

BRAZILIAN WAVE

MARCH 2013

ISSUE 19

THE BRAZILIAN FOCUSED MARKET REPORT



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The Perfect Storm: The forces that can drive a non-regulated and high demand market into inefficiency.

Over the last four years Brazilian shipping companies, foreign owners and shipbrokers have been sailing high on the increasing OSV demand, mostly led by the massive volume of long term requirements from Petrobras. In 2012 this has resulted in approximately 80% of the offshore support vessels offered to Petrobras combined a local independent Brazilian shipping company and a foreign owner, often with the involvement of a shipbroker. This regatta has gradually led to a stormy situation, exposing predictable systemic problems that are now becoming a concern for Petrobras with regards to their operational efficiency targets.

There are four main forces within this environment:

1 - Foreign owners seduced by the possibility of getting 4+4 year timecharters, pleasing their banks and delivering value to their shareholders;

2-Brazilian shipping companies with a strong commercial rather than operational drive, that base their business plan mainly on third party vessel contracts (no liabilities through obscure private and confidential operational agreement with owners) instead of wholly owned ones;

3 – Commercially driven shipbrokers established in Brazil, which given the high OSV demand and domestic limitation have flooded the market with new owners without proper guidance; and finally

4 - Petrobras, the main force, having limited personnel with

marine exposure/background, offering the highest volume of long term contracts for OSVs amongst worldwide oil companies, through lowest bid tenders without pre-qualification criteria, and a requirement demanding Brazilian shipping companies involvement in all international contracts where foreign owners are involved without rights and obligations efficiently defined.

These forces could converge creating a prime environment for the “perfect storm”, not only in the Brazilian OSV market, but also in regards to Petrobras’ logistical challenges. It is not possible to single out one of these forces as the root problem given that they are naturally making use of what the current system offers. Willingness of the Parties to understand the system and regulate it should undoubtedly be of common benefit, before a “witch hunt” mode button is pushed, otherwise any effort could be in vain.

The potential damages of that “storm” are numerous, we can mention inefficient and conflicting HSE and management policies (document of compliance), higher operational costs, incidents, foreign owners giving up signing contracts after BOD approval, vessel’s which were hired but never delivered, contracts being terminated early, Brazilian shipping companies and owners being heavily fined, brokers being accused as Owners and Charterers rep, and more.

In the meantime, taking into consideration the previous scenario, Petrobras will demand much more from the Brazilian shipping companies when it comes not only to HSE policies but also respond towards the acts and omissions of

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the Foreign Owners, by demanding offers to be placed in the name of the EBN. HSE ranking will be a part of the tender evaluation criteria, although not enough to solve the systemic deficiencies and directly affecting competitiveness in the process.

Brazilian shipping companies (EBNs) are expected to be more focused on operational and administrative issues, but tend to be overloaded with procedures to comply with Petrobras' HSE policy as well as guiding foreign owners on that subject. More time will need to be spent jointly bridging the management systems of the Brazilian shipping companies and foreign owners' according to Petrobras' requirements. EBNs are also expected to be more selective or even withdraw operating third party vessels due to the risks, liability and the time consuming nature, and concentrate on its own fleet.

Foreign Owners can expect more operational work, even before the tender phase, getting acquainted to all local aspects of the operation, the do's and don'ts and not only the traditional commercial and OPEX work. Also, during the contract period they rely on additional and impartial local support, aiming their own EBN for a long term relationship and commitment to the local industry.

Professional and experienced Brazilian OSV brokers are expected to not only technically and commercially guide parties during the pre-tender and tender phases, but also (if not mainly) during the contractual period, using their local network and impartial knowledge to "smoothen the waters" for a successful and long standing local operation.

A WORD WITH WESTSHORE

"Petrobras has just announced the 2013-2017 plan with USD 236.7 billion in total investment and USD 147.5 billion in ongoing E&P projects. More details in our next edition."

