



Oil and gas developments in the Caribbean Basin

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Extensive oil exploration programmes are underway in currently non-producing countries like Jamaica, Guyana, Nicaragua and Costa Rica

In an age of high oil and natural gas prices which put pressure on the level of inflation and lead to crippling import bills, every country with the right geology is rushing to try and find hydrocarbon resources of its own and the members of the Association of Caribbean States (ACS) are certainly no exception.

Extensive oil exploration programmes are underway, or will soon commence, in currently non-producing countries like Jamaica, Guyana, Nicaragua and Costa Rica. Even tiny Saba and Curaçao, associate members of the ACS because they are not independent but constitutionally part of The Netherlands, are seriously contemplating offshore exploration initiatives. Those that already enjoy the good fortune of having a petroleum industry, such as the three biggest ACS member states of Mexico, Venezuela and Colombia, are re-doubling their drilling activities. At the end of 2007, Venezuela had at least 62 rigs on location looking

for oil and 10 seeking natural gas, while Colombia had 36 exploring for oil and one specifically for gas.

Venezuela, which produces around 2.4 million barrels of oil a day (bod), has sought to use its favourable hydrocarbon position to assist, in particular, its small Caribbean neighbours.

President Hugo Chávez Frias's PetroCaribe project, formally launched in 2005, provides close to 200,000 bod to 14 Caribbean Basin states on unbeatable terms – payment of 60 per cent of the current market price, with a two-year moratorium before re-payment begins on the outstanding 40 per cent portion over a 25-year period, at an unheard-of interest rate of 1 per cent.

What's more, the 40 per cent is actually 'returned' to the beneficiaries as a loan for domestic projects and although re-payment is expected, it does not necessarily have to be in cash, since President Chávez has indicated Venezuela's willingness to receive reimbursement in kind, in the form of agricultural products, such as sugar or bananas.

Despite the misgivings of some observers that the rapid accumulation of oil-related debt will only set up huge obligations for future generations – more so if the price of oil rises even further – those countries benefiting from PetroCaribe seem well pleased with it.

"It's the best thing since sliced bread," declares Dr Raymond Wright, who was managing director of the state-owned energy agency, the Petroleum Corporation of Jamaica (PCJ), until 2006, but remains on in the capacity of consultant, particularly on upstream matters. "PetroCaribe provides a buffer to the Jamaican economy, in view of the high oil prices that currently obtain. Energy costs are among the greatest challenges to the Jamaican economy at present."

Since Chávez insists that PetroCaribe must be independent of the long-standing petroleum products distribution system, run by majors such as Chevron, Esso (Exxon) and, to a much lesser extent since it began selling off its retail network, Shell, Venezuela

Venezuela's PetroCaribe extends a helping hand to Caribbean states hard hit by record oil prices





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is also funding storage facilities, and even considering requests for small new refineries in the various beneficiary states.

Only two countries within the ACS's Caricom subgroup have not signed up to PetroCaribe – Trinidad and Tobago, which has long been self-sufficient in both crude and refined oil as well as natural gas and Barbados, which fears a build-up of debt to unsustainable levels.

Trinidad and Tobago is also none-too-happy with Venezuela over the threat subsidised PetroCaribe oil poses to its own historic petroleum products market in the Caribbean archipelago, which it serves on an FOB basis through the retail outlets of the majors. Indeed, it has already made provision for the loss of its entire 49,000 bod market in the eastern Caribbean, where it has always commanded its best price. An urgent effort to identify substitute markets is underway.

This has slightly soured relations between Trinidad and Tobago and Venezuela but certainly not to the extent where either party will cut off its nose to spite its face.

Fact is, the two need each other in order to access the natural gas reserves that cross the maritime border between Venezuela's Plataforma Deltana region north east of the Orinoco delta and Trinidad and Tobago waters south east of Trinidad.

Here lie considerable quantities of resources – some 10 trillion cubic feet (tcf) of gas in one pair of blocks, 6D (Trinidad) and 2 (Venezuela), alone – which can only be exploited if the two parties agree to do so jointly because the reserves straddle across the boundary line in undersea reservoirs. This is a process known in the petroleum world as unitisation and efforts are going ahead to begin work as soon as a final development agreement can be drawn up.

A crucial snag is likely to be whether the unitised gas is sent in the first instance to Trinidad or Venezuela for conversion into liquefied natural gas (LNG), as is the preferred commercialisation path.

Trinidad and Tobago's Prime Minister, Patrick Manning, a geologist by training and hence a political leader with a keen interest in energy, favours the gas being diverted to Trinidad to be fed into a fifth LNG train, while Venezuela appears to prefer allocating the gas to kick-starting its own LNG industry, so it can begin to establish itself in one of the fastest-growing segments of the global energy trade.

