

**INDUSTRY AGENDA**  
2019 - 2022

**PETROLEUM, GAS AND BIOFUELS**



# INDUSTRY AGENDA 2019 - 2022

**PETROLEUM, GAS AND BIOFUELS**



# How the Petroleum, Gas and Biofuels industry can boost the Brazilian economy from 2019 to 2022

## SUMMARY

### EDITORIAL STAFF

### INDUSTRY AGENDA

This is a publication by the Brazilian Petroleum, Gas and Biofuels Institute (*Instituto Brasileiro de Petróleo, Gás e Biocombustíveis*) and has been created with support from its Boards and Executive Offices, Management Group, Technical and Sectoral Committees.

IBP Chairman  
José Firmo

Editorial Coordination  
Tatiana Campos

General Secretary  
Milton Costa Filho

Content production and editorial review  
Carla Zacconi

Executive Secretary of E&P  
Antonio Guimarães

Economic Data Production  
Grupo de Economia da Energia - GEE/UFRJ  
Raoni Moraes  
Raquel Filgueiras  
Felipe Costa  
EY

Executive Secretary of Natural Gas  
Luiz Costamilan

Executive Secretary of Downstream  
Alberto Guimarães

Art Direction and Graphic Design  
Grande Comunicação

Branding Coordination  
Rossane Sander  
Felipe Leitão

Images  
IBP Collection  
DepositPhotos

<b>SCENARIO</b>	<b>06</b>
Relevance of the Oil and Gas industry for the country	06
A forward-looking agenda	06
A shifting world	07
<b>PRIORITY ISSUES</b>	<b>08</b>
<b>1 - Progress in improving the Exploration and Production business environment</b>	<b>08</b>
1.1 Maintenance and foreseeability of the exploratory block auction schedule	08
1.2 Environmental Licensing – improving the process and governance	08
1.3 Simplification, legal certainty and competitiveness	09
1.4 Development, innovation and competitiveness in the supply chain	09
<b>2 - Transformation of the Natural Gas market</b>	<b>10</b>
2.1 Access to critical infrastructures – LNG terminals, natural gas processing units and outflow pipelines	10
2.2 Implementing the entry-exit system	10
2.3 Free consumers	11
2.4 Self-producers, self-importers	11
2.5 Improving the tax framework	12
2.6 Electricity sector	12
2.7 Dual jurisdictions and harmonizing State regulations	12
<b>3 - Transformation of the Midstream and Downstream markets</b>	<b>13</b>
3.1 Attracting investments and opening the sector to new players	14
3.2 Encouraging logistic investments and open access	14
3.3 Fighting fraud and tax evasion	14
3.4 Adjustments to the tax system	14
3.5 Review of the regulatory framework	14
3.6 Harmonizing the energy policy	14
<b>Infographic</b>	<b>15</b>

