

ABESPetro and the Summary Report 2022

The Brazilian Association of Oilfield Services and Companies, ABESPetro, represents the first layer of the companies that supply goods and services to oil companies. The companies associated to ABESPetro are, thus, the activators of the further layers of companies that constitute the Brazilian oil and gas sector.

The “Caderno ABESPetro 2022” was produced by the association with support from Deloitte. It aims at deepening the understanding of the dynamic of the sector, show trends and challenges, and make proposals for the continuous improvement and development of the whole oil and gas sector.

This “**Summary Report 2022**” is a reduced version, in English, of the “Caderno ABESPetro 2022”. These and other publications of ABESPetro can be found at www.abespetro.org.br.





Topics

| THE IMPORTANCE OF THE SECTOR TO THE ECONOMY

|| TRENDS AND CHALLENGES

||| PROPOSALS

- Foster Energy Transition
- Increasing the sector activity
- Repetro expansion and improvements
- Industrial development



I THE IMPORTANCE OF THE SECTOR TO THE ECONOMY



THE IMPORTANCE OF THE SECTOR TO THE ECONOMY

The energy of the Brazilian economy

The oil and gas sector is already strong, and it is expected to grow even more over the next years.

The production in 2021 was over 3,76 Mboe/d (millions of barrels of oil equivalent per day)

Proven reserves in Brazil in 2021



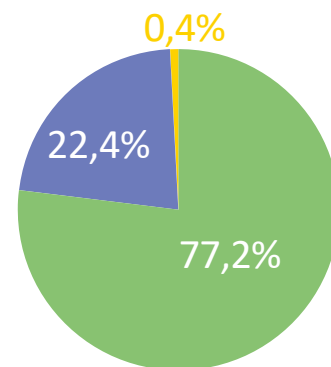
13,2
billions of barrels



378,7
billions of m³

Source: [ANP \(2021\)](#)

Brazilian production in 2021 (boe)



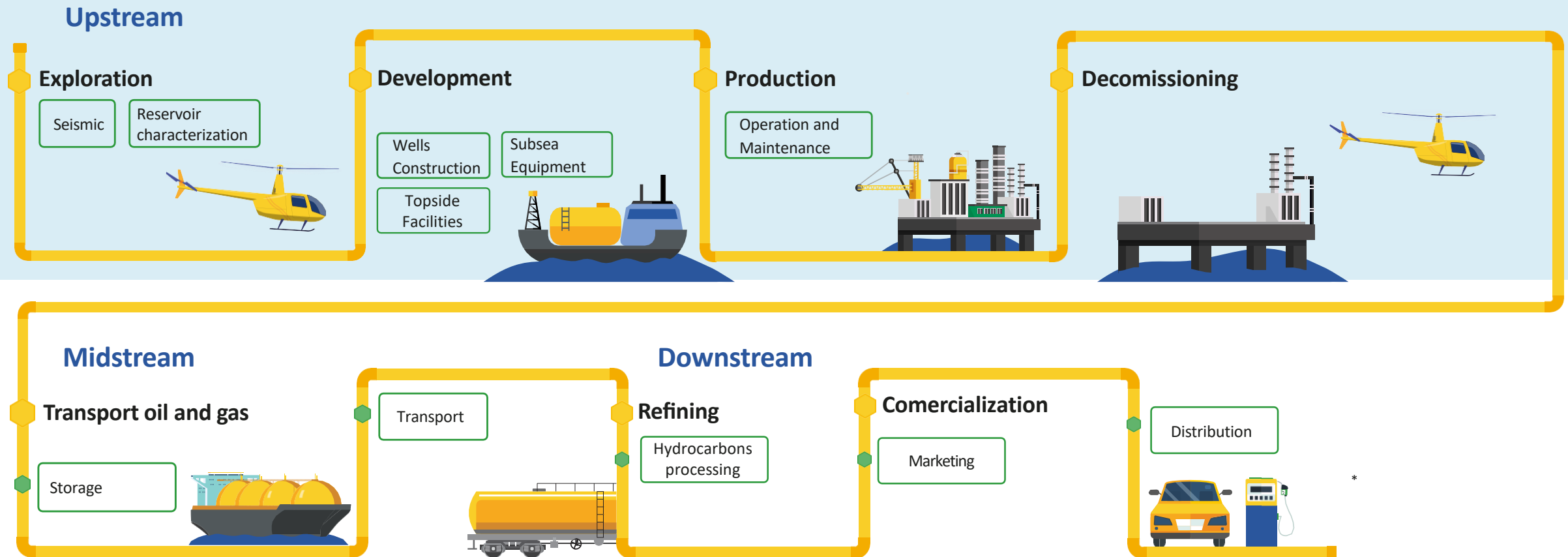
Oil	1.060 million	77,2%
Natural Gas	307 million	22,4%
Condensate	5,3 million	0,4%
<hr/>		
Total	1.372 million	100%

