

# Oil majors target Libya's untapped gas

**Huge potential going largely unrealised, says energy risk expert**



Barry Parker — New York

EARLIER this year, as the Arab spring was blossoming, oil prices moved sharply upward on supply tightness as the unrest spread to Libya.

Market analysts Wood Mackenzie, in a late summer report, had said that pre-war oil production of 1.6m barrels per day had been reduced to less than 100,000 bpd. A mid November IEA report said Libyan production had recovered to 500,000 bpd, consistent with an NOC report putting the number at 530,000 bpd. The IEA anticipates production of 700,000 bpd at year-end.

Most of the country's production is onshore, but the offshore realm has nonetheless played a role.

Energy risk expert John Hamilton from the London-based consultancy Cross-Border Information said: "The gas potential is huge and largely unrealised. Libya already sends gas to Italy by pipeline, but it is a much less significant producer than its neighbour Algeria. It

would like to find more gas and take a larger slice of the European market."

Early this month, Eni announced that it had resumed gas production at its Sabratha platform. Eni is an equal partner with the Libyan National Oil Co in the gas producer Mellitah, in the Bahr Essalam field offshore western Libya, north of Tripoli.

According to the Italian producer and refiner, the field will initially produce 4m-5m cu m per day and then work up to 15m cu m per day as additional subsea wells feeding the platform are put back on line.

Eni had been using the semi-submersible Scarabeo 4, owned by its sister company, Saipem, for development work in Libya.

The gas is consumed in Libya and also exported through the approximately \$5bn Greenstream pipeline, whose main construction contractor was Saipem, linking Libya to Gela, Sicily. The 350-mile undersea line, which opened with great

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The Mellitah gas compression station, which feeds into the Greenstream pipeline.

Greenstream

fanfare in 2004, also transmits gas produced onshore. Exports of gas produced onshore had begun as the pipeline, one of five underwater lines linking North Africa to Europe, was reopened in mid-October after an eight-month shutdown.

While Eni's involvement in Libya dates back decades, the big oil majors have been slow to ramp up additional offshore exploration in Libya.

Earlier efforts by ExxonMobil and Royal Dutch Shell, drilling licences in the Gulf of Sirte acquired in mid-2000s licensing rounds following the cessation of trade sanctions in 2004, had not resulted in discoveries.

Hess was luckier, having discovered gas on fields worked by the drillship *Stena Forth* before it was shifted to the Red Sea. Hess plans to bring this rig back into the Gulf of Mexico early next year.

The country's highly uncertain political situation will keep a brake on fresh activity while the inchoate government hopefully

coalesces. Prior to the revolution in Libya, BP had renewed the charge of oil majors eager to exploit potential hydrocarbons in its waters, initially hiring the conventionally moored Noble Homer Ferrington and then scuttling the deal likely, based on environmental concerns. Ferrington is now working offshore Cyprus.

BP subsequently planned to substitute the DP-3 newbuilding *Enasco DS-3* — ex-*Deep Ocean Ascension*, acquired by Enasco in the purchase of Pride International — with a first planned deployment drilling out Gulf of Sirte licences. The Enasco drillship, which had been idled in the Gulf of Mexico due to the drilling embargo, never made it to Libya.

Further east, in the Nile Delta, BP revealed that IEOC, a joint venture with field operator Eni, had struck gas at North El Burg, roughly 50 km offshore of Damietta, using the *Scarabeo 4*, which had been mobilised to Egypt.

According to Enasco's fleet status

report, its *Enasco DS-3* remains on charter to BP at a dayrate in the high \$480,000 several months into a five-year deal, but is positioned in the Gulf of Mexico. The unit may be moving out of the Gulf, though not to Libya.

Market rumblings had reported the unit fixed on a sub-charter to West Africa; no fixture has materialised. Other reports had the rig slated for development drilling at Na Kika, a producing system 140 miles south of Mississippi.

One more modern rig will be moving to the Mediterranean. Late last month, the oil giant announced that it was mobilising the latest generation semi-submersible Maersk Discoverer, to North Africa for a four-year contract with an additional optional year, at rate of nearly \$500,000 per day.

The deal, to start in the second quarter of 2012, would see the rig, which had been working for Woodside off northwest Australia, initially be deployed in Egypt. ■

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## Eni targets growth in West Africa, Asia and the Arctic

IT IS hardly surprising Italian oil giant Eni did not waste any time returning to Libya, and had already resumed limited oil production almost a month before the fall of Muammar Gaddafi, writes Barry Parker.

In 2010 a third of Eni's total production, roughly 600,000 barrels oil equivalent per day and 2.1bn boepd of reserves at year end, came from North Africa. Of this, 273,000 boepd came from Libya.

A hallmark of the company is its effort to act as operator of a field, part of a broader strategy of managing uncertainties — in this case, getting a handle on operational risks.

CBI consultant Mr John Hamilton said: "Italy's Eni is already a predominant player, and has returned to the country more quickly than its competitors."