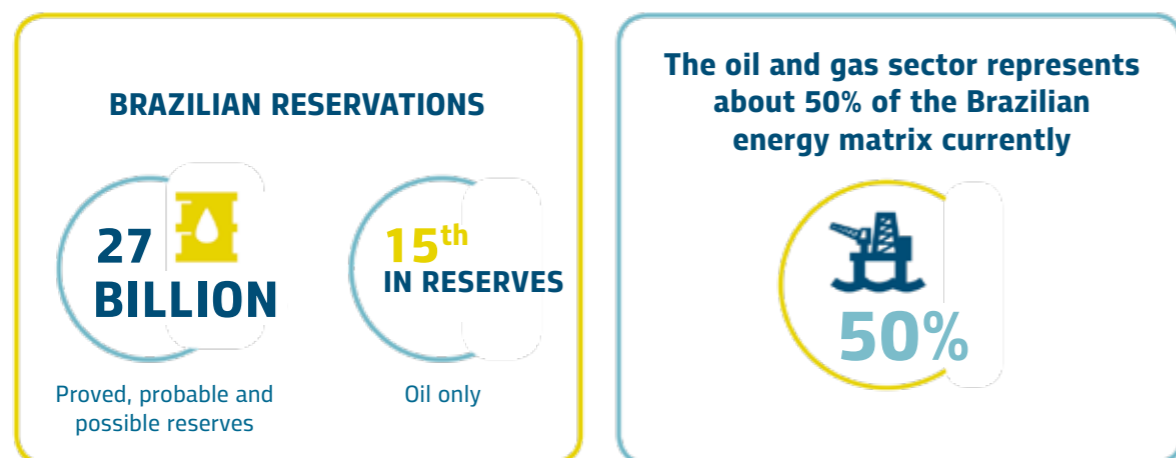


## SCENARIO

# Relevance of the Oil and Gas Industry for Brazil

The oil sector represents 49% of all energy consumed in the country (2016) and is highly relevant for the national economy. In addition to the importance of the consumption of derivatives, and the role played in energy security, it also contributes to the generation of funds through exports. Oil companies currently represent almost 60% of all industrial investments in the country, according to BNDES, and propel an extensive production chain, with approximately 400 thousand jobs, compensated above the national wage average. Another prominent factor is the significant profits generated at the local, state and federal levels: BRL 1.4

trillion were paid in taxes over the last 11 years, directly affecting the government's ability to invest in health, education and infrastructure. This wealth causes an income effect that helps to prompt several other factors and fosters the economic growth of the country. The changes made in the business environment over the past two years leave no doubt as to the potential of this sector. The auction of exploration areas raised BRL 28 billion in subscription warrants only, and presages the resumption of exploration activities in a consistent manner. It is estimated that over the next five years BRL 148 billion may be invested, creating up to 474 thousand additional jobs.



## A forward-looking Agenda

The IBP strives for Brazil to have a booming energy sector, with diversity of players and a competitive, open and transparent environment, based on clear and foreseeable rules. The oil and gas industry is fully capable of multiplying its current level of investments, making the job offer and tax revenue grow, and thus contributing to the resumption of the growth of the Brazilian economy.

This agenda proposes ways to bring back competitiveness,

which represents the bases for the next cycle of the sector, a new chapter in this success story that is the Brazilian oil industry.

To this end, it is necessary to process the billions of barrels of oil and gas already discovered, in a consistent, competitive manner. By 2022, the recoverable amount discovered may reach 55 billion barrels of equivalent oil (oil and gas), causing the country to rank 15th among the largest global reserves.

### PRIORITY ISSUES:

- ✓ Progress in improving the exploration and production business environment
- ✓ Transformation of the natural gas market
- ✓ Transformation of the midstream and downstream markets

## A shifting world

The global energy sector is undergoing great changes, with the growing presence of renewable sources and countries committing to decrease greenhouse gas emissions. The oil and gas industry is part of this energy transition, by providing the necessary products to meet the demand of a growing population, which is increasingly integrated with the benefits of having access to energy, especially natural gas, currently recognized as a transition fuel, and working responsibly in regard to the emissions thereof. When faced with 'demand peak' estimates, widely acknowledged by the companies in the sector, it is worthwhile to reflect on the opportunity to explore oil and gas reserves as soon as possible, contributing to increase our population's well-being, both due to the very access to energy, and to the economic benefits arising from this field of activity. In Brazil, the potential for wealth and income generation provided by the pre-salt and other oil regions is significant, and compatible

with our climate goals.

Given this window of opportunity, it has become urgent to act so that the country is able to seize the value of its oil reserves, generating wealth, jobs and income.

To turn this scenario into reality, the country must think of solutions to foster production and create proper conditions for development.

It is critical to intensify the improvement in the business environment, maintaining and giving foreseeability to the schedule of exploratory block auctions; perfecting the environmental licensing process, without waiving the stringency and quality of the studies required for obtaining licenses; eliminating de facto monopolies, simplifying rules and tax regimes; creating conditions for the national supply chain to be competitive, developing technology and innovation, and fostering its insertion into global value chains.

### ANNUAL JOBS IN THE SECTOR:

Estimates indicate that the oil and gas industry currently generates approximately 400 thousand direct and indirect jobs, with an income of BRL 33 billion.



### POTENTIAL JOBS AND INCOME TO BE GENERATED BY 2022:

873 thousand jobs and BRL 64 billion income in 2022.



