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The authors show the potential for economic growth in Brazil's oil and gas sector. Key to achieving those opportunities is improving the efficiency of the energy market itself. Competitive markets are an effective tool for governments seeking economic development.

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Brazil as the Hot Spot on the International Oil and Gas Market

Fernanda Delgado, Daniel Lamassa, Pedro Neves and Tamar Roitman

FGV Energia

Following a sequence of industrial, regulatory and legal changes in the upstream since 2016, coupled with gasoline and diesel new pricing policy aimed at a more open and competitive downstream market, Brazil appears poised to attract investments that intend to flood the country with oil, gas, revenues, jobs, economic activity, and especially, freedom of choice. However, the challenges are still abundant and diverse. Moreover, the sooner actions are addressed, discussed and analyzed, whether in the legal or infra-legal sphere, the more these market changes will bring benefits to the country.

There are necessary actions throughout the energy market that will create new opportunities for the private sector. Each has an associated different level of urgency: the effective opening of the gas market through a significant decrease of reinjection; Petrobras divestments, which are key to leveraging jobs and giving diversity to the local supply industry and access to broader sources of investment; reducing Brazil's complexity of doing business through areas such as tax reform; defining Petrobras' role - more than size or privatization - is key to attracting new investment; maintaining discussions and advancements in legal and regulatory frameworks, especially those related to infrastructure access, unconventional exploration and refinery sales.

The 2006 discovery of the pre-salt oil reserves, brought attention to the upstream opportunities for industrial development in the oil sector. This attracted the interest of large national and international companies. The large size of the resource discovery with a production potential of about 30,000 barrels per day per well, meant these larger companies were best suited for maximizing the opportunities presented.

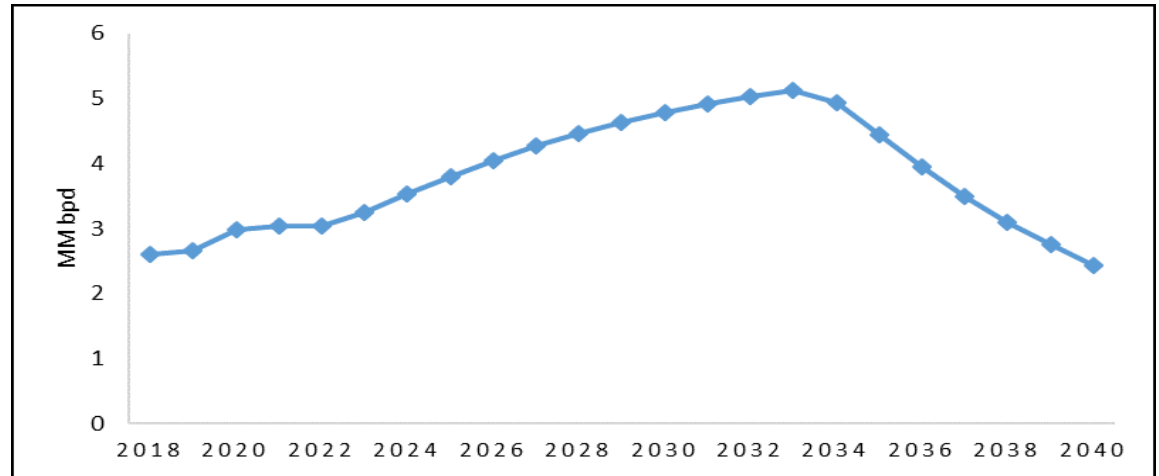
The Brazilian production potential is estimated to be around five million barrels per day by 2030 (Figure 1). However, the rate of entry of the production units responsible for production may vary by companies' cash availability, interests in other investments, favourable government policies and variation in the international oil price and the exchange rate between the Brazilian Real and the US Dollar. Investment in the Brazilian market must compete with other investment opportunities available for domestic and international companies. However, once fully developed, the estimated national production can quickly put Brazil in the top 10 of the largest oil producers in the world.