Daniel Del Rio
Managing Director

04 VESSEL NEWS

THIS MONTHS FIXTURES, REQUIREMENTS AND MARKET SCREENINGS

THIS MONTH'S SPOT FIXTURES

| FIXTURE DATE | VESSEL | TYPE | CLIENT | OWNER | COMM. DATE | PERIOD | DAY RATE |
|--------------|-----------------|------|----------------|------------|-------------|-----------|-----------|
| 19-Feb-2013 | THOR SUPPLIER | PSV | REPSOL SINOPEC | CHOUEST | 15-Mar-2013 | 03 MONTHS | RNR |
| 19-Feb-2013 | MARICA | PSV | REPSOL SINOPEC | OCEAN PACT | 15-Mar-2013 | 03 MONTHS | RNR |
| 27-Feb-2013 | SEA PANTHER | AHTS | STATOIL BRASIL | DEEP SEA | 27-Feb-2013 | 30 DAYS | RNR |
| 1-Mar-2013 | MAGE | PSV | CHEVRON | OCEAN PACT | 1-Mar-2103 | 03 MONTHS | RNR |
| 15-Mar-2013 | MAERSK HELPER | AHTS | OCEAN RIG | MAERSK | 15-Mar-2013 | 03 DAYS | RNR |
| 15-Mar-2013 | MAERSK PROVIDER | AHTS | ODEBRECHT | MAERSK | 16-Mar-2013 | 15 DAYS | 37 000,00 |
| 18-Mar-2013 | MAERSK HELPER | AHTS | ENSCO | MAERSK | 18-Mar-2013 | 4 DAYS | 43 700,00 |

THIS MONTH'S REQUIREMENTS

| FIXTURE DATE | CLIENT | SCOPE OF WORK | PERIOD | COMM. DATE |
|--------------|---------------|---------------------------|---|-------------|
| 25-Feb-2013 | ANADARKO S.A. | INSTALL MOORING LINES | AHTS, 180 DAYS + OPTIONS | 15-May-2013 |
| 25-Feb-2013 | ANADARKO S.A. | SUPPORT BLACKFORD DOLPHIN | AHTS, 1 or 2 PSVs, 150 DAYS FIRM | 15-Jun-2013 |
| 5-Mar-2013 | PERENCO | AH DUTIES | AHTS, 5 DAYS FIRM | 25-Mar-2013 |
| 12-Mar-2013 | TRANSOCEAN | SUPPLY DUTIES | PSV/AHTS, 10 DAYS FIRM | 31-May-2013 |
| 14-Mar-2013 | OCEAN RIG | SUPPLY DUTIES | PSV/AHTS, 3 DAYS FIRM + 3 DAILY OPTIONS | 15-Mar-2013 |
| 14-Mar-2013 | ODEBRECHT | CREW TRANSPORTATION | FSV/CATAMARAN, 30 DAYS + OPTIONS | 14-Mar-2013 |
| 15-Mar-2013 | TECHNIP | SUPPLY DUTIES | OSV, 14 DAYS FIRM + OPTIONS | 18-Mar-2013 |
| 16-Mar-2013 | ENSCO | AH DUTIES | AHTS, 4 DAYS FIRM + 2 DAILY OPTIONS | 18-Mar-2013 |

CHOUEST - AHTS Reedbank has replaced AHTS Campos Contender with Chevron since mid-February. With the Contender back in operations, the vessel is set to cover other needs in Chouest charterers.

MAERSK SUPPLY SERVICE - AHTS Maersk Helper has been fixed by Ocean Rig for cargo transportation from onshore to rigs Corcovado and Mykonos, for 3 days firm plus options, in cooperation with offshore support base Brasco.

DEEP SEA SUPPLY - AHTS Sea Panther has been fixed with Statoil Brasil for the month of March with further 4 weeks options.

OCEANPACT AND CHOUEST- OSRV Maricá and PSV Thor Supplier have been fixed with Repsol Brasil in anticipation of the spanish oil-major drilling campaign. Set to start in mid-March, the campaign is delayed due to rig commitments with current operator, with new start date into mid-April, 120 days for 1 well exploratory plus one well test.

MAERSK SUPPLY SERVICE - Maersk H-Types AHTSs Maersk Helper and Maersk Handler and P-type Maersk Provider have concluded their operation with Shell Brasil after successful towing and setting anchors for the Semi-sub Noble Max Smith in the field of Bijupirá & Salema.

VARADA - Varada Ilhéus has begun its contract with Petrobras.

OCEANPACT - OSRV Carmen and back-to-back OSRV Celia are committed to Perenco with the campaign expected to in the tailend of March.

MAERSK SUPPLY SERVICE - Maersk duo Pacer and Tender have been extended with Shell until early April in FPSO support and position keeping.

