifth in deep waters.

There are 53 countries in Latin America (31 in the Caribbean, 7 between Mexico and Colombia, and 14 in mainland South America). Besides Bolivia and Paraguay they have borders with the Pacific and Atlantic, the Caribbean Sea and the Gulf of Mexico. The only countries to have witnessed significant offshore drilling are Mexico, Trinidad and Brazil. Nearly 1,400 wells were drilled from 2002 to 2006 with 90% in these countries. A rise in offshore drilling is forecast over the next five years with a third expected in deep waters.

The bodies of water bordering Western Europe are the Barents Sea, the North Atlantic including the Norwegian Sea and the Bay of Biscay, the Irish Sea, the Mediterranean Sea, the Adriatic Sea, and the North Sea – the largest offshore producing area in the world. Drilling activity is dominated by the UK and Norway. Over 2,600 wells were drilled from 2002 to 2006 with 83% in these countries; mostly in the North Sea. A decline is forecast over the next five years with few expected in deep waters.

In Eastern Europe/FSU only Russia has access to an ocean, bordering Arctic Seas as well as the Sea of Okhotsk and the Sea of Japan. Lithuania, Latvia and Estonia border the Baltic Sea, Azerbaijan, Kazakhstan and Turkmenistan have acreage in the Caspian Sea whilst Ukraine and Georgia border the Black Sea. Poland, Bulgaria and Romania have offshore regions in the Baltic and Black Seas. Drilling activity is concentrated in the Caspian and off Sakhalin Island where Soviet technology was unable to drill prospects at any significant water depth. A little over 300 wells were drilled from 2002 to 2006 with 95% in these areas. Substantially greater numbers are expected over the next five years, almost all in shallow waters.

Africa has 49 countries with 33 having borders with the Atlantic, the Mediterranean Sea, the Gulf of Suez, the Red Sea, the Gulf of Aden or the Indian Ocean. The bulk of drilling occurs in the southern half of West Africa and Egypt. Over 1,400 wells were drilled in the region from 2002 to 2006 with 71% in West Africa and 17% in Egypt. A significant rise is forecast over the next five years, over half in deep waters. A chart showing one representation of the drilling forecast is shown in Figure 3 below.

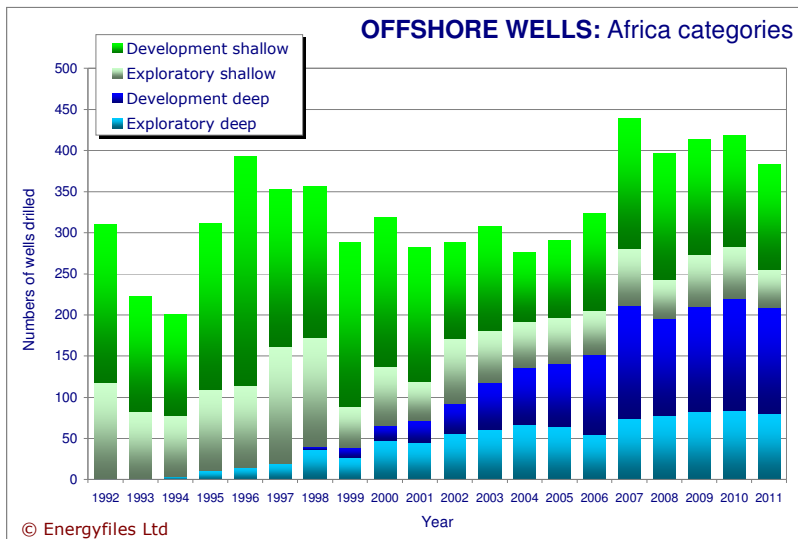


FIGURE 3: DRILLING NUMBERS IN AFRICA

The countries of the Middle East have giant fields in the shallow waters of the Persian Gulf. Saudi Arabia, the UAE, Iran, Qatar and Kuwait are the main producers. Iran also has a coastline on the Caspian Sea. Saudi Arabia, Oman and Yemen also border the Gulf of Oman, Gulf of Aden or the Red Sea with Syria, Israel and Turkey bordering the Mediterranean and/or Black Sea. A little over 1,600 wells are estimated to have been drilled offshore the Middle East from 2002 to 2006 with 98% in the Persian Gulf, almost all of which were development wells. A rise in drilling is forecast due to a surge in gas drilling and the need to maintain production in some older fields.

Offshore drilling in Asia mainly occurs in the Indian Ocean, Bay of Bengal, Gulf of Martaban, Gulf of Thailand, South China Sea, East China Sea and Bohai Gulf, Java Sea, Natuna Sea and Makassar Strait. Nearly 5,000 wells were drilled from 2002 to 2006 of which just under half were in Indonesia and Thailand with China, India, Vietnam, Malaysia and Brunei all making a substantial contribution to the remainder. Although a slight increase in the total is forecast over the next five years, with perhaps 10% in deep waters, the overall trend will be downwards.