This article aims to analyze this new openness of the Brazilian market towards a more competitive international scenario and how new players can enter, bringing new investments for the oil and gas sector, job creation, government royalties and taxes, and increased GDP for the entire Brazilian economy. The reduction of Petrobras' role in the natural gas and refining sector, as for the surplus of the Transfer of Rights bidding round, will provide more opportunity for international investment and put Brazil again in the international spotlight.

On the Gas Market In an attempt to open the natural gas market in Brazil, on July 23rd, the federal government launched the New Gas Market program (Novo Mercado de Gás, in Portuguese). Its primary goals are to increase competitiveness, attract more national and foreign investments and reduce the natural gas price. The program is coordinated by the Brazilian Ministry of Mines and Energy and was developed in partnership with the Ministry of Economy, ANP¹, CADE² and ERE³. The program is anchored in four pillars: the

promotion of competitiveness, the integration between the natural gas and the power and industry sectors; the harmonization of federal and state regulations; and the removal of tax barriers.

Figure 1: National Oil Production Forecast (million barrels per day)



Source: FGV Energia

To achieve its purpose, the program needs to create access to essential facilities, to improve transportation, to create measures to stimulate competitiveness, and most importantly, to end Petrobras' monopoly in the natural gas sector. Before the implementation of this liberalization program, the Brazilian oil company had significant participation in all the main sectors of the natural gas industry, including refineries, transportation, commercialization and distribution. While some aspects of the market are natural monopolies such as transportation or distribution infrastructure, some are more amenable to competitive market forces, in particular, supply activities, storage and retail marketing.

Some of the created measures are:

- CNPE's⁴ Resolution N^o 16/2019⁵, which establishes guidelines and improvements to energy policies aimed at promoting free competition in the natural gas market;
- The Cessation of Commitment (TCC in the Portuguese acronym) between Petrobras and CADE, which obliges Petrobras to sell its stake in natural gas distribution and transportation companies; negotiate access to third parties on their essential infrastructure; ceding contracted and idle capacity in the transport pipelines; and lease of the Regasification Terminal in the state of Bahia. It is worth mentioning that in return, CADE will file ongoing lawsuits against Petrobras for alleged anticompetitive practices in the natural gas market⁶;
- Regulation prepared by ANP, allowing the entry and operation of multiple agents in the various links of the natural gas chain, with guidelines such as unbundling and the creation of gas sales auctions;
- Incentives for improvements in state regulation of piped gas service through Federal programs that seek to promote fiscal balance and strengthen of states;

- The proposition of themes to the National Congress for the legislative improvement of the sectoral framework; and
- Tax adjustments for the natural gas sector.

In addition to opening up the market, the program is in line with Petrobras' strategy of divesting from areas and competencies that bring lower profitability, to increase its cash flow and focus on the upstream sector. In natural gas, the strategy announced by Petrobras' CEO Roberto Castello Branco is to sell all transportation and distribution assets. The sale of shares of BR Distribuidora (Petrobras' fuel distribution company), the Brazil-Bolivia gas pipeline and 10% of NTS and TAG (two of the biggest gas pipeline companies in the country) are part of this package, in addition to the sale of refineries. Those assets are still part of the natural gas sector, but not in a dominant way.

Transfer of Rights and its Surplus

The Transfer of Rights (ToR) regime is an exclusively designed contract between Petrobras and the Federal Government, issued by 12.276/2010 Act. The contract was signed in 2010 and allowed Petrobras to produce up to five Billion barrels of oil from seven areas in the pre-salt region:

- Franco,
- Florim,
- Nordeste de Tupi,
- Sul de Tupi,
- Sul de Guar,
- Entorno de Iara e Peroba (contingent block).

