Namibia's moment of truth

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A high oil price, improved offshore drilling techniques and discoveries in Angola are all helping to propel Namibian exploration

Offshore Namibia has been one of the overlooked provinces of African offshore oil and gas exploration, not attracting the interest that has catapulted neighbouring Angola, Nigeria and other states into major hydrocarbon exporters. What the country needs is a big discovery – something a forthcoming surge in drilling activity could be about to provide.

Seven exploratory wells are already scheduled to be drilled in offshore Namibia late this year or during next year, following promising results from seismic surveys, with more wells to follow if findings are positive. The talk among explorers operating in the country is about Namibia's potential to become a new hydrocarbons province bigger than the North Sea.

"Next year is going to be a big year for exploration drilling," says Peter Kingston, chairman of Tower Resources, which has a 15 per cent stake in exploration blocks operated by UK-based Arcadia Petroleum. "The prospectivity is so good, I would be very surprised if there weren't some significant discoveries," he adds.

The Namibian government says there could be more than 160 billion barrels of original oil in place in total, with mean prospective resources of over 42.6 billion barrels of oil, and more than 125 trillion cubic feet of prospective gas resources. Exploration is taking place right down the Namibian coast across four offshore sub-basins, from the Namibe in the north next to Angola, through the Walvis and Luderitz basins to the Orange basin in the south, which straddles the South African maritime border.

Tower says the main structures on the blocks in which it has an interest, which cover some 22,000 sq km in the north, have the potential to contain up to 10 billion barrels of recoverable oil reserves and perhaps 20 trillion cubic feet or more of gas. Arcadia and Tower plan to drill their first well some time after March next year.

Fresh optimism

The uptick in planned drilling marks a serious ramping up of exploration in a country, where less than 20 offshore wells have ever been drilled across an area covering more than 500,000sq km.

The first hydrocarbons discovery was made as far back as the 1970s in the Kudu gas field, home to the country's only commercial find so far, which holds 1.4 trillion cu ft of proven reserves with an upside of 20trn cu ft, according to the National Petroleum Company of Namibia (Namcor). Those reserves have been earmarked to supply a power station and for export to South Africa, but the power station has yet to be built and the reserves have yet to be exploited. The Kudu production licence has passed through several hands including Shell and Chevron without significant progress being made. In recent times, the licence has been held by a group comprising Gazprom, Tullow Oil, Namcor and Japan's Itochu.

Following the country's independence in 1990, the government attempted to open up hydrocarbons exploration through a series of competitive licensing rounds. That attracted companies such as Norsk Hydro, Ranger, Sasol, Chevron, Shell and Texaco, but no commercial deposits were discovered and the firms had all but lost interest by the end of the 1990s.

Now, under a revamped open-bidding process, there is fresh optimism over prospects from a new band of firms. Explorers and governments seeking investment are prone to bullishness, of course, but improved data interpretation techniques do seem to indicate a higher chance of commercial discoveries being made this time round.

Consortia analysing seismic or planning wells include firms such as Brazil's HRT Participações em Petróleo, UK-listed Chariot Oil and Gas, Canada's EnerGulf Resources and Namcor itself, among others. The majors are still noticeable largely by their absence, but the smaller firms doing the early work are hoping the interest of the larger players will soon be piqued.

"It only requires one significant discovery to turn around the fortunes of a country and put it back on the map," says Marné Beukes, an Africa analyst at consultancy IHS Energy, noting how the discovery of the Jubilee field in Ghana has changed that country's prospects.

Some high profile names are already present in Namibia. Petrobras has taken a 50per cent stake in one of Chariot's blocks under a 2009 farm-out agreement, and the presence of Tullow Oil – now a big name in Africa due to its Ghana and Uganda discoveries – as part of the Kudu has consortium could help pull in other companies in future.

"Namibia could follow the same path as that of Ghana, where a small company, Kosmos, made a find, attracting a medium-sized company, Tullow, which can then lure in the heavyweights," says Beukes. But, she adds, "Discoveries will still need to be pretty significant

before Namibia registers on the majors' radar screens." Shell could be one possible candidate to make the move, if sufficient hydrocarbons were to be discovered in the Namibian part of the Orange sub-basin, as the company is already active on the South African side and might be interested in expansion across the border, she adds.

The Brazil connection

A high oil price, improved offshore drilling techniques and discoveries in Angola are all helping to propel Namibian exploration, but perhaps the most important factor behind the current uptick in activity is located across the south Atlantic in Brazil.

While the massive Brazilian offshore finds made in recent years may be over 3,000 miles away today, those fields are Namibia's near neighbours in geological terms.

150 million years ago, the two continents were joined together, before plate movements pulled then apart. As the continents split, the organic matter that would later become hydrocarbons was laid down in a shallow sea that formed between them. Now some of that oil and gas lies off Brazil, while the rest lies off Africa. If parts of offshore Namibia were adjacent to multi-billion barrel oilfields such as those in Brazil's Santos and Campos basins, then similar riches might be found across the Atlantic, the argument runs.