DEEP SEA SUPPLY - AHTS Sea Leopard is back on the spot market after successfully completing her campaign with Vanco.

FARSTAD - PSV Far Swift has been extended with Karoon until 31st March in continuation of the Australian company exploratory campaign on the Brazilian coast.

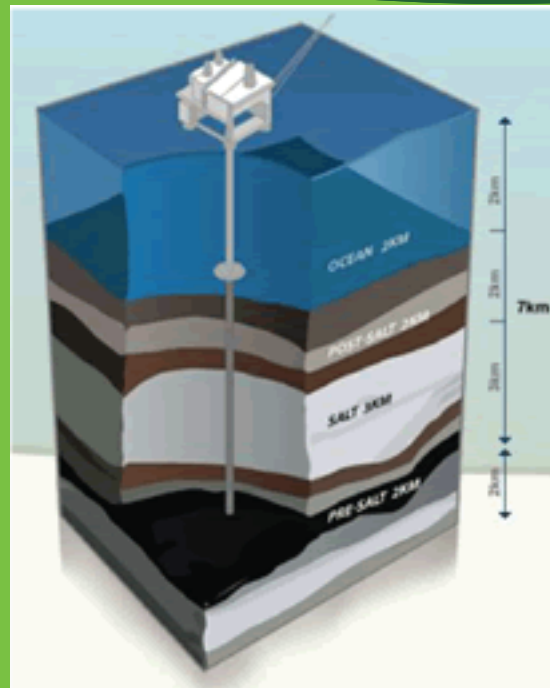
MAERSK SUPPLY SERVICE - AHTS Maersk Provider has been snapped up by Brazilian Odebrecht for a 15 days firm charter with options that could keep the vessel occupied for more than a month.

Petrobras reaches new record in pre salt fields

The state oil company reported a production of 300,000 barrels of oil and gas in the pre-salt layer in the Campos and Santos basins. The announcement is a new production record and came from eight platforms, four of them working exclusively in the pre-salt, including FPSO Cidade de São Paulo and FPSO Cidade de São Vicente, both in Santos Basin. Petrobras plans to hit 1 million boed from the pre-salt by 2017.

FPSOs made in Asia

Petrobras confirmed it will have P-67, P-75, P-76 and P-77 converted in China. The company is concerned about how to increase oil production, and due to delays in Inhaúma (Rio de Janeiro) and Rio Grande (Rio Grande do Sul) shipyards, it ended up deciding to send these units overseas. Petrobras is currently struggling with stagnant oil production because of maintenance shutdowns in aging offshore platforms and declining output in mature fields. The construction contracts sum up to USD 2 billion with an Indonesian shipyard and Cosco shipyard in Dalian, China, and are expected to have local content of up to 70%. According to Petrobras, local content rules are "unchanged" and the services to be made in Asia represent less than 3% of the total value of contracts for the construction of four FPSOs, while in the case of the 8 replicant FPSOs, 50% of contracted hull will be built in China.



New discovery in Ultra deep water

Petrobras confirmed a new oil discovery in Sagitario field, Santos basin, at a water depth of 1871 meters. This is the first well drilled in block BM-S-50 after a delay due to the availability of drilling rigs given the focus on drilling exploration and appraisal wells in blocks BM-S-11 and BM-S-9. The oil was discovered at a depth of 6,150 meters, below the salt layer, and will continue to be drilled by Diamond Offshore drillship Ocean Clipper until 6950 meters. Petrobras is the operator with 60% interest while BG holds 20% and a joint venture between Repsol and Sinopec with the remaining 20%.

Good quality oil in Santos Basin

The well "Florim" is under a thick layer of salt that has yielded some of the largest oil discoveries in the past 30 years, Petrobras said. The discovery lies in exploration acreage area where the company has rights to produce up to 5 billion barrels

of oil and is being drilled by Odebrecht's new drillship ODN II at a water depth of 2009 meters having so far reached 5,498 meters of depth. According to Petrobras the well will continue to be drilled until it reaches 6,100 meters at which time a formation test will follow to assess the productivity of the reservoirs.

Second well ahead

ANP has been informed by Petrobras about the second discovery in Ceará in the Canoa Quebrada field. The oil company found traces of oil with an exact location not released, the well database is still being analyzed and at this phase there is no safe estimate of the volume of oil discovered. The discovery may be the beginning of a new era in the State, which is still considered small, but can grow significantly in the coming years.