As of the time of writing, the decision between the two options seemed a hard one for Chávez to make,

since his energy and petroleum minister, Rafael Ramírez, as well as the powerful state company, PDVSA, which Ramírez heads, are reportedly adamant that cross-border gas should go to the Paria peninsula in Venezuela, which is earmarked for gas-based industrialisation, including at least one LNG train.

This article will look at what the smaller Caribbean Basin producers and would-be producers are doing and will not include production enhancement activities underway in Mexico, Venezuela or Colombia, which are in a completely different league from the rest.

Trinidad and Tobago has seen its current liquids (crude and condensate) production plummet from a high of 229,589 bod in 1978 to an estimated 124,000 bod in 2007, a loss of 105,589 bod in 29 years. The twin-island Caribbean nation is probably one of the best examples of the 'peak oil' theory currently under hot debate in international petroleum circles. On the other hand, natural gas production continues to rise and is now at the 3.9 billion cubic feet a day (cf/d) level, which is world class in anybody's language. This has provided the foundation for the development of the LNG industry mentioned earlier.

It is probably no surprise that most of the wells being drilled under the country's exploration programme are looking for gas. Prospective new locations for gas discoveries include block 5c, further offshore from the

Trinidad and Tobago plans to build a fifth LNG train to process the gas reserves it shares with its southern neighbour





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south east coast than bpTT's acreage, where the bulk of gas production is currently centred, and block 22, north of Tobago. In the two blocks, Canadian companies are drilling, respectively Canadian Superior and Petro-Canada, both of which are first-time operators in the country. Petro-Canada is also drilling in blocks 1a and 1b in the Gulf of Paria, which separates Trinidad and Tobago and Venezuela on the west, and there is a possibility of a new oil find.

Oil is also possible in the deep land acreage, where exploratory work will commence in 2008, after production sharing contracts (PSCs) are concluded. One such block is called Guayaguayare Deep and has been awarded to another newcomer, Tullow Oil of Ireland.

Barbados has launched an ambitious offshore exploration effort for the first time. It has been in the land oil business from as long ago as 1896 but still only produces a modest amount of crude – about 1,000 bod at the moment – and now hopes to be able to cash in offshore. It is offering 24 blocks in waters that ring the island nation, many of them in deep water as defined

by the industry.

Awards will be made in April, 2008 and Ron Hewitt, General Manager of the state-owned Barbados National Oil Co (BNOC), is guardedly optimistic that hydrocarbons will be discovered, despite the fact that the one offshore well drilled in the past (ConocoPhillips' Sandy Lane One in November, 2001) identified only non-commercial reservoirs with low saturation gas.

"All of the data we have seen and all of the information available to us, including that from the ConocoPhillips well, leads us to believe that there is fairly significant potential for the discovery of commercial hydrocarbons offshore Barbados," Mr Hewitt contends.

Suriname has been in the oil business far less time than Barbados, having commenced crude production only in 1982 but has been more successful commercially: output averaged 14,500 bod in 2007, all of it from land fields operated by one company, state-owned Staatsolie.

Offshore exploration in the past by foreign firms has never yielded commercial discoveries but Staatsolie,



Petrotrin's refinery at Pointe-a-Pierre: Trinidad and Tobago has long been self-sufficient in both crude and refined oil



which guides the direction of the energy industry on behalf of the Suriname government, is trying again and has carded a block auction for the third quarter of 2008, which may include blocks 15 and 36 which were offered to Sino-Petro after the 2006 round but eventually not taken up. It has also retained five blocks which faced the prospect of being awarded to Guyana under the recent International Tribunal on the Law of the Sea (ITLOS) arbitration on maritime borders (see below), some of which may be considered for auction.

Exploration is imminent in acreage earlier awarded, in particular blocks 30 (Repsol YPF/Noble), 31 (Maersk Oil and Gas/Taikoku) and 37 (Murphy Oil). Staatsolie also has its own exploration programme proceeding simultaneously in new land blocks, in partnership with Irish company, Tullow.

Guyana, currently a non-producer, was the main beneficiary of the ITLOS award and is now in a position to commence large-scale exploration offshore, stymied during the period that the dispute over its maritime boundary line with neighbouring Suriname existed.

Work is now expected to begin on such blocks as Corentyne, Georgetown and parts of Pomeroon and Stabroek, held, respectively by Canada's CGX Energy, Repsol YPF, CGX Energy and ExxonMobil.