Promising geology does not guarantee Santos-sized discoveries in Namibia, not least because much has changed in the geology of the area since the continents parted company. For example, Brazilian deposits, and some Angolan deposits, are sealed in by a layer of salt (the so-called pre-salt reserves), while many of the areas expected to yield hydrocarbons in Namibia are topped by shale or sandstone.

Nevertheless, there are enough similarities to be warrant optimism, according to Marcio Mello, chief executive of HRT. He knows more than most on the subject, having spent his early career as a petroleum geologist and geochemist working for Petrobras in Brazil, before applying the knowledge he gained there to a detailed study of offshore West Africa. He showed that the hydrocarbons on either side of the South Atlantic were closely related and predicted, in the early 1990s, the later oil discoveries in deepwater Angola and Nigeria.

While positioning HRT as a new player in the Brazilian market by building up its exploration acreage and spudding its first well in the onshore Solimo˜es Basin deep in the Amazon region, Mello is now aiming to do the same in offshore Namibia.

"To produce oil you need experience and attitude, but to find it you need to be smart," Mello says. He says earlier exploration efforts in Namibia failed to find oil because they were concentrated in shallow water, whereas experience in the similar Santos basin in Brazil suggests that the bulk of oil will be found in geological structures located in deeper water and at greater drilling depths beneath the seabed.

HRT is currently in the middle of what it says is one of the largest 3D seismic surveys, ever performed by a single company in offshore West Africa, covering 9,100 sq km. Earlier this year, the firm agreed to buy one of its partners in the country, UNX Energy, a Canadian-based, Namibia-focused explorer. The deal bolstered the Namibian acreage in which HRT has an interest to 63,000sq km from 27,000sq km, divided between blocks in Walvis and Orange sub-basins.

Drillers gear up

However, Mello knows that compelling geological data and seismic analysis will not be enough on its own for HRT's Namibian business to take off. What he needs is a discovery. To that end, HRT plans to drill four wells across its blocks in 2012 in depths ranging from around 1,800 metres to 4,500 metres.

While operating at that depth does not come cheap, it will be cheaper than drilling in the Brazilian pre-salt, where the oil is much deeper. Mello estimates his wells will cost around US$65 million-70 million each, when those in more complicated deepwater conditions can easily top US$100 million.

HRT will not be the first firm to drill. That is likely to be Chariot, which is set to proceed either late in 2011 or early in 2012 with the first of several planned wells in its license areas, which are also divided between the north and south of the country. Chariot recently increased its estimate of the gross mean unrisked prospective resources from its southern licence 2714A, in which it has a 50 per cent stake, by 1.5bn barrels to 15.46bn barrels. The company noted in a resource update in May that it expects its "hit rate" to be significantly higher than that of previous explorers in Namibia, largely because of access to detailed 3D seismic surveys that were not available to previous explorers.

While there is no shortage of resource estimates floating about from the companies and the government, seismic evaluation is far from complete in many areas and no one knows precisely how much oil and gas will be found, or what the split between the two will be. "You don't know what's going to come out until you start producing. It could be oil or it could be gas – or both," says Jeff Greenblum, chief executive of EnerGulf.

His firm was part of the group led by Russian concern Sintezneftegaz, which drilled the most recent well in Namibia, Kunene-1, on Block 1711 in the far north in 2008. While that was said to provide evidence of significant hydrocarbons, the well, which Greenblum says cost US$120m to drill, remains classified as a "tight hole", which means no data from it can be released until the government gives permission to do so. EnerGulf is now pushing ahead with further seismic evaluation of the

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block, which the company says should yield additional prospects that could be drilled in the future.

"Can do" investment climate

The explorers are generally eager to praise the Namibian authorities' role in facilitating the new wave of exploration. "The government, with its can-do investment climate, has been instrumental and we appreciate its cooperation and assistance," says Greenblum.

Tower's Kingston describes licensing terms as attractive, while noting that they need to be to persuade firms that do not have the resources of the majors to push ahead with what is still a risky and expensive exploration programme, regardless of encouraging seismic data.

Such talk will be welcomed by Namibia, whose government will be keen to spruce up an image tarnished by failure to get production from the Kudu gas field under way. The process has been mired in bureaucracy, technical problems and a long-running dispute over how the gas should be used. Gazprom, one of the lead players in the Kudu project had been in talks with state power company Nampower over building an 800-megawatt power plant that would run on gas from Kudu. But, in February this year, Nampower said it planned to launch a fresh bidding process within months to construct the US$1bn plant and that Gazprom would need to bid along with others.

With the prospect of potential discoveries perhaps emerging as soon as next year, the government will be anxious to push ahead with Kudu and show that Namibia is a place where energy firms can do business successfully.

That will be a significant challenge for a country with a population of just over 2 million in a land area three times the size of Texas. The head of one exploration firm says the framework for explorers in Namibia is already flexible and proactive, but cautions that the country will need to expand its administrative resources considerably to cope with a major upsurge of oil and gas activity, as well as preparing for the considerable social change that would come with the influx of workers needed to staff the industry.

However, the rewards could be immense for country with a small population, as well as for southern Africa as a whole, which would stand to benefit from energy exports from Namibia and also from the job opportunities that the expansion of the oil and gas industry would present. F