Light oil in "Lara"

This is the fourth exploration well in Lara field, pre-salt of Santos Basin. Petrobras reported that the well is still undergoing drilling, but the company has already confirmed the presence of light oil at 28 degrees API. The state major is the main operator of the field with 65% of interest, BG holds 25% and Petrogal Brasil has the others 10%.



Shell Brasil into new drilling program

After the arrival of the semi-sub Noble Max Smith, the second rig from Noble now operating for Shell in Brazil, the oil major is off for its long Bijupirá & Salema drilling campaign. The field is located approximately 120 nautical miles east of Guanabara Bay, and will be drilled to increase its production through Shell owned and Modec operated FPSO Fluminense. The first rig task is on a well work over. The rig is expected to remain in the same anchoring pattern until later this year and will then go either to Parque das Conchas in Espírito Santo or down to Santos BM-S-54.

Perenco's foot on the throttle

With Semi-sub Ocean Star nearly released by current operator and Perenco's block partner OGX geared and ready to start its campaign, the Peruvian company is itching to get going. The AHTSs Far Sagaris, UOS Navigator, PSV Bongo (Chouest) and OSRV Carmen (Oceanpact) are on hire, the fleet is getting loaded and preparations on going for the rig mobilization. Perenco's fields are located in Espírito Santo Basin, in water depths in excess of 1500 meters. The campaign is set to last approximately six months and the market rumors suggest that the rig and vessels will be handed over to Queiroz Galvão, a deal which is not yet confirmed.



BG Intends to be an active player in 11th round

According to the President of the British company, BG will be coming in to the 11th round as an operator and will not be limited to acting as a partner in the blocks to be offered. Regarding the local content requirements, the executive said that is not a barrier to the company's interest in the auction and also reported that the re-occurring events involving royalties will not affect BG's strategies in the country as they have total confidence in the Brazilian constitution and believe in the enforcement of contracts.



Cancun prospect disappoints OGX

The major Brazilian independent oil company declared that it hasn't found traces of oil or gas during its drilling campaign between January and March in the C-M-560 block. This is the fourth well, of a total of five, in OGX's exploration campaign in the area (C-M-560 and C-M-591 blocks). Cancun has been drilled by Ensco 5004 drill rig which was transferred to drill an extension well called Viedma (C-M-591 block).



Subsea7 wins three contracts with Petrobras

Estimated at more than USD 300 million in total, the company said that the deals consisted of two lump sum contracts which will provide the installation of two flexible risers at Sapinhoá and Lula fields, Santos Basin, at water depth of 2100 meters approximately. The last one consists of one day rate contract and would involve the installation of flexible lines by the Seven Seas vessel and will comprise of project management, engineering and installation of flowlines and umbilicals supplied by Petrobras.

SBM/Shell Brasil

The SBM owned and operated FPSO Espírito Santo is set to receive several modifications and upgrade to extend its capabilities. In order to address the work over and maintenance needs of Parque das Conchas subsea assets, mainly its submersible pumps (ESPs) and their heads (MOBOs), the two companies will construct a rig less intervention system on the FPSO, able to perform such activity.

The complex and innovative engineering strategy will save considerable amounts imputable to offshore drilling rigs that would otherwise perform this task. The system is expected ready to operate towards the end of 2014.

**Technology Center/BG**

Planning to increase its presence in the offshore market in Brazil, the British group is developing a Technology Center at the UFRJ Technology Park, Rio de Janeiro. BG expects investment of up to USD 2 billion in the unit where the company plans to coordinate projects focused on issues such as HSE, innovation and monitoring for exploration and production in ultra-deep waters, and the drilling of the salt layer and carbonate rocks. The complex is scheduled to be completed in the middle of 2014.

FPSO Equipment/Man Diesel Turbo

The Germany Company has been awarded a contract with Petrobras for six two-stage screw compressor units for six FPSOs. This is the first time Man Diesel Turbo acts as contractor for Petrobras. The Company also has an option for two further units with Petrobras' partner IESA and will coordinate and supervise the entire package.