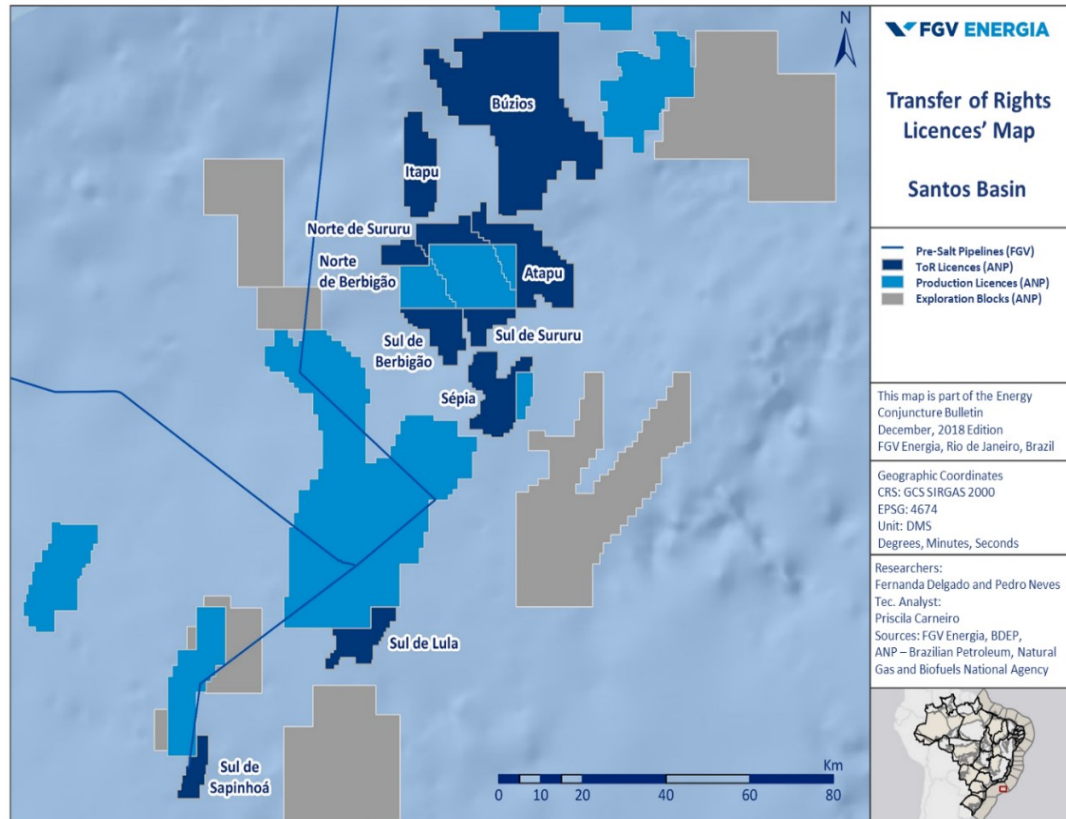
At the time, Petrobras paid [R\\$ 74.8 billion \(US\\$ 42.5 billion\)](#) for the rights to explore and produce oil and gas in the blocks with the condition of revising the terms of the contract when the areas were declared commercial.

From the original areas, ten fields were declared commercial over the past several years:

- Bzios,
- Atapu,
- Itapu,
- Norte e Sul de Sururu,
- Norte e Sul de Berbigo,
- Spia,
- Sul de Lula e Sul de Sapinho.

Currently, the Búzios field is the most developed of them, with four active production units. Búzios is also the most significant discovery, with estimated resources of more than 13 billion barrels of oil.

Figure 2: Transfer of Rights Licences' Map



Source: FGV Energia, BDEP and ANP.

Information developed on the characteristics of these reserves demonstrates that there is a lot more oil than expected and originally contracted. The Búzios field can quickly become one of the most significant operating fields in Brazil. Therefore, the main issue is how to deal with the amount of oil that is not in the original contract.

