Offshore Oil and Gas:  
Will Brazil’s Success Be Replicated By Namibia?  

The South Atlantic Margin may be on the verge of becoming a major new source of offshore oil (and perhaps natural gas) reserves and oil exports. The continuing success of Brazil, the recent discoveries in the Falklands and the rapid growth in exploration offshore Namibia suggests that offshore exploration for oil and gas is not only a very young industry but also a very promising one. Even as Washington DC suppresses offshore, especially deep and ultra-deep water E&P, the rest of the world is enthusiastically pursuing it, from Latin America to Israel, from Turkey to South Asia and from Australia to Africa. Where Washington DC wants to go, the world is no longer willing to follow on issue after issue.

Brazil’s success is inspiring imitation
Brazil’s offshore, especially ultra deepwater, oil and gas discoveries are globally famous now. Much of the credit belongs to Petrobras, the state controlled publicly traded, integrated oil company whose market cap makes it the third most valuable publicly traded energy company in the world (after ExxonMobil and PetroChina). Impressed by Brazil’s success several nations have become enthusiastic about offshore E&P in both Latin America and Africa.

The US GOM is still the largest offshore oil production area in the world but Brazil is very close and based on current trends will become the undisputed leader in less than 5 years. This is why Brazil is becoming the model for offshore development even as Texas and North Dakota are becoming the models for oil and gas shale development. Success attracts imitators.

Petrobras is not new to offshore drilling, either in the GOM or Brazil. It discovered the Enchova field in 410 feet of water in 1977 and has been venturing steadily deeper. The Roncador discovered in 2003 is at 6,180 feet and the very impressive Lula field, discovered in 2009 and confirmed in 2010 is in 7,125 feet. Pilot production from Lula has already started. Petrobras operates 20% of all offshore production facilities in the world (almost 4 times as many as BP). Petrobras plans to invest over $100 billion in E&P in Brazil between 2010 and 2014 and double its oil production from the current level of 2 million barrels per day.

Brazil’s offshore discoveries are world class and the vast region called the subsalt (to distinguish it from another huge oil province in the same waters called the presalt, where the recent discoveries such as Lula and Cernambi are located) is still little explored. Petrobras will be the sole operator of all pre-salt fields and own at least 30% of all consortia developing these fields. The sub-salt is open to foreign operations.

The Tupi field (2006, the first major pre-salt find) in the Santos Basin (5 to 8 billion barrels estimated reserves) made it the largest discovery in the Americas in 35 years. In September 2010, the Brazilian Government announced the discovery of the Libra field (reported at 5.5 billion barrels but already revised up to 8 billion barrels). The Libra is the largest oil field discovered anywhere in the world since the enormous Kashagan find (over 17 billion barrels) in Kazakhstan in 2000.
Of course, it is not just Petrobras that is making impressive discoveries in Brazil. Devon Energy has announced a discovery in the pre-salt Campos Basin, quite close to the big Jubarte field. Devon has 7 exploration blocks in Brazil of which 6 are pre-salt. A joint venture involving Repsol, Sinopec, BG Group, with Petrobras as operator and 45% owner, has made an important discovery of very light oil in the ultra-deep waters of the Santos Basin. Maersk Oil has discovered oil in the offshore Campos Basin in a license jointly owned with the Brazilian independent OGX.

Anadarko Petroleum which owns 7 exploration blocks in Brazil very recently revealed that it has a sub-salt discovery in the Campos Basin. The significance of this is that the sub-salt is thought by some geologists, both Brazilian and foreign, to have even more oil resources than the pre-salt.

It is only in the past six years that exploration in the sub-salt has been taken seriously. Sub-salt exploration is now increasing and is likely to attract capital and talent from across the world in the next few years. At present the Santos, Campos and Espirito Santos basins are seeing activity but this will expand to Jequitinhonha and Camamu-Almada basins. Current commercial sub-salt production is all in shallow waters.

Brazil’s oil regulator startled the world E&P industry by guessing that the subsalt reserves are 50 billion barrels (compared with the 50 to 100 billion barrel estimate for the much better studied and explored pre-salt). A Professor at Rio De Janeiro State University, with 35 years experience as a Petrobras geologist, thought the guess grossly optimistic and decided to debunk the official estimate via an independent analysis. He ended up astonishing himself and the industry by guessing that the reserves were over 120 billion barrels, according to the CEO of HRT Participacoes em Petroleo, one of Brazil’s largest independent E&P companies.