# 1 PROGRESS IN IMPROVING THE EXPLORATION AND PRODUCTION BUSINESS ENVIRONMENT

## 1.1 MAINTENANCE AND FORESEEABILITY OF THE EXPLORATORY BLOCK AUCTION SCHEDULE

**M**aintaining an auction schedule is crucial for the sector, as the oil companies and their suppliers rely on it to plan the continuity of their investments in the country, the discovery of new reserves and the furthering of their knowledge on our sedimentary basins. With no foreseeability, the companies are unable to plan the prior allocation of human and financial resources, decreasing

Brazil's attractiveness as an investment destination. There is no normative or regulatory provision establishing that the CNPE should set and comply with multi-annual auction schedules, its position is understood as a discretionary act, depending on its composition at any given time. It is thus necessary to cause the Multi-Annual Auction Schedule to become institutionalized as a State policy, rather than a Government policy.

## 1.2 ENVIRONMENTAL LICENSING – IMPROVING THE PROCESS AND GOVERNANCE

**T**he sector has a commitment to sustainability, and is known for its excellence and quality in regard to environmental licensing, having the respect for the environment as one of its pillars. The lack of objective criteria, improper structure and excessive discretion on the part of technicians result in undetermined deadlines for the concession of licenses to the various activities of this industry, which directly affects the level of investments and the attractiveness of the projects, causing uncertainty surrounding the compliance of agreements involving the ANP.

The regulation currently in effect is based on Ministry Ordinances, which are fragile instruments (Ordinances MMA 422/2011 and MMA/MME 198/2012). It would be necessary to restate and improve these regulations by means of a Decree granting legal certainty to the process, in addition to establishing a new management and governance system, to clearly define jurisdiction levels, as well as objective assessment criteria for environmental licensing.

It is necessary to review the licensing process and its governance, aligned with a specific regulation, in order to ensure the quality that society demands, and the speediness that ever-changing scenarios require, making it feasible for the fields' production to start and the benefits to society to happen sooner.

It is also necessary to improve the block offer planning process, by means of a Strategic Environmental Evaluation, or prior licensing of the blocks to be offered, which is to be defined through the new management process, which shall give preference to the interactivity between the planning stage and the licensing stage, in addition to clear environmental guidelines for each block location.

## 1.3 SIMPLIFICATION, LEGAL CERTAINTY AND COMPETITIVENESS

### A. A Single Procurement Regime

We currently deal with several procurement regimes surrounding exploration blocks: concession, sharing and assignment for valuable consideration. Focusing into a Single Procurement Regime would result in the optimization and simplification of controls and processes for the companies and the State, while eliminating possible risks and complexities in the interfaces, which may occur in midst of the several regimes being applied to the same oil reserve. It is our opinion that concessions are the best way to attract investors, with clear benefits to the State and society.

### B. Competitiveness of the investment

REPETRO was created as part of the oil sector opening process, and has existed since 1997, having been recently extended until 2040. REPETRO was the solution found for the country to have the same tax treatment that other countries give the oil industry, releasing investments from tax burdens, either on national or imported equipment, to heavily tax oil revenue through royalties and special interests, in addition to the IRPJ and CSL. It is extremely

important to keep REPETRO to ensure the attractiveness of the investments.