Source: [ANP \(2021\)](#)

THE IMPORTANCE OF THE SECTOR TO THE ECONOMY

Segments of the oil and gas chain

The whole oil and gas sector has three phases: upstream (exploration and production, or E&P), midstream (transport and storage) and downstream (refining, fuels and chemicals).



Source: based on [“Cadeia Global de Valor”](#) (ESPM, 2015; adjusted by Deloitte)

THE IMPORTANCE OF THE SECTOR TO THE ECONOMY

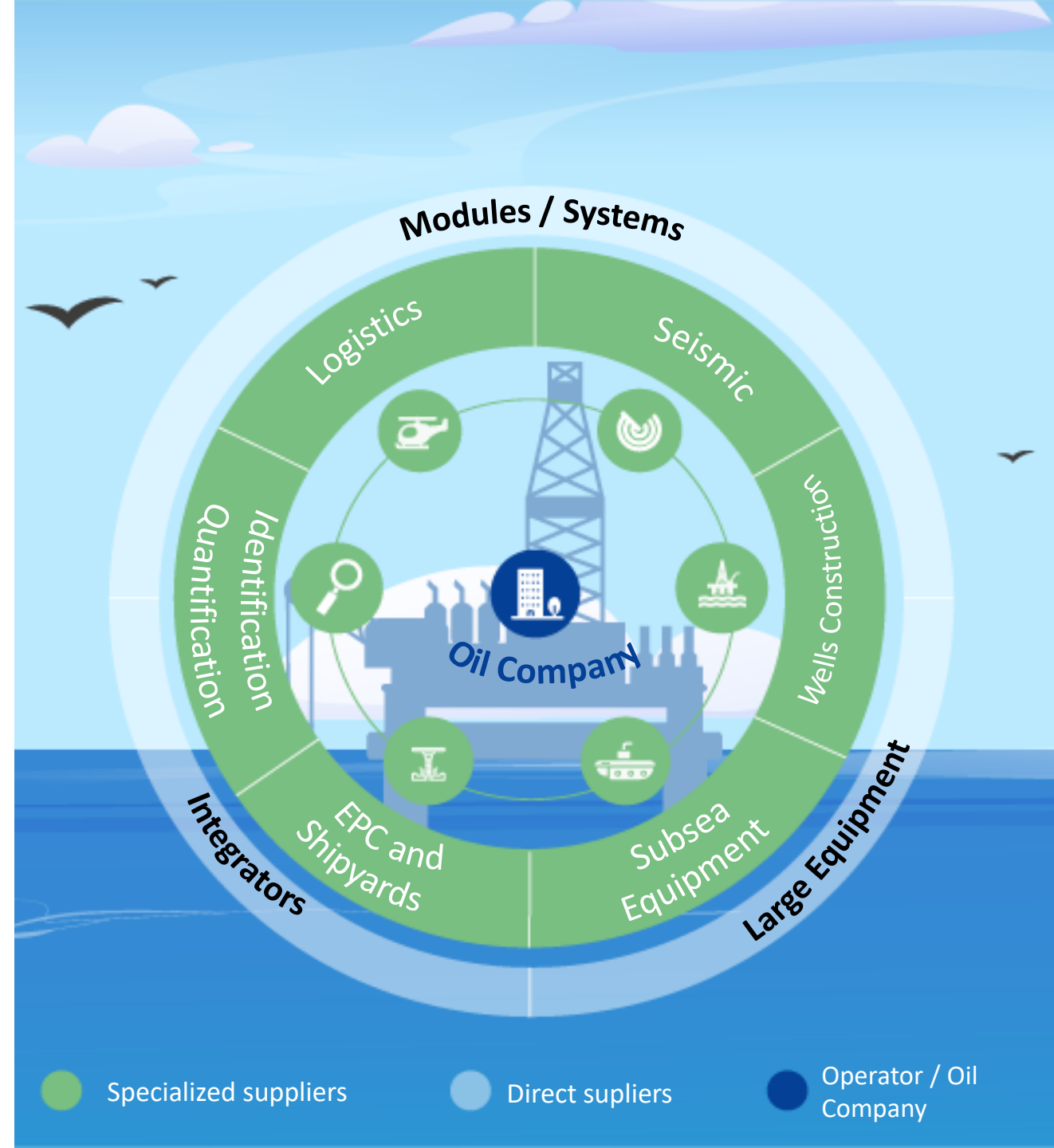
A great industry in the main pillar of the chain

