

Brazil Prepares to Surprise Drillers This Time With Gas: Energy  
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Feb. 8 (Bloomberg) -- As Brazil prepares for its first-ever auction of shale-gas acreage, it has a message for global prospectors: The country that discovered the world's biggest offshore oil finds this century may have almost twice as much natural gas onshore as is currently estimated.

Brazil's energy regulator known as ANP made the assertion in a preliminary estimate of potential reserves, in an e-mail to Bloomberg News. The estimate is 88 percent higher than the U.S. Energy Information Administration's calculation that Brazil may have 226 trillion cubic feet of gas held in shale, a sedimentary rock increasingly being harvested for fuels around the world.

The forecast may assure that Royal Dutch Shell Plc and billionaire Eike Batista take part in the Dec. 14-15 government auction of shale-gas blocks. Europe's biggest energy company and the billionaire who controls Brazil's second-largest oil company by market value both expressed interest in joining the nascent shale boom in Latin America, six years after Brazil's so-called pre-salt basins proved to hold the biggest finds since 2000.

President Dilma Rousseff is seeking to cut dependency on liquefied natural gas imports, used in electricity generation.

While more than 80 percent of Brazil's power is hydroelectric, a dry spell that pushed dam levels to the lowest since 2000 has forced authorities to order the use of fossil fuel-burning plants without having enough domestic gas to feed them.

"There is a gas shortage," Ruairaidh Montgomery, a senior analyst at oil and gas researcher Wood Mackenzie, said by phone from Houston. Domestically produced shale gas "will be very good looking from a below-ground perspective. The challenges are above ground," to secure available workers, satisfy local content rules, and the size of the service sector, he said.

#### Pre-salt Gas

The U.S. estimate includes only one basin, and there could be another 200 trillion cubic feet of gas spread through four other areas, Brazil's regulator said, in response to questions. Given the country's gas demand of 885 billion cubic feet in 2011, if 10 percent of the additional reserves are pumped, they alone could supply the country for about 22 years at its current consumption rate.

The U.S. estimates are the best published so far, ANP said. The regulator reached its larger estimate by drawing an analogy between the geology of four Brazilian on-shore basins and the

U.S. Barnett shale basin, it said. The analogy is not a firm projection, only a point of reference, it said.

Natural gas has gained in world markets less than oil in the past decade. Next month gas traded on the U.K.'s ICE exchange declined in three of the last 10 years, while Brent oil futures have increased in all but one year in the period.

### First Well

Shale deposits exceed Brazil's so-called pre-salt gas reserves, ANP head Magda Chambriard said last month to reporters, in Rio de Janeiro. Brazil also holds other types of unconventional gas, such as so-called tight sands and carbon gas, according to the ANP. Pre-salt refers to Brazil's off-shore deposits, the world's biggest crude discoveries this century. Shell, already Brazil's third-largest oil producer, is preparing to drill its first on-shore gas well in the second half of the year while it waits for the ANP to issue rules for the December auction, the company's press office said in an e-mailed response to questions.

Shell will drill in the state of Minas Gerais, where closely-held Petra Energia SA is becoming the leading unconventional gas explorer in Brazil, focusing on so-called tight gas sandstones and tight gas carbonates, according to an e-mailed response to questions. The company has discovered gas in 12 of 14 wells it drilled in the Sao Francisco basin.

Unconventional gas gives companies an opportunity to operate blocks in Brazil where state-run Petroleo Brasileiro SA, or Petrobras, is guaranteed a majority stake in all pre-salt operations.

### Bolivia Imports

Discovered in 2007, the pre-salt reserves hold at least 50 billion barrels of oil equivalent, according to ANP. They lie below a layer of salt under the Atlantic seabed as far as 300 kilometers from the coast of Rio de Janeiro.

Brazil's main source of gas imports today is Bolivia, which supplies more than one-third of its demand. The country also imports liquefied natural gas, or LNG, to process at two plants. LNG imports reached 8.6 million cubic meters a day in 2012 and are expected to rise to about 10 million cubic meters a day this year, driven by demand from power plants, Jose Santoro, Petrobras's head of gas and energy, told reporters Feb. 5. Given the need to use gas to produce power, discovering shale gas and other unconventionals would be "ideal" for Brazil, Mauricio Tolmasquim, head of the government's energy policy agency, or EPE, said Jan. 28.

“Unconventional could be more competitive than pre-salt,”  
Marcelo Mendonca, an official at Gas Energy, a Brazilian  
consulting firm, said in an interview in Rio de Janeiro.  
“Currently our gas in Brazil is expensive so it makes all the  
sense to develop technologies to produce gas.”

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