HRT also claims that yet another tremendous exploration frontier exists in Brazil: the Amazon basin, a great expanse little explored for oil and gas. The Solimoes River Basin is the focus of HRT’s interior exploration. This basin is the third largest oil producing area in Brazil after Campos and Espirito Santos and has Brazil’s third largest gas field.

HRT has also discovered natural gas shale resources in the Solimoes River Basin. These could be very large (HRT estimates 35 to trillion cubic feet on its 21 blocks alone). If so, it would not be surprising since we now know that extensive shale resources are found in many parts of the world and the interior of every large nation has such resources. Given Brazil’s rapidly growing internal market for natural gas this resource could find a ready use, displacing imports.

Brazil is fully aware of not just the national but international strategic importance of its offshore energy resources. The country, reportedly, is pondering the construction of a multi-billion dollar underwater base to both protect its offshore treasure and explore under the ocean bed in deep waters for additional resources. The government, Petrobras and the navy apparently are collaborating in designing this base. The base would be continually occupied and serve as combined oceanographic lab and naval outpost on the edge of Brazil’s maritime boundary. It seems that the potential for oil and gas resources in depths at the edge of the continental shelf, about 350 nautical miles from the coast, is very high. If Brazil starts to assert rights to energy resources in international waters, it will certainly set a global precedent and impel a worldwide rush to stake claims on hydrocarbon resources that belong to no nation and presently are not technologically accessible.
Namibia Could Be the Next Major Offshore Play

Directly across the South Atlantic from Brazil is Namibia. Once the two were united so it is only natural that companies should seek to imitate and at least modestly replicate offshore Namibia the successes offshore Brazil.

Namibia (about 1.5 times the size of France physically) is a small country in terms of population (a little over 2 million with a functioning democracy) but its offshore basins are spread over 500,000 square kilometers and virtually unexplored. Less than 20 exploration wells have been drilled of which 4 are in the commercially producing Kudzu field (bordering South Africa). The offshore basins are Walvis, Luderitz and Orange (shared with South Africa) moving north to south. Angola to the north is becoming a significant oil play.

Companies ranging from the majors and mini majors to obscure independents have secured or are seeking exploration rights. The state owned company Namcor has mostly an advisory and monitoring role and so far E&P companies have not been forced to offer any participation in prospects to Namcor. Petrobras and HRT are exploring there (obviously) as are Shell, Gazprom, Tullow, BHP Billiton, Tower Resources, Energulf, UNX Energy, Acarus, Chariot Oil and Gas, AlphaPetro, Arcadia, Pancontinental Oil and Gas PetroSA and Sintezneftgaz.

Namibia’s offshore basins (as do Angola’s just to the north) have characteristics very similar to the Campos and Santos basins. HRT which has blocks in both the Walvis and Orange Basins maintains that the latter is currently the most interesting and potentially the home “giant” oil fields. UNX Energy agrees with this assessment.

Chariot Oil and Gas, which has 8 blocks in the 3 offshore basins thinks that Namibia’s offshore basins have billions of barrels of recoverable oil resources plus trillions of cubic feet of gas. Sintezneftgaz (in a consortium with Energulf, PetroSA and Namcor) claims to have found an offshore field with 14 trillion cubic feet of “reserves.” It is not possible to determine how precisely the term “reserves” is being used.

HRT guesses that offshore Namibia has 50 billion barrels of recoverable oil. Such numbers would potentially make the Namibians the richest people, per capita, in Africa.

These are very early days for offshore oil and gas exploration, especially in deep and ultra deep waters not just in Namibia but in much of Africa, Asia and Latin America (this is true for ultra deep waters in the GOM as well). The clear message from Brazil is that the world’s offshore basins may have hundreds of billions of barrels of oil (and vast amounts of natural gas) waiting to be discovered and commercially developed in the next 10 years.

If so, the global offshore E&P industry is about to experience it’s most rapid growth yet and the South Atlantic region may be poised to become a major exporter of oil and natural gas.