Australasia is dominated by Australia where 90% of the wells are drilled. New Zealand, Timor Leste and Papua New Guinea also see some drilling but the many other territories of the South Pacific are unlikely to see any drilling in the medium term. Nearly 550 wells were drilled offshore Australasia from 2002 to 2006 with numbers are expected to remain roughly constant over the next five years.

REGIONAL SPENDING SHARES

The previous article explained how the Energyfiles spending model operates. Spending will reach \$306bn over the next five years representing a rise of 49%. In view of the much smaller 9% rise in drilling numbers, the bulk of this can be ascribed to increased costs through inflation and higher specification wells. There is an increasing disconnect between well numbers and well spend with drilling flat or declining whilst spends increase. Due to its important cost implications for the service sector I have reproduced Figure 4.

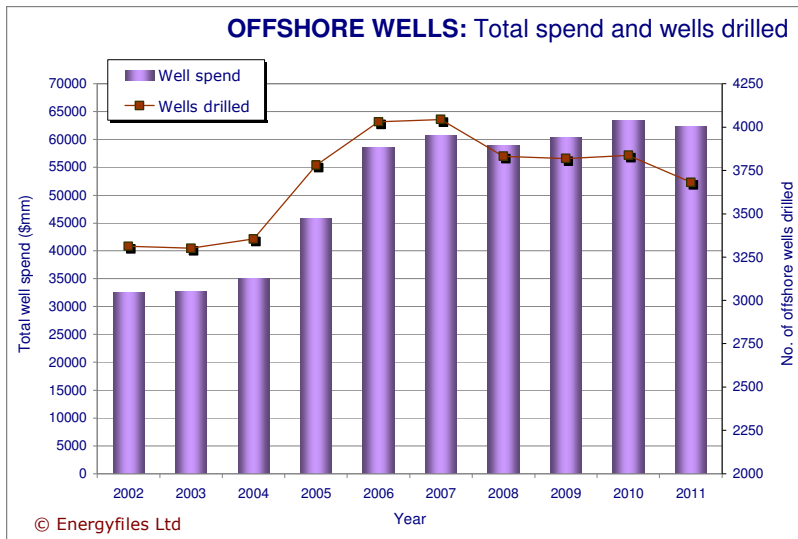


FIGURE 4: TOTAL SPEND FORECAST

Asia attracts the highest spending with shallow water spends beginning to decline but deep water spends growing even though areas are limited. North America is second, mostly in the Gulf of Mexico where deep water developments lead growth. Western Europe comes 3rd – almost all in the UK and Norway. Spending has increased in the last 3 years despite a downwards trend in well numbers. Africa is 4th, the majority directed at Angola, Nigeria and Egypt. Africa has enjoyed rapid growth in deep water spending. Latin America is 5th, mainly in Brazil, Trinidad and Mexico.

Despite its importance the Middle East is 6th dominated by low cost field maintenance and new gas developments in the Persian Gulf. However, spending is growing as the area is called upon to maintain and increase output to satisfy world oil and gas demand. Australasia is 7th and Eastern Europe/FSU is 8th.

THE CHANGING WORLD

The first true oil exploration well was drilled in Azerbaijan in 1848. However, the well believed to have been most significant was Edwin Drake's, spudded in 1859 at Titusville in Pennsylvania (Figure 5). Although Drake's well cut only 21 metres of hole it began an exploration rush from which the modern oil industry was born.



FIGURE 5: RECONSTRUCTION OF THE DRAKE WELL IN PENNSYLVANIA

In 1897 the first well to tap a reservoir directly beneath the sea was drilled from a wharf in California but it was not until 1937 when the first fully offshore field was developed and the earliest modern mobile drilling rig (a jackup) did not start operating until 1954. Offshore drilling has only been around for half a century but it has developed and spread very rapidly indeed. The profitability of the industry combined with OPEC's oil conservation policies, have ensured that even the most expensive of offshore projects go ahead. Except where geological or other risk is unacceptable, high well costs are rarely a deterrent to drilling.

However we have entered a new era. Higher prices and new technologies that reduce dry hole numbers and increase production rates have lead to rigs and services becoming ever more costly. And opportunities, even high cost ones, are dwindling. Thus by 2015 the offshore drilling industry will be 'fighting fires'. I expect the exploration industry to be in decline, now dominated by field development and appraisal drilling. Major companies will have solar, wind, biofuel and other energy sources firmly on their books.

Independents will be severely reduced and many will be niche players, specializing in onshore heavy oil for example. The offshore service industry, after years of success in technologically demanding environments, may have begun to contract as opportunities fall off. And there will be regular and chaotic disruptions within the industry and the world as a whole, driven by scarce resources and ever increasing energy costs.

'The World Offshore Drilling & Spend Forecast 2007-2011' provides an overview of future prospects for offshore drilling, quantitatively forecasting the world market by region and type of activity. The report includes essential information for decision-makers in oil companies, the contracting and supply industries, and government departments. For more information: e-mail: georgie.macfarlan@dw-1.com or visit www.energyfiles.com or www.dw-1.com