The issue is on its way to resolution. The Brazilian Oil & Gas regulator, the ANP, scheduled bidding round for November 6th to offer the surplus of four of the ToR fields: Búzios, Itapu, Atapu and Sépia. This bidding round is going to follow a classic production-sharing regime⁷, with fixed signing bonuses and the offering of oil percentage to the Federal State as bidding terms to win the auction. It is expected to be not only the biggest bidding round of 2019 in the country (there are two more bidding rounds scheduled to this year: the 6th Production Sharing and the 16th Concession Rounds) but also the biggest bidding round of the country's history.

Another concern (still unsolved) is the revision of the original contract. Petrobras and the Federal Government agreed that the NOC is a creditor in this transaction and is to receive an amount of US\$ nine billion. However, the legal process to retrieve this money requires the approval of a constitutional amendment in Congress, which is very complicated and takes time and articulation from the government. Not to mention the fact that CADE has to allow the destination of this amount of money to Petrobras, judging if it is fair or not. The last update in this process is that the amendment is being reviewed in the Senate. It

also requires presidential approval, which is still pending. Petrobras has allegedly stated that it requires the money to be able to participate in the surplus of the ToR bidding round, where it already manifested preferred interest in two of the four offered areas: Búzios and Itapu.

In the meantime, the Federal Government has made technical presentations to International Oil Companies such as Shell, ExxonMobil, BP and Equinor, regarding all the required information to attract those companies to participate in the bidding process. The environment inside the Federal Government suggests that all areas are going to be awarded. This means [R\\$ 106 billion \(US\\$ 25.6 billion\)](#) would be generated, only on signing bonuses. If that were the case, the country would be able to reduce its primary deficit and induce investments in other areas, such as infrastructure and the recovery of states and cities, all still suffering from a post - 2014 recession. Therefore, it is in the country's best interest for this bidding round to be a huge success.

On the Downstream Sector

The refining and distribution (downstream) sector of the Brazilian oil industry is considered to be at important turning points. Restructuring actions are being promoted by the national oil company, Petrobras, with the selling of refineries, and also by the government, with legal measures to increase competitiveness in refining and distribution markets. It is expected that these asset divestitures will create opportunities for increased investment in the sector.

At the beginning of 2018, Petrobras announced the intention to sell some of its refining and associated logistics assets. After a long period of discussions about the divestment model with the government and possible investors, the company declared its plan to sell eight refineries in Brazil, which could raise up to US\$ 20 billion.

The divestments represent about 50% of the national refining capacity, with a total of 1.1 million barrels of processed oil per day. The plan considers the following assets:

- Abreu e Lima Refinery (RNEST),
- Shale Industrialization Unit (SIX),
- Landulpho Alves Refinery (RLAM),
- Gabriel Passos Refinery (REGAP),
- Presidente Getúlio Vargas Refinery (REPAR),
- Alberto Pasqualini Refinery (REFAP),
- Isaac Sabbá Refinery (REMAN) and
- Lubrificantes e Derivados de Petróleo do Nordeste (LUBNOR),

Other assets include the logistics assets integrated to these refineries. According to Petrobras, downstream divestments are aligned with the company's portfolio optimization and capital allocation improvement, aiming to maximize value for the shareholders.

Petrobras controls more than 98% of petroleum refining capacity in Brazil, which makes this market monopolistic in practice. In theory, there is no restriction on new entrants. There are no regulatory barriers. However, it is clear that with a large-scale national company as Petrobras, Brazil has not been considered an attractive market for refining investment. The ability for Petrobras to exercise market power creates an undue risk to new entrants.

The 50% divestment is promising, but it does not guarantee a competitive market. Petrobras will maintain its leadership in the segment due to technologies, processes, and people highly qualified and experienced. This will allow the company to maintain its dominant position in the sector even after the entry of new players, according to a statement from the company's executive director of Refining and Natural Gas. It remains to be seen if this divestiture is sufficient for new entrants to agree that the market risk associated with any uncompetitive activities by Petrobras, is minimized.