### C. Competitiveness of the operations

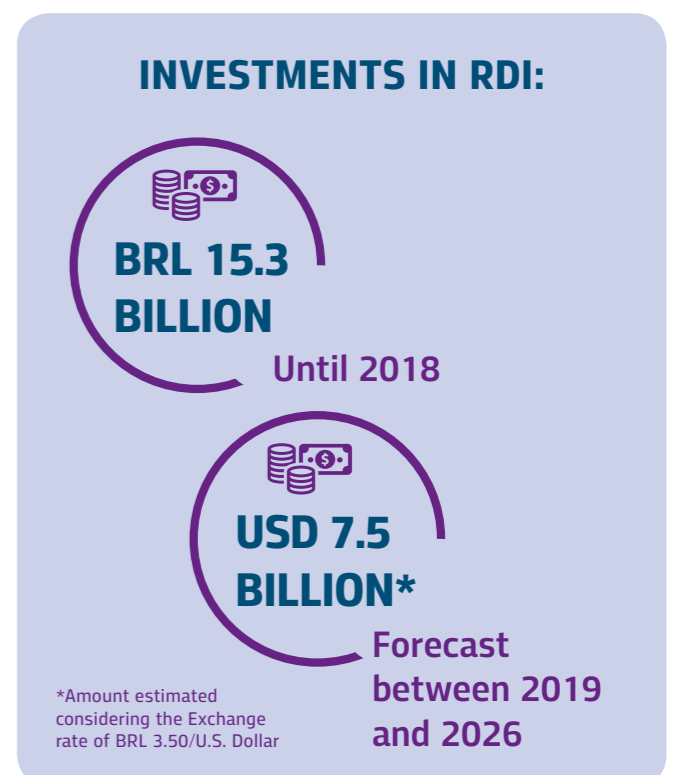
The industry deals with a high tax burden – an average of 70%. The tax regime makes no distinction between location, volume or degree of maturity of the blocks, affecting the feasibility of smaller projects, border areas, and the revitalization of mature fields. For the country to ensure greater competitiveness, it is necessary to revise the sector's tax regime, with higher tax burdens on profits than on investments and revenue, thus increasing the resilience of the projects in relation to the high and low cycles of oil. It is also necessary to evaluate the impact of taxes and royalties according to the productivity of different basins and fields. There are reserves, especially in mature areas (already well explored), onshore and on shallow waters, which require different taxation to be economically viable and bring benefits to the communities around them. The same goes for what is referred to as border areas, in which there is still little to no knowledge on the geologic basins.

## 1.4 DEVELOPMENT, INNOVATION AND COMPETITIVENESS IN THE SUPPLY CHAIN

**T**he local content model, based on market reserve and penalties, has proved to be ineffective in promoting industrial development, and a hindrance to the decision to invest in oil and natural gas exploration and production projects. The recent progress in decreasing local content obligations has increased the attractiveness of the auctions and allowed the release of investments locked under unrealistic obligations.

The supply chain development model needs to keep advancing, with a focus on competitiveness and innovation, in order to highlight our ability to enter global chains. Such model must be based on incentives, and able to align the interests of suppliers and investors to seize value jointly, generating mutual benefits, in line with society's desire to foster production and employment.

It is also required to make adjustments to the rules for investment in the funds for Research, Development and Innovation (RDI), which move relevant sums, for them to be more effectively directed at strategic projects along the supply chain.



## 2 TRANSFORMATION OF THE NATURAL GAS MARKET

Natural gas production shall increase as the exploration of the pre-salt layer advances in Brazil. With a lower level of emissions in power generation, industrial and domestic use and urban mobility, natural gas is considered the ideal fuel for us to move towards a low-carbon economy.

Among all fossil fuels, natural gas is the one that emits fewer pollutants. It also has a crucial role in complementing intermittent sources, such as water, wind and solar energy, contributing for the country to achieve its emission reduction goals, while ensuring the power supply.

The crucial factor for the development of the natural gas market in Brazil is the opening of the sector to new players, adapting the legislation to foster competitiveness in the production and sale to free consumers, and ensure non-discriminatory access to those links constituting, by their very nature, natural monopolies, such as transportation and distribution networks, attracting investment in all segments and greater competitiveness to the country.

### 2.1 ACCESS TO CRITICAL INFRASTRUCTURES – LNG TERMINALS, NATURAL GAS PROCESSING UNITS AND OUTFLOW PIPELINES

For other natural gas producers and new LNG importers to be able to reach the consumer market, it is necessary to establish guidelines and good practices for accessing these infrastructures; at the same time, investments must be encouraged for the development of new essential facilities.

Petrobras currently plays a predominant role in the natural gas market in Brazil, operating in all links of the chain. Due to the company's strategic repositioning with the sale of assets, it is necessary to have a new model for the natural gas market in Brazil to be able to develop in a balanced manner. The "Gas to Grow" (Gás para Crescer – GpC) Program was an attempt to respond to this situation.

The program was designed in order to propose measures to improve the regulatory framework of the Brazilian natural gas sector, considering the reduction of Petrobras's interest therein, aiming at the creation of a market with diversity of players, liquidity, competitiveness, access to information and international good practices, thus contributing to the development of the country.