The oil and gas industry is held by a system of exploration and production with great impact over the sector itself and the whole country economy.

The tenths of oil companies operating in Brazil count on hundreds of supply chain companies that:

- Identify and quantify reserves;
- Perform engineering, construction and installation of wells, subsea equipment and topside facilities;
- Operate and maintain such infrastructure;
- Deactivate and decommission of such infrastructure.

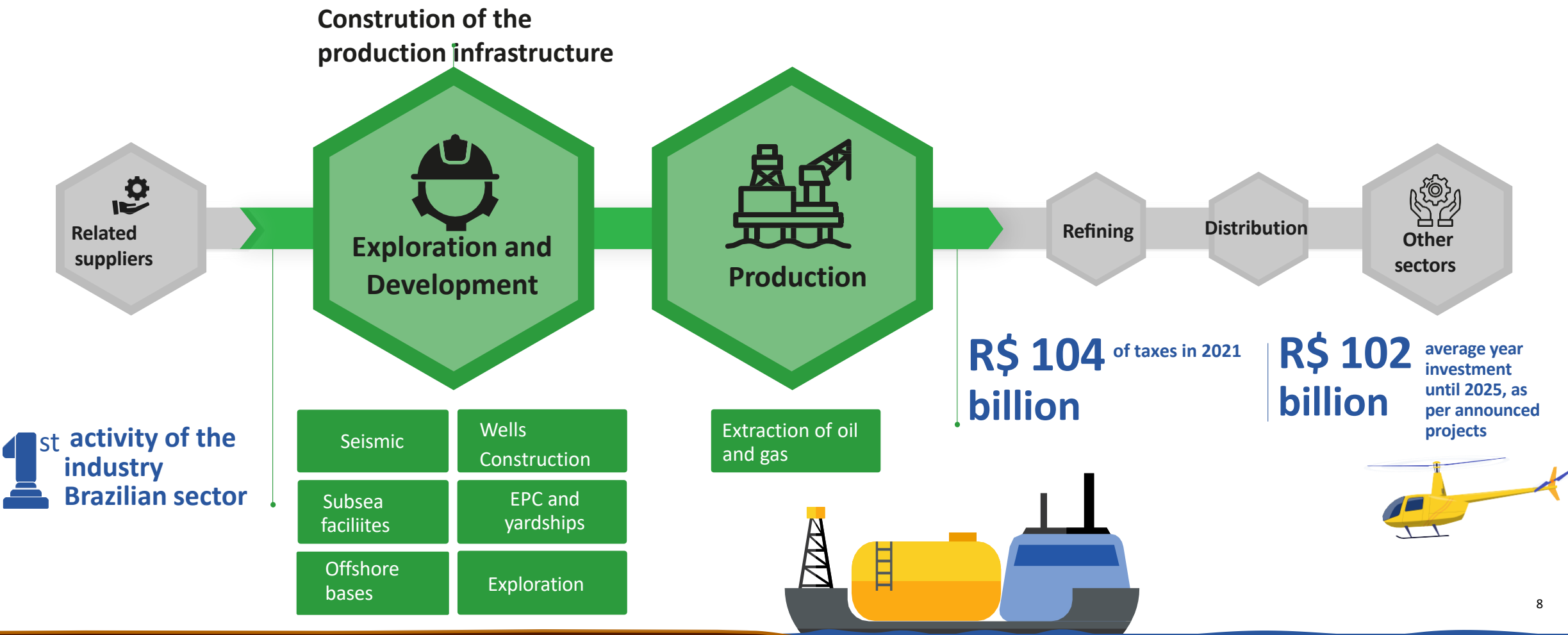
To turn a block into an oil field, an oil company demands goods and services delivered by specialized companies, i.e., exclusively and directly dedicated to E&P activities. These first layer of specialized companies will demand from companies of further layers the goods and services necessary to develop the production infrastructure, operate and maintain this infrastructure, and finally decommission and return the oil field to its original condition.