Jamaica, despite years of trying, still has yet to find oil or natural gas (which might actually be preferable considering the island-nation's plans to switch its power stations to gas turbines). But it is not giving up the fight and companies have now taken up 12 of the 24 blocks into which Jamaica has divided its offshore and onshore. The first exploration well is due to be spud in one of the five blocks held by Australia's Finder Exploration in 2008. This will be the first time since 1982 that a wildcat well has been sunk in Jamaican territory.

If gas is eventually discovered, no one will be happier than Dr Ruth Potopsingh, Dr Wright's successor as PCJ managing director. "We are determined to introduce gas into our energy mix," she stresses. "It's not a matter of if but when. We have a severe shortage of electricity capacity in Jamaica and PCJ has to play its part in enabling the electricity sector by accessing

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A Staatsolie owned and operated drilling rig in Suriname's Tambaredjo oil field: the country produced 14,500 bpd in 2007



From Crude to Energy

Staatsolie explores for and produces oil, refines and trades various petroleum products, and produces electrical power. Petroleum operations began onshore in Suriname in 1982 when the Tambaredjo field was brought into production. Staatsolie's refinery – in operation since 1997 – has a processing capacity of 7,000 barrels per day and produces diesel oil, different grades of fuel oil and asphalt bitumen.

In 2006, Staatsolie entered the energy market with the commissioning of a 14-MW co-generation power plant.

During the past years, several companies have explored Suriname's hydrocarbon potential offshore, resulting in a sizable database of the petroleum geology of the Suriname-Guyana Basin.

The United States Geological Survey (USGS) concluded that the Suriname-Guyana sedimentary basin may contain 15 billion barrels of undiscovered oil, a reason for oil companies to keep showing interest for offshore Suriname. Since 2004, Staatsolie signed several offshore production-sharing contracts and a new bidding round will be announced in the 3rd quarter of 2008.

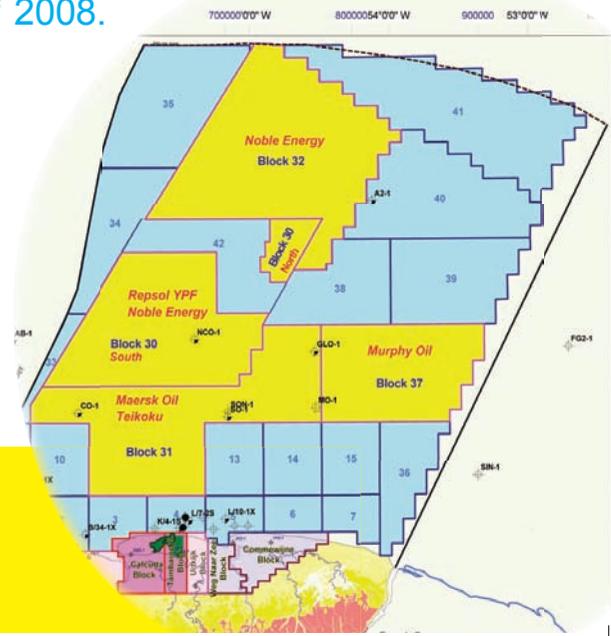


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gas in LNG form or by pipeline from local sources, if possible.”

Belize, a Caricom member territory located in Central America, recently joined the ranks of oil producers, with a discovery by US company, Belize Natural Energy (BNE), in the Spanish Lookout area. Production has already exceeded that in Barbados and is currently 3,000 bod. The same company has also found oil with its Never Delay well in another district.

Another company, Providence Energy, has also entered into a PSC for 531 sq miles of perspective acreage onshore, nearshore and offshore.

Cuba’s oil production is now 80,000 bod, thanks to the intervention of non-US companies, which have introduced new technology into the industry that has succeeding in keeping output more or less

stable. The other 95,000 barrels the island-nation requires on a daily basis comes from Venezuela under PetroCaribe.

Canadian firms such as Sherritt International and Pebercan have successfully identified new reserve pools on land but Cuba’s primary focus for new oil is offshore in the Gulf of Mexico, where it has divided its exclusive economic zone (EEZ) into 59 blocks. Repsol YPF, Statoil Hydro and India’s Oil and Natural Gas Corporation (ONGC) hold six blocks, Venezuela’s PDVSA six blocks, Sherritt also six and state-owned PetroVietnam, four. The UK’s Gold Oil has recently acquired acreage and Russian companies are interested.

Exploration should resume in earnest in 2008, despite the one well drilled so far (by Repsol YPF) having failed to reveal commercial quantities of oil. ■

There is fairly significant potential for the discovery of commercial hydrocarbons offshore Barbados



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