Topside modules/Brasfels

MTOPS, a joint venture between Modec and Toyo Engineering, has hired Brasfels shipyard to build topside modules for another FPSO project called Cidade de Itaguaí. The unit has been chartered for offshore operations for 20 years and will produce 150,000 boed. The construction is planned for the 3rd quarter of 2014 and should last one year. Brasfels had already accomplished the project FPSO Cidade de São Paulo, completed in November 2012 and installed in the field Sapinhoá, in the Santos Basin. As the shipyard delivered the unit 19 days in advance, the company received a bonus of USD 2 million by anticipation.

**Modules project/IESA**

IESA intends to start in April 2013 the construction of 24 modules for gas compressors for the Petrobras FPSO Replicants. The contracts valued at BRL 1.2 billion have their deadline in 5 years and will take place in Charqueadas, Rio Grande do Sul, at IESA's construction site, which was inspired by an American offshore model and will have an area of 320,000m², semi-automatic spools factory with 100% capacity to attend all production lines and will be able to produce 20 modules at the same time.

08 LOOK AHEAD

WHAT'S UPCOMING OVER THE NEXT FEW MONTHS

WHY WAIT FOR PETROBRAS?

WE HAVE QUITE A FEW CHARTERERS AND NEW BIDDING ROUNDS!

In our last Brazilian Wave issues it was common to see our articles connected to Petrobras related themes. So our readers may have wondered: "Is this the only company to closely watch and path to take in Brazil in the years to come?" The definite answer is: "Not at all!" There is no doubt that Petrobras will keep playing the main role in this show, but several supporting actors are growing in their activities and most importantly in their will to invest more and more in Brazil, becoming the ones that drive most of the positive attention to our market, while Petrobras will now take it's time to organize their house and redefine its future demands in the support sector.

In 2013, companies like Karoon, Shell, Perenco, OGX, Queiroz Galvão and Repsol Sinopec will be in full speed ahead, drilling on average three wells per campaign and keeping the rigs from Ensco, Noble, Dolphin, Diamond and Ocean Rig pretty busy in Brazil. In terms of additional vessels already confirmed for these activities (ongoing and upcoming), we can bring up 14 AHTSs, 8 PSVs and 3 OSRVs, which are on average chartered for 180 days per campaign. Meanwhile, other companies are waiting for rigs in order to start making their new moves in the market, like for example, Total, Anadarko, Sonangol Starfish and BP. For these expected campaigns, around 4 AHTSs, 8 PSVs, 3 OSRVs, and some small boom handlers, still to have their specifications defined, shall be chartered. Finally, Vanco and Statoil concluded their exploratory campaigns over the last six months and are evaluating their wells in order to

define their next steps this year, while Chevron is gradually rehearsing a comeback to the market. Thus, 2013 still holds many surprises for the offshore support industry.

As a result of this scenario, one of the interesting movements we may observe is a few vessels being kept busy for relatively short operations with these oil companies while they wait for Petrobras' contract awards, at the same time as the majority of idle vessels leave Brazil headed for the Gulf of Mexico or to West Africa, which are speeding up in 2013. We expect to see many owners not renewing their proposals with Petrobras, and leaving for more competitive markets or aiming for the IOCs market. Given that a few owners remain with their available vessels in Brazil or just had their vessels redelivered from Petrobras or an IOC, our availability lists of PSVs and AHTSs have grown when compared to their average in 2012, and as a result, we are seeing a slight reduction in daily rates during this first quarter. However, this is not an expected trend for the whole year.

One of main events that will definitely boost the non-Petrobras market over the next years is the long awaited 11th bidding round for new blocks in Brazil, expected to happen on May 14th and 15th, being the most important "thermometer" which already shows the interest of oil companies towards activity initiation or expansion. The Brazilian Petroleum Agency (ANP) has received around US\$ 4.9 million in fees paid by 23 oil companies interested in

09 LOOK AHEAD

WHAT'S UPCOMING OVER THE NEXT FEW MONTHS



participating in the 11th round, while 15 companies have indicated interest in participating (10 domestic and 5 foreign). And this is only the beginning... The participation fee is divided by sector and varies between US\$ 15,100 for areas on land and US\$ 104,300 for the sectors in ultra deep waters in the Espírito Santo Basin, and participation in bidding for blocks in the Foz do Amazonas Basin range from US\$ 32,750 for the two sectors in shallow waters and US\$ 63,000 for sectors in ultra deep waters. This round will offer in total 289 blocks for exploration (123 are onshore and 166 are offshore), after the recent approval for the inclusion of another 117 exploration blocks. The areas will be distributed in the Foz do Amazonas, Pernambuco-Paraíba, Tucano Sul and Espírito Santo Basins and totals 34,500 km². Therefore, the area to be under auction totals 155,800 km², distributed over 11 sedimentary basins.