In order to allow the opening and development of the Brazilian natural gas market, featuring the characteristics detailed above, the following issues are key:

For such, as occurs in more developed natural gas markets, the IBP is of the opinion that such access must take place on a non-discriminatory basis, by means of free negotiations between the parties, preserving the owner's preference for the access to such premises.

### 2.2 IMPLEMENTING THE ENTRY-EXIT SYSTEM

It is a consensus among all players in the natural gas sector that the transportation capacity procurement model must be made through the entry-exit system. In this new model, the party interested in injecting natural gas into the system procures an entry capacity, and may sell the gas in any other part of the system, regardless of the distance.

Similarly, to retrieve natural gas from the system, any other player may procure only an exit capacity, with the compensation of the investment in infrastructure being ensured. One of the main advantages of the entry-exit model is the increased liquidity, making transactions among a greater number of players easier.

## O&G IN BRAZIL



Investments in O&G in Brazil in 2022



O&G tax collection in Brazil in 2022

### 2.3 FREE CONSUMER

One of the obstacles to the development of a real natural gas market is the lack of freedom for the consumers to choose their natural gas (molecule) supplier. The Gas Law, which went into force in 2009, introduced the concept of Free Consumer, and assigned to the States the power to regulate this matter, which was not effective in many cases.

The Gas to Grow - GpC Program proposes a uniformization of the rules for the creation of a free market among the States, establishing norms that allow the consumers to choose their natural gas supplier, whereas the ANP shall regulate any issue surrounding the sale of the molecule.

### 2.4 SELF-PRODUCER, SELF-IMPORTER

Similarly to the Free Consumer, the concepts of Self-Producer and Self-Importer were also created, as those are critical to secure new gas production and import projects. However, a regulatory framework that allowed a proper development of such players was not instituted. The Gas to Grow - GpC Program proposes that such concepts shall be regulated at a federal level (ANP) and

that players in the same economic group may also be considered Self-Producers / Self-Importers. That would allow not only the expansion of the power offer to our country, but also promote the entry of new natural gas suppliers into the Brazilian market.

|| The demand for natural gas in the Brazilian market in 2018 was of **87 million** cubic meters per day. ||





## 2.5 IMPROVING THE TAX FRAMEWORK

With the entry of new agents and the unbundling of the value chain, it becomes necessary to adapt the tax practices, taking into account the new business models and performance of the sector.

These rules should be adjusted to a greater diversity of actors in domestic supply and imports, as well as to the model of capacity allocation of natural gas transportation and its marketing.

## 2.6 ELECTRICITY SECTOR

Another critical issue for the development of the Brazilian natural gas market pertains to its integration with the electricity sector.

40% of the total quantity of hydrocarbons produced in a pre-salt field.

The development of the production of large hydrocarbon reserves in the pre-salt requires that a solution be found to drain the natural gas associated with oil. In many cases, the natural gas represents over

The integration of the gas sector with the electricity sector shall occur, in the most effective way, by installing low-flexibility thermal plants, which thus allow not only for a greater oil production, but also provide foreseeability to the natural gas consumption.

## 2.7 DUAL JURISDICTIONS AND HARMONIZING STATE REGULATIONS

The division of jurisdiction between the Federal and the States Governments to legislate on the natural gas market in Brazil hinders a clear distinction between the activities of transportation and sale of natural gas, such as occurs in the developed markets. In such markets, there is a clear separation between the natural monopoly (transportation) and the sale of molecules (governed by the free market).

make sure to the consumers that there is competition, assuring full freedom of choice for their supplier of natural gas (molecule), and allowing a real wholesale market of natural gas.

Furthermore, it is necessary to harmonize the State regulations by means of guidelines for the establishment of the concept of network and distribution fees, especially the rules on the qualification of Free Consumers.

Several issues under the Gas to Grow – GpC Program, which is an important initiative to change the regulatory framework of the sector, are currently under discussion in the Congress. The Project, which is supported by producers and consumers, sets forth a set of rules intended to increase competition in this industry. What is being sought is the creation of a business environment where multiple producers/sellers are able to trade directly with consumers, in compliance with the constitutional precept of State monopoly over distribution networks, entailing the necessary dynamics to consolidate an open market and the charging of competitive prices.