Experts say that while divestments help Petrobras sustain its finances, they may fail to create a competitive refining market in Brazil, as the country's leading markets will remain in the hands of the company. At the same time, the Brazilian refining market is attractive for new investors since Brazil is the world's sixth-largest oil products consumer, according to 2018 data from ENERDATA (2019)⁸. Brazilian fuel production is below domestic demand. This means the country must rely on imports. Brazil imported almost 3 billion litres of gasoline and more than 11 billion litres of diesel last year, according to data from ANP (2019)⁹.

The Brazilian government is also proposing regulation adjustments to increase competition and reduce regulatory barriers in the fuel distribution and retail sectors. CADE and the ANP are discussing a series of measures, such as:

- the permission for ethanol producers to sell their product directly to gas stations. The current situation is that producers must use an intermediate fuel distribution company;
- the possibility of a fuel distribution company or a refinery to own a gas station (it is not allowed by regulation); and
- the permission for a gas station to buy fuel from any distributor (gas stations that show a distributor brand must only buy fuel from the same distributor).

A group of government and society representatives is debating these proposals since some of them involve the need for legislation and tributary adjustments.

Final Remarks

This analysis shows that even with the opening of the market in 1999, it remains closed under the aegis of Petrobras, with 98% of the country's refining capacity. In this context, the creation of an environment conducive to attracting investments is essential for the development of a midstream industry that supports value-added products and services that the country can develop. It also enhances the ability of the sector to attract international investment, reduce costs and increase competitiveness and security of supply.

The key to this approach is a transparent pricing policy for derivatives of the market without State interference that provides for liquid and dynamic market pricing, which helps to mitigate risk and creates asset attractiveness. Also, exposure of the refinery industry to international influence can promote access to international operating standards and support the modernization of the sector.

History has shown the market is not operating efficiently. As a replacement for the largest fuel matrix part of the Brazilian fleet of vehicles, that is flex, the ethanol demand and the incentive for new investments has been compromised. Proof of this was that in 2017 and 2018, Brazil, which was previously projected as a major producer of this fuel, broke record imports. Clearly something needs to be done to ensure the market and the sector reach its full potential.

Another important point, tax reform, can contribute to the creation of an environment more favourable to the maintenance of operating assets and for the realization of new investments. It's important to point out that the complex and excessive tax burden limits business prosperity and implies a review of operations and cost increase for companies, not only in the oil and gas sector but also generally in the economy.

It is also worth highlighting the natural gas market changes which can create an environment equally competitive and attractive for new investments. It is essential to note that the same market transformation with the goal of reducing the concentration of Petrobras market position also deserves attention.

In short, prioritizing the construction of a stable and competitive market with clear legal and regulatory structures and with transparent wholesale and retail prices linked to the international market provides increased market confidence and the return on investments the country needs in refining. It also brings competitiveness to markets and contributions to the exploitation of natural resources through the generation of value and attracting new agents to the market. A virtuous cycle in which society, industry, the market and the economy of the country win.

Endnotes

¹The Brazilian National Agency of Petroleum, Natural Gas and Biofuels.

²The national Administrative Council for Economic Defense.

³Energy Research Office.

⁴National Council for Energy Policy

⁵http://www.mme.gov.br/documents/10584/3342640/1.+Resolu%C3%A7%C3%A3o_CNPE_16_2019.pdf/c66fb3a3-6265-427f-a56a-f6730e6a80de

⁶<http://www.cade.gov.br/noticias/cade-e-petrobras-celebram-acordo-para-venda-de-ativos-no-mercado-de-gas-natural>

⁷More information on Production Sharing Agreements at: <http://rodadas.anp.gov.br/en/about-the-bidding-rounds/the-regimes-of-concession-and-production-sharing>.

⁸Available at: <https://yearbook.enerdata.net/oil-products/world-oil-domestic-consumption-statistics.html>

⁹Available at: <http://www.anp.gov.br/dados-estatisticos>

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Telephone: (403) 282-1231; Fax: (403) 290-2251; Email: info@ceri.ca.

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