However, a concern we thought was already cleared out of the way from having a smooth bidding round has returned this month: the Royalties issue. Brazilian oil producing states recently retaliated against multi-billion dollar cuts made by Congress to their oil royalties with a wave of protests and threats to cut off most of the country's oil output. Protests at airports, payment cut-offs and proposed reprisals happened after Congress made Dilma Rousseff's veto to the bill ineffective. The bill aimed at using new offshore oil reserves to improve education conditions in the country,



but had as the main goal to redistribute oil and gas royalties more equally among the country's 27 states and 5,560 municipalities. Therefore, producing state royalties would be cut in half to 20% of total payments by 2019, while producing cities would watch their share shrink from 10% to 4%. This scenario threatens to destroy relationships between Brazil's states, to burden oil companies with losses and to complicate efforts by the president to build political

alliances needed to change this reality until the end of her term. Taking existing revenue flows away will make state finances collapse and make it hard for Rio de Janeiro to pay for infrastructure needed for the 2014 World Cup and 2016 Olympic Games, as stated by Rio de Janeiro's governor. Therefore, state legislators are threatening to raise taxes on oil companies, which will certainly reduce interest in the upcoming bidding rounds. Our highest hopes lay now in the Federal Supreme Court's decision to the claim they received from the producing states and cities on March 14th, stating that the Congress's cuts are unconstitutional. Hopefully, the rounds will happen as planned, without that much noise or downsides to the bidders.

In regards to the spot market in Brazil, we can say that it is difficult to predict what will be the next requirement and who will need vessels, since the market is use to long term contracts, and most of the spot contracts come from "not called for" urgent problems, usually not from planned short term needs. Rig owners and contractors are the ones that ask for vessels in the spot market, for rig moves, rig docking, backloads, pipe laying support, etc, followed by IOCs when in the need to substitute vessels and for short campaigns. The spot market in Brazil is expected to be steady in 2013 and somehow not mature yet, since some requirements are usually cancelled when a long term vessel can be subcontracted from Petrobras or from another oil company, or when the company takes responsibility to assist rig owners and contractors in their spot requirement as part of their agreements. Overall, in 2013 we can expect spot vessels to support a few rig moves and periodic dockings, while contractors that are working with IOCs and Petrobras in long term seismic, environmental monitoring, subsea and pipe laying projects (UOTE Project, Cabiunas, Papa-Terra, Guara-Lula, Sernamby, etc) are still to hire some support vessels this year.

Given that the offshore market is dynamic and somehow unpredictable by nature, the OSV owners shall closely watch it, as Petrobras has made plenty of room for them to look around and find new, flexible and growing possibilities for their fleet. This is the big chance for owners to show their real technical, operational and commercial strengths and be noticed and rewarded for them, and for charterers to perceive and benefit from a more competitive and mature support market. It shall become a win-win situation for both, which in the long run can make Brazil have one of the best trade-offs between risk and reward in this market, stimulating investments for the home of one of the largest offshore oil discoveries in decades.

10 INSIDE STORY

A LOOK AT SOME OF THE ISSUES



Shale gas: Can it influence offshore investment decisions?

What can we expect when it comes to the future energy matrix in Brazil? Much has been said about oil and gas, hydro-electric, coal, wind, renewable sources, nuclear, but one unconventional source of power has been on the global spotlight: the shale-gas. Estimates from ANP state that Brazil currently has natural gas reserves of 32 trillion cubic feet, and indicate potential reserves of up to 500 trillion cubic feet. The potential volume is equivalent to five billion barrels of oil per day! Magda Chambriard (ANP's General Director) said in 2013 that Brazil's shale gas potential could exceed that of pre-salt oil, thus the gas reserves could no longer be ignored. Not only because of its abundance, but also because of the high development level of technology in production, lower levels of pollution emission, reduction of costs, among other advantages.