Though its North African gas sourcing will garner attention as Libya comes back onstream, Eni's activities stretch farther than across the Mediterranean. In late August, Eni announced a big find off the Cabo Delgado coast of Mozambique, in Area 4 of the Rovuma Basin, where it is the field operator. It estimated that its discovery, drilled out with Saipem's drillship *Saipem 10000*, could yield as much as 15trn cu ft of gas.

An Eni statement said that the find "marks a new milestone for Eni since the

resource potential assessed with the first exploration well makes it the largest-operated discovery in the company's exploration history". The company's activities extend to waters offshore Ghana, where its in-chartered rig, *Transocean Marianas*, has yielded a hydrocarbon discovery at the Gye Nyame 1 field, which is adjacent to the earlier Sankofa discovery. Eni's stated strategy has it fast-tracking development and "consolidating gas volumes of the two discoveries."

The company hinted that it is considering exports of West African liquefied natural gas, adding: "This development opens up opportunities for exploiting the international market for liquefied gas." The *Transocean* rig, currently on a three-year charter to Eni in the low \$450,000s, is perhaps best known as the unit that started the ill-fated Macondo well in the Gulf of Mexico while under a BP charter. Hurricane damage in late 2009 forced it off-hire.

Asia will also be an important area of growth for Eni. It recently announced that oil production, expected to reach 40,000 barrels per day in the first year before tapering off, would now be commencing from undersea wells in an oil-rich area claimed by both Timor-Leste and Australia,

with oil exploitation being managed subject to a 2003 treaty.

A group of subsea wells, drilled out by the semi-submersible *Transocean Legend*, are producing from the Kitan field off East Timor into the Bluewater-owned floating production, storage and offloading unit *Glas Dowl*.

In 2010, the contractor Technip had been awarded the subsea installation work for flowlines, risers and umbilical controls, using the construction and diving support vessel *Venturer*. According to Eni, tankers will offload crude oil from the FPSO every two weeks at the outset, and less frequently as daily production declines.

Kitan, operated by Eni, with minority participation from Inpex and Talisman Resources, is estimated to contain 30m-40m barrels of reserves; field life is short and is expected to be seven years. Eni also has a non-operated interest in the Bayu-Undan gasfield, connected by pipeline to Darwin.

In Indonesia's International Bid Round of 2011, Eni was awarded the operator role in a consortium including Statoil, GDF Suez and others in a Production Sharing Agreement in the Kutei Basin, offshore Kalimantan — a deal expected to be finalised by year end.

The company announced that the project "involves the drilling of one well and the carrying out of 200 km of 2D seismic survey during the first three years of exploration". The field is located roughly 80 km from the Bontang LNG plant, already processing gas from other fields in the region. Overall, in Indonesia, the company operates six offshore blocks, holding working interests in 12.

The Barents Sea and Yamal Sea are up-and-coming regions as energy will be sourced increasingly from the Arctic. Eni will be operating the Goliat concession in the Barents, and hopes to be producing up to 200mboepd by the end of the decade from four Yamal concessions.

The Arctic is among six regions identified by Eni as: "Key hubs: drivers for long-term growth." ■

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Factors in favour of an on-site FPSO include simpler abandonment and decommissioning. Woodside

## FPSO a better choice for smaller projects

FLOATING production, storage and offloading vessels, contrasted with production platforms or tie-backs via subsea pipelines to other production, are ideally suited for relatively small and short-lived offshore projects, writes Barry Parker.

Materials submitted to environmental authorities by Eni's Australian arm provide a glimpse into project planners' thinking on alternatives for exporting oil from the newly opened Kitan field, in a zone between Timor-Leste and northwest Australia.

The distance of Kitan from other fields, and its relatively short anticipated economic life of seven years, tipped the scales in favour of an FPSO rather than an export pipeline.

According to the authors of a submitted Environmental Impact Statement, three alternatives were considered for Kitan's oil production: an Eni-operated FPSO (the actual solution), an underwater tie-back to another FPSO — *Northern Endeavour*, operated by Woodside at the Laminaria/Corallina fields in the Timor Sea — and a tie-back to the Bayu-Undan fields, operated by

ConocoPhillips and exporting gas to Darwin via an undersea line.

Factors in favour of the on-site FPSO included "simpler abandonment and decommissioning and smaller footprint on the seabed". Eni noted that: "The FPSO concept provides opportunity for possible future tie-back of other fields, and reassignment of the equipment at another field elsewhere at the end of the project life."

Another vexing question was whether or not to flare off gas in excess of that used to fuel four gas turbine generators powering the plant on board the FPSO. Excess gas is expected to be abundant in the first year of the field's life, and then to decline.

Choices considered included re-injection, export to the existing Bayu-Undan system, or burning it off from the FPSO *Glas Dowl* (a conversion from a double-hulled Aframax, with a capacity of 647,500 barrels). The flaring alternative won out, because the expense of re-injection and of export would have drastically increased the project's capital costs, by 100% and 160% respectively. ■

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Eni's discovery in Rovuma Basin was drilled out with Saipem's drillship *Saipem 10000*.