The proposals above, from item 2.1 to item 2.7, ensure that multiple players have full access to the infrastructures of the E&P and Transportation segments. Overcoming the difficulties mentioned in the distribution segment shall

# 3 TRANSFORMATION OF THE MIDSTREAM AND DOWNSTREAM MARKETS

An open and competitive market, with proper tax structure and commercial practices, may attract massive infrastructure investments. The practice of international parity between prices, which has been consolidated over the past few years, the free market and the improvement of open access to pipes and terminals are essential conditions to attract players and capital. In logistic infrastructure alone, according to forecasts by the IBP, there is an urgent demand for investments of BRL 10 billion.

It is necessary to reformulate and simplify the tax regime, in such a way that, on the one hand, it decreases discrepancies in the fuel market, so as to prevent tax evasion, and, on the other, eliminates factors that prevent the refineries from benefiting from the great offer of raw material at their door.

The IBP supports the introduction of competition in refining, once again through the divestment initiatives already announced. Competition is essential to make the sector dynamic, a process which can be as successful as the E&P opening was in the past, and which brought so many benefits to the country and the industry. On the other hand, depending on the scenario adopted, there may be a deficit in the domestic offer of oil derivatives that could encourage the implementation of new refining units, the planning of which must start now.

Currently, disloyal practices and purpose deviations are recurrent in the distribution and resale segments, propitiated by a tax regime that has proved to be unfair, due to its complexity and the tax authorities' inability to prevent and punish, generating an estimated evasion, of the Tax on Circulation of Goods and Services (ICMS) alone, of BRL 4.8 billion/year, according to FGV studies.

The current tax regime also prevents the Brazilian refineries, and consequently the consumers, from benefiting from the great offer of local raw material, and it is necessary to discuss it objectively.

### CONSUMPTION OF DERIVATIVES

Brazil is the seventh largest consumer of derivatives in the world, representing a sound market for investment.

**7<sup>TH</sup> LARGEST**

#### INTERNAL CONSUMPTION

Brazil consumes approximately 2.3 million bpd of oil derivatives.

Brazil imports 0.5 million bpd of derivatives such as gasoline, diesel, naphtha and QAV.

#### INFRASTRUCTURE

The total installed refinery capacity in Brazil is approximately 2.4 million bpd.

### 3.1 ATTRACTING INVESTMENTS AND OPENING THE SECTOR TO NEW PLAYERS

- Ensuring free and competitive derivative price policies, through which the domestic offer – e.g. refineries – is permanently exposed to international competition, following the model adopted by most market economy countries;
- Adopting the Flexible Regulatory Tax as an instrument of Government policy, to attenuate great price variations;
- Encouraging new investors committed to the Brazilian market and to the investment capacity, aiming at the expansion of the domestic refinery offer, as well as the

expansion of the basic logistics structure, by evidencing the forecast consumption growth, ample offer of raw material and confidence in the maintenance and stability of a globalized, free and competitive market in terms of price and opening, and by means of a tax structure that allows refineries to benefit from the offer of large oil surpluses in Brazil;

- Encouraging the introduction of competition in refinery and basic logistics, especially by means of support to the Petrobras divestment Project.

### 3.2 ENCOURAGING LOGISTIC INVESTMENTS AND OPEN ACCESS

- Fostering and monitoring the opening and independence of the existing logistic outflow systems, of the essential assets, respecting the owner's preference and the primary outflow needs of the refineries as a priority measure;

- Encouraging investment in new pipes, terminals and tanking by independent investors and operators, by means of the open access regime, respecting the owner's preference and separation between carrier and transporter. Stability of rules and simplification of licensing processes.

### 3.3 FIGHTING FRAUD AND TAX EVASION

Strongly curbing the irregular fuel market, encompassing tax evasion, adulteration and metrological fraud in all of the downstream market links, applicable indistinctly to fossil fuels and biofuels.

### 3.4 ADJUSTMENTS TO THE TAX SYSTEM

Defending a specific tax reform that:

- Simplifies the current taxation of oil derivatives, adopting a single-phase system, with concentration of the ICMS at the first stage of the chain and causing the rates to be equal;
- Discourages disloyal competition by repeated tax debtors, setting them apart from occasional tax debtors, under the

regulations of article 146 "a" of the Federal Constitution, already under discussion by the Senate, by means of Bill of Law PLS 284/17;

- Promotes a reform to administrative and judicial tax proceedings, in order to eliminate or decrease arbitrariness in the acts of inspecting and assessing bodies.