For those who are not acquainted to the shale-gas, it is actually the gas we already know but the form of production and reservoirs are different. Shale is a more porous reservoir as if it were a sponge, which needs to be fractured, usually with highly pressurized water for the gas to escape to the surface. The technique of hydraulic fracturing, commonly known as "fracking", is considered harmful by environmental organizations, because it could cause contamination of ground water, the migration of gases and hydraulic fracturing chemicals to the surface, risks to air quality, and surface contamination from spills and flowback. For these reasons, fracking has been suffering strong criticism, with some countries suspending or even banning it. The USA, which now produce 100% of their own gas demand, which has been powering up the industrial recovery of the country and is becoming a potential major exporter, have watched even artists come together to preach against fracking in the media, drawing a lot of negative attention to the matter: Yoko Ono, Sean Lennon, Susan Sarandon, Robert DeNiro, Alec Baldwin, among many others, founded the "Artists



Against Fracking". Meanwhile, those who support it say that with stricter controls and a tougher regulation of the drilling process the technique is safe, and more importantly produces cheap fuel, promotes energy independence and creates jobs. But who is effectively monitoring the drilling processes now, since some water wells around exploratory regions in the USA were reportedly found bubbling with extremely high levels of methane?

Therefore, if Brazil wants to benefit from this energy source and avoid all these problems faced by other countries, the

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A LOOK AT SOME OF THE ISSUES

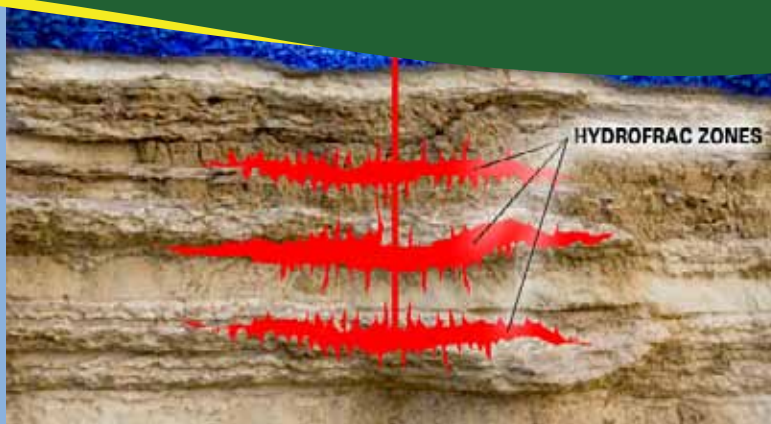


government has to draw firm policies before it takes the next step forward, which is the upcoming first auction of exploration blocks that contain deposits of shale gas in as many as five separate basins, planned for December 2013. Initial studies show that the greatest potential for shale gas are located in the Parecis Basin in Mato Grosso state, the Parnaíba in Maranhão and Piauí states, the Recôncavo in Bahia state, the Paraná Basin in Paraná and Mato Grosso do Sul states and the São Francisco Basin in Minas Gerais and Bahia states.

Legal and environmental risks, which are greater than in conventional production offshore can seriously jeopardize ANP's plans. Exploration companies interested in these shale deposits will first need to get approval from Ibama (environmental agency), which can be particularly slow and bureaucratic. There are few projects of this type in Brazil completed so far, an example is Petrobras in the state of Paraná, where it produces small quantities of oil through fracking. The company has recently approved the creation of a natural gas (conventional and unconventional) development program designed to intensify exploration of the country's onshore basins, called "Pron-Gás". Meanwhile, Shell is preparing to drill its first onshore gas well in the second half of the year while it waits for the ANP to issue rules for the December auction. Shell will drill in the state of Minas Gerais, where closely-held Petra Energia is becoming the leading unconventional gas explorer in Brazil, focusing on tight gas sandstones and carbonates (discovered gas in 12 of 14 wells it drilled in the Sao Francisco basin). While the auction is waited, the potential gas reserves has led Cemig (Minas Gerais state power utility) to reveal that it is hoping to triple its sales by 2016 by developing local shale gas. Some analysts also believe that Eike Batista will take part in the auction of shale-gas blocks.

Nonetheless, all the companies which show strong interest in shale gas need to carefully study its economic viability and attractiveness. Will they overcome major infrastructure issues, since many of the most prospective basins are in remote parts of the country, where the roads and pipelines needed to get gas out and staff in would have to be built from scratch? Will the producers be able to train and secure available workers, satisfy local content rules, and deal with the small size of the service sector which would support this industry? Not to mention the regulations of this activity still to be defined, that can catch avid producers by surprise. Taking all that into consideration, it would take many years, if not decades, to make shale gas a cheap and attractive product in Brazil.

