

Africa Seen Mirroring Brazil in Atlantic Coast Drilling: Energy

By Eduard Gismatullin - Jan 30, 2012 7:21 AM ET

The world's next great oil finds may be buried under a layer of salt more than two miles beneath the seabed off [Africa](#)'s Atlantic coast.

The salt excites oil executives because on the South American side of the Atlantic the same mineral capped some of the largest fields found in the last 10 years, putting [Brazil](#) on the path to becoming the world's fourth-largest oil producer. Geologists say the trouble with salt is that it masks what's underneath, making drilling deepwater exploratory wells a gamble of \$60 million or more each.

[BP Plc \(BP/\)](#), [Statoil ASA \(STL\)](#) and other explorers stand to profit from exploiting as many as 75 billion barrels of untapped oil off West Africa, worth \$7.5 trillion at today's prices. They're expected to spend \$30 billion a year finding and developing oil in rock that was formed by the Earth before salt was deposited on top, according to Morgan Stanley estimates, supporting oilfield services including drillships, platforms and pipes.

"It's probably the hottest basin in the world right now," Evan Calio, a New York-based analyst for Morgan Stanley, said in an interview. "If we get one commercial discovery, then the risk factor for everyone is decreased."

Drilling for so-called pre-salt oil is set for Gabon, the Republic of Congo and [Namibia](#) this year. Higher [oil prices](#) encourage explorers to increase investment and venture into new frontiers. Brent oil, which averaged about \$112 a barrel in the last year, is up about 3.8 percent since Jan. 1.

Atlantic Mirror

The opposite Atlantic shelf shares a similar geology. That gave rise to the industry's Atlantic mirror theory that both sides are impregnated with pre-salt oil formed more than 100 million years ago when Africa and Brazil were a single continent. The rock was formed by evaporation over the millennia and was then topped by salt that's as thick as 2,000 meters and has trapped oil to form crude reservoirs.

"Many of the same ingredients for the hydrocarbons systems you see in Africa on the west coast" are found in Brazil, BP Chief Executive Officer Bob Dudley said in an interview. "You would expect us to continue to secure acreage in places like southern Angola."

In Brazil, [Petroleo Brasileiro SA \(PETR4\)](#) is developing the Western Hemisphere's largest oil discoveries in three decades in pre-salt fields offshore holding more than 20 billion barrels. Further north, [Tullow Oil Plc \(TLW\)](#) proved the Atlantic mirror theory worked, finding a 700 million-barrel field off [French Guiana](#) similar to a deposit it discovered off [Ghana](#) in 2007.

“Whether an analogue for the reservoir in the Brazilian pre-salt play exists in West Africa is a subject of much debate,” said Tullow Oil Exploration Director Angus McCoss, whose team opened a new oil frontier off French Guiana. The fundamentals of an existing petroleum system and the salt, which can help oil and gas to accumulate underground, are clearly present in West Africa, he said.

Gearing Up

The world's largest oil companies are gearing up to explore. BP, [ConocoPhillips \(COP\)](#), Statoil and [Total \(FP\)](#) were among oil producers that won licenses in Angola's pre-salt areas largely running from the equator south to the Tropic of Capricorn. Paris-based Total intends to sink a well off Gabon later this year, and Petrobras plans to drill off Namibia.

Speculation runs high because the first two drillers to find pre-salt oil off Angola haven't estimated the reserves.

The first find off Angola was claimed by Danish explorer [Maersk \(MAERSKB\)](#) Oil, which [said](#) its Azul-1 well might produce more than 3,000 barrels a day. [Cobalt International Energy Inc. \(CIE\)](#) on Jan. 10 said its pre-salt Cameia-1 well in the west African country's Kwanza basin found a “high-quality” oil reservoir. The Houston-based explorer will drill the Bicular prospect this year.

“This is proof that the petroleum system is there,” said [Lars Nydahl Jorgensen, Maersk \(MAERSKB\)](#)'s head of exploration. “Is it as big as Brazil? It's far too early to say.”

Extending Reach

North of Angola, companies such as [Soco International Plc \(SIA\)](#), [Ophir Energy Plc \(OPHR\)](#) and Petrobras are targeting pre-salt wells in the Republic of Congo and Gabon. Drilling will be cheaper in Gabon than Brazil, because of shallower waters and thinner salt layer, Ophir CEO Nick Cooper said.

“There is potential there,” said Roger Cagle, the chief financial officer at Soco, which found pre-salt oil in the Congo basin last month in quantities too small to be commercially viable. “It's just a different setting.”

Drilling is technically challenging because the layer of salt is difficult to penetrate with seismic survey techniques that identify potential [oil fields](#), Morgan Stanley said in a note earlier this month. The U.S. bank estimates the average cost of drilling a deepwater well in [Angola](#) at \$60 million.

“We’ve seen very little drilling so far, so the next couple of years we will be quite keen to determine where we go,” said Stuart Joyner, an analyst at Investec Securities in [London](#). “You’ve got some pretty heavyweight companies involved in terms of drilling that acreage.”

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