### 3.5 REVIEW OF THE REGULATORY FRAMEWORK

Diagnosing difficulties and challenges to the current downstream market, proposing an ordered review of the entire infra-legal regulations.

### 3.6 HARMONIZING THE ENERGY POLICY

Developing an energy policy that harmonizes biofuels and fossil fuels through plans to consolidate the environmental progress achieved to this point, values all energy resources, eliminates tax discrepancies, maximizes investments, income and jobs, and decreases the economic impact on the consumers.

## WEALTH

THE OIL AND GAS SECTOR SHARES WEALTH WITH SEVERAL OTHERS AND BOOSTS THE COUNTRY'S ECONOMY.

### JOBS

The number of direct, indirect and induced jobs generated can also be measured by the amount invested by the companies in terms of wages and taxes that represented BRL 67 billion in 2016.

### COLLECTION

In the form of collections that allow investments to be made and balance the public accounts. BRL 1.4 trillion were generated from 2007 to 2017 and approximately BRL 1 trillion may be generated over the next 10 years, in special interests, bonuses and royalties.

### REINVESTMENT

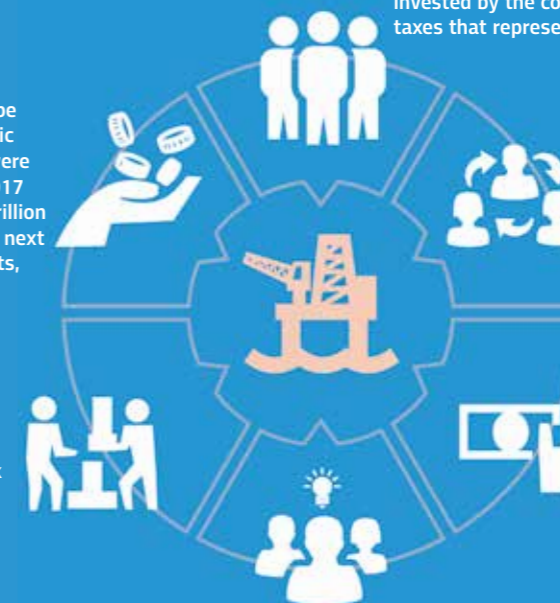
The greater the legal certainty of a country, the more the companies reinvest their profits in it, thus creating a virtuous cycle of jobs, collection for the government and improvement to the country's economic indexes.

### SUPPLIERS

The sector has a network of 52,000 companies involved (operators, suppliers and trade).

### INCOME GENERATION

An income of BRL 405.68 billion may be generated, from 2019 to 2026.



### RESEARCH AND DEVELOPMENT

In 2016, 1 billion Reais were invested in research and development at research centers nationwide. Over the past 10 years, it was over 10 billion Reais.

## THE OIL AND GAS SECTOR IN BRAZIL

The oil and gas sector generated **1.4 trillion Reais** in taxes over the last 11 years.



**3RD LARGEST SECTOR**

Among the main economic activities, the oil and gas sector **ranks 3rd and affects the other 5 largest sectors**, which depend on it.



**99% MADE IN BRAZIL**

The **job market** of the oil and gas sector is predominantly **composed by Brazilians: 99%**.

### EMPLOYMENT

By 2022, **the job openings in the oil and gas sector may increase by 110%**, reaching **873 thousand**.



### SUCCESS

Brazil attracted over **70%** of the subscription warrants paid over the past three years. International operators and state-owned companies, taken together, paid between 2016 and 2018 over **USD 5 billion** in subscription warrants.

Source: Wood Mackenzie





**Brazilian Petroleum, Gas and Biofuels Institute**  
**(Instituto Brasileiro de Petróleo, Gás e Biocombustíveis – IBP)**  
Av. Almirante Barroso, 52 – 21<sup>st</sup> and 26<sup>th</sup> floor | RJ  
Phone: 55 (21) 2112-9000 | [ibp.org.br](http://ibp.org.br)