On the other hand, Brazil really needs gas to stop its shortage. The country'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 (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. Given the need to use gas to produce power, shale gas discoveries are very welcomed. Thus, the attention that the Brazilian authorities pay to their shale resources can be expected to rise in the next few years. The energy minister Edison Lobão has said that this will be "a golden age" for gas, stating that we will reach self-sufficiency in only five years, without even considering shale. But with the pre-salt exploration taking most of the focus, will gas really reach the government's goal so rapidly?

Gas has an important role, which is to serve the current scenario for transition to a clean energy matrix, but most analysts say the transition will last until 2050, since very large volumes of unconventional gas are not expected to be extracted in the immediate future in Brazil. And Brazil will continue to grow anyways. With energy demand rising with growing population around the world, particularly in the BRIC countries, both conventional and shale gas will have takers. We see so many problems arising from the adoption of hydropower, nuclear power plants, and even solar and wind not generating enough power. So shale gas can definitely be the new frontier, with its virtues and its issues. Its development will not pose competition to conventional gas or to oil, but most probably to other sources such as coal and nuclear energy, which are considered more harmful to the environment. Therefore, offshore investments will not be left aside, while shale gas will slowly start to complement conventional energy, prolonging the availability of the non-renewable energy like petroleum and inviting investors to secure their shares in all these markets in the long term.

by Paula Quirino
Shipbroker



12 É ISSO AÍ!

FINAL THOUGHTS FOR THIS MONTH

Pink Future?

The weaker sex? For decades, women have found ways, sometimes subtly and sometimes not, to challenge cultural values and paradigms to prove her place in society. The notion of appointing women as the weaker sex has totally lost its place in face of facts and achievements seen through time. There is no denying how great the progress has been with recent discussions about the new roles of women and men in society representing a huge step in the journey of women's rights. The celebration of this day is well merited to have its place in the calendar, in order to make note of the female gender that has been through a metamorphosis process with amazing milestones in the history of mankind. This date is the 8th of March which has been christened every year as International Women's Day.

The day has emerged in the context of women's struggles against prejudice and equal rights. The date was not created solely to honor women, but its main objective was to promote meetings, conferences and debates to discuss the new role of women in society. The specific date was chosen in memory of what happened on March 8, 1857, when women workers from a fabric factory in New York went on strike and occupied the factory to claim better working conditions. Among the claims was the reduction of working hours down to ten hours, since the current workload required by the factories was sixteen. Moreover, the movement demanded equal salaries for equal work between men and women workers with men's salaries 70% higher than women's salary at the time. The riot was suppressed with violence and led to a tragic end with the female workers locked inside the factory by the bosses and burned alive, about 130 weavers died in the fire.

Nowadays it is possible to see women performing tasks that require strength and endurance as well as intelligence and leadership. Mothers, daughters, sisters and wives are police officers wielding firearms, they pilot aircrafts and command large vessels, and they drive buses responsible for transporting hundreds of people daily. Woman may wish to do their nails and fix their hair, but at the same time lead teams of men and women in various companies in a variety of industry segments. There are female presidents of companies, political parties and even countries. There are women who inspire and lead, who build and maintain. Women who decide and define. All of these roles can be found in both the past and present, and will certainly be found in the future.

OFFSHORE TECHNOLOGY SEMINAR / MAERSK TRAINING CENTRE AND PUC-RJ



Maersk Training is increasing its presence in Brazil, with offices opened in Rio de Janeiro over a year ago covering both on- and offshore courses. Maersk Training will inaugurate its modern training facilities located in Barra da Tijuca with various unmatched training courses being promoted with the same quality and standards as in its traditional Svendborg headquarters.

The training center will feature the newest simulators within the industry. Maersk are also stretching its reach over the conferences and seminars arena,

having hosted in partnership with PUC-RJ, a well-known and renowned university, an introductory Offshore Technology Seminar. With nearly 100 participants, the seminar exceeded the expectations, covering the topics of offshore drilling and production, dynamic positioning, Offshore vessel types as well as career and guidance for training of those interested in the offshore market. Westshore's Marine Advisor Alexandre Vilela took part in the event as speaker for offshore drilling and oil production activities. For more information on Maersk Training visit their website: <http://maersktraining.com>. It is well worth the visit.