THE IMPORTANCE OF THE SECTOR TO THE ECONOMY

The size of the oil and gas chain

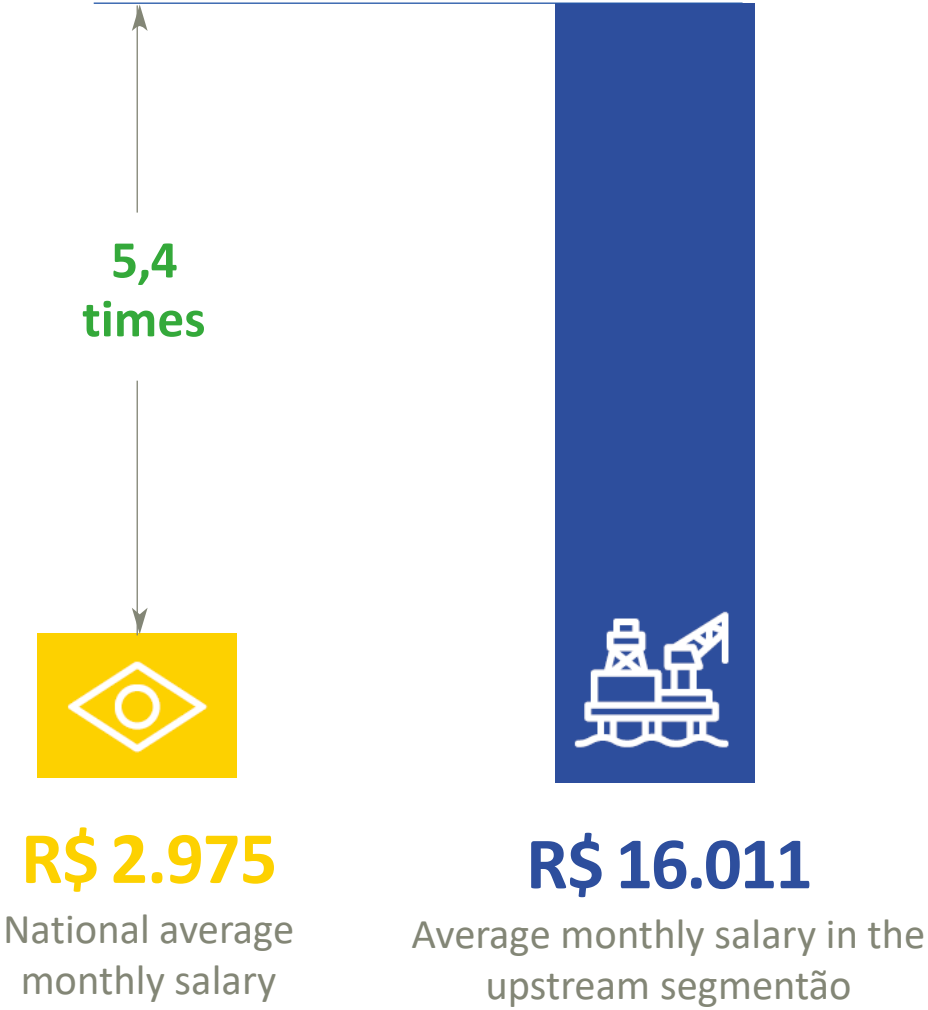
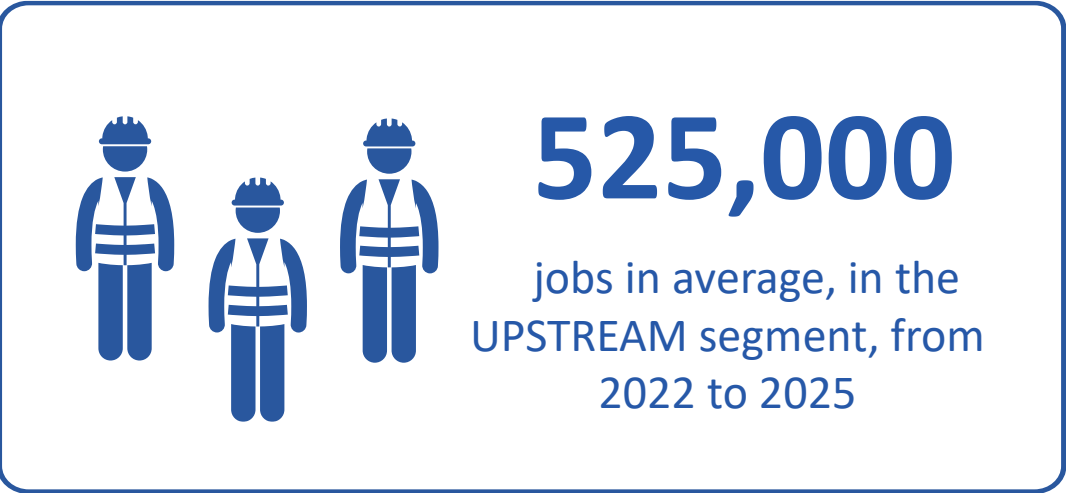
The oil and gas industry is one of the most relevant of the Brazilian economy, involving direct and indirectly a complex chain. Each chain segment moves billions of Reais (R\$) in goods and services and in taxes.



THE IMPORTANCE OF THE SECTOR TO THE ECONOMY

The oil and gas industry responds for 1,6 million direct, indirect and induced jobs in the whole chain, from mapping reserves to distribution of fuels.

The UPSTREAM segment employs hundreds of thousands of highly qualified professionals, with remuneration above the Brazilian average.



Source: [IBGE 2019](#)

II TRENDS AND CHALLENGES

- Uncertainties from the Covid pandemic and the conflict at Ukraine
- Digital transformation
- Energy Transition



TRENDS AND CHALLENGES

Negative effects of the pandemic over the oil and gas industry



Lowering demand and oil prices

Oil prices decreasing and raising doubts over new investment.



Challenges on productivity

Companies facing higher production costs and uncertainty of goods and services delivery, imposing challenges to projects and operations.



Financial risks

Need to rebalance financials, production levels and suppliers stability and security.



Manpower

Potencial scarcity of qualified manpower due to lay-off and sick leave and need to review staff in the recovery phase.

Offshore operations were more severely affected by the pandemic. However, UPSTREAM suppliers quickly responded and took measures to avoid interruptions

TRENDS AND CHALLENGES

Digital transformation as driving force of efficiency improvements

Advanced 4.0 technologies may leverage and promote more efficiency, however, there are challenges to be overcome by the oil and gas sector.

Summary of the digital relevance to each Upstream phase

Phase	Identified advances	Potencial gains
Exploration	More efficient geological analysis by machine learning tools, 4D reservoirs models, Virtual and Augmented Reality	More accuracy on quantity and economical feasibility of oil production
Development	Use of 4.0 technologies in the Engineering and Construction activities	Quicker and cheaper installation of production facilities
Production	Extensive use of IoT (Internet of Things) on new and on legacy equipment; data analytics to monitor reservoir behavior	Efficient asset integrity management ; optimization and increase of recovery factor of reservoirs

TRENDS AND CHALLENGES

Energy Transition

In spite of unprecedented reduction of global emissions in 2020, due to activities reduction caused by the pandemic, the volume of greenhouse gases in 2021 remained the same of former years.

Global survey with 600 executives of many industries shows that...



Believe digitalization should increase efficiency



Are searching Technologies to reduce losses and environmental footprint



Are searching economically viable means to produce advanced biofuels

Fonte: [Deloitte 2020b](#)



of CO₂ emissions come from the O&G industry

Source: [UNEP 2021](#)

The O&G sector has many opportunities to reduce emission in its activities, such as energy efficiency, equipment electrification, carbon capture, use and storage (CCUS), among other



III PROPOSAL

Foster Energy Transition by
stimulus of Natural Gas and
development of new technologies



PROPOSAL

Foster Energy Transition

Low emission production

The high quality of Brazilian reservoirs allow production with low emission. This places Brazil in better position compared to other oil production countries.

Amount of CO₂ produced by one produced barrel



20 kg

Global average



10 kg

Brazilian presalt

Increase the use of **NATURAL GAS** in the Brazilian energy matrix is essential to the Energy Transition. To move ahead, Brazil demands heavy investments in the infrastructure of **Gas Natural Flow, Transport and Distribution**.

A three-dimension approach to the Energy Transition

Social

The Energy Transition goes beyond environmental issues. Abundant and accessible energy, jobs and other social indicators are part of transition. The petroleum sector can contribute to this.

Tecnological

The capabilities of the oil sector can contribute to develop technologies needed to the Energy Transition, such offshore windmills, CCUS and others.

Economical

A proper regulation and financial resources from state and companies are paramount to overcome the uncertainties and challenges of the Energy Transition.

III PROPOSAL

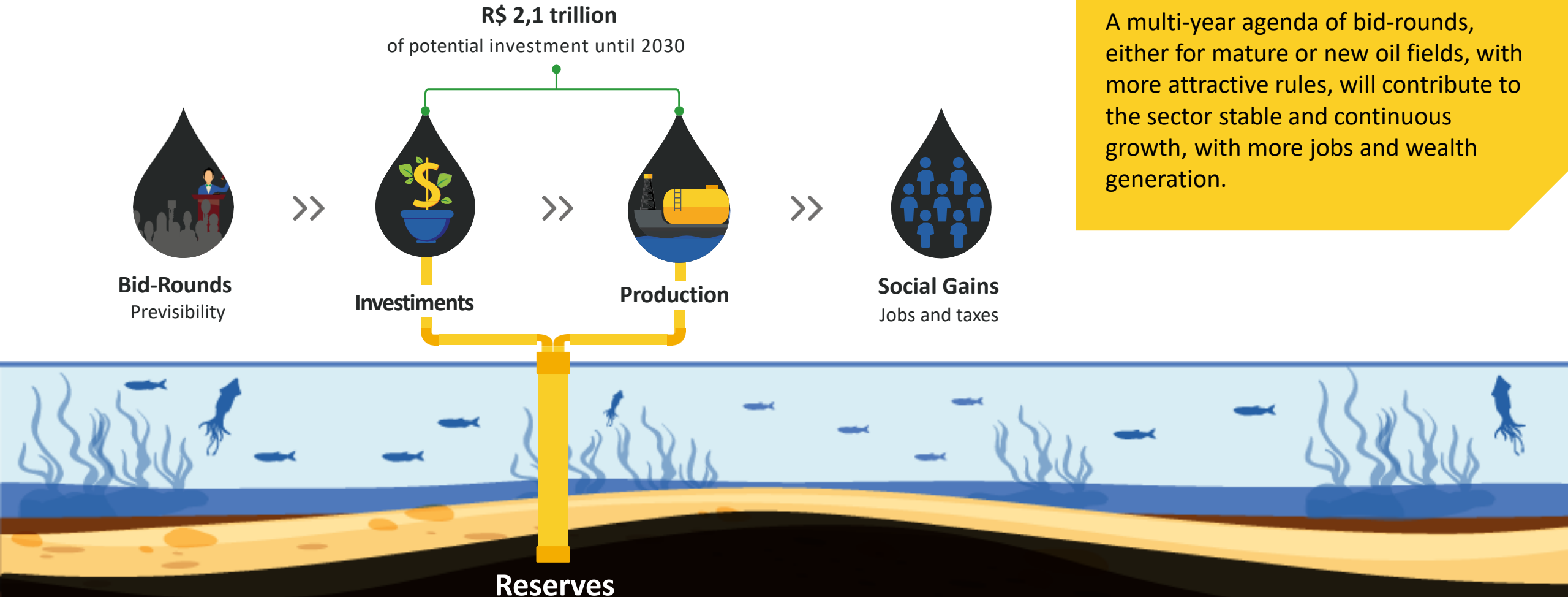
Expedite and improve
attractiveness of exploratory
blocks bid-rounds



PROPOSAL

Expedite and improve attractiveness of exploratory blocks bid-rounds

The actual wealth generation



In next Years, the Energy Transition will imply global reduction demand of oil and gas.

Brazil needs to multiply its E&P projects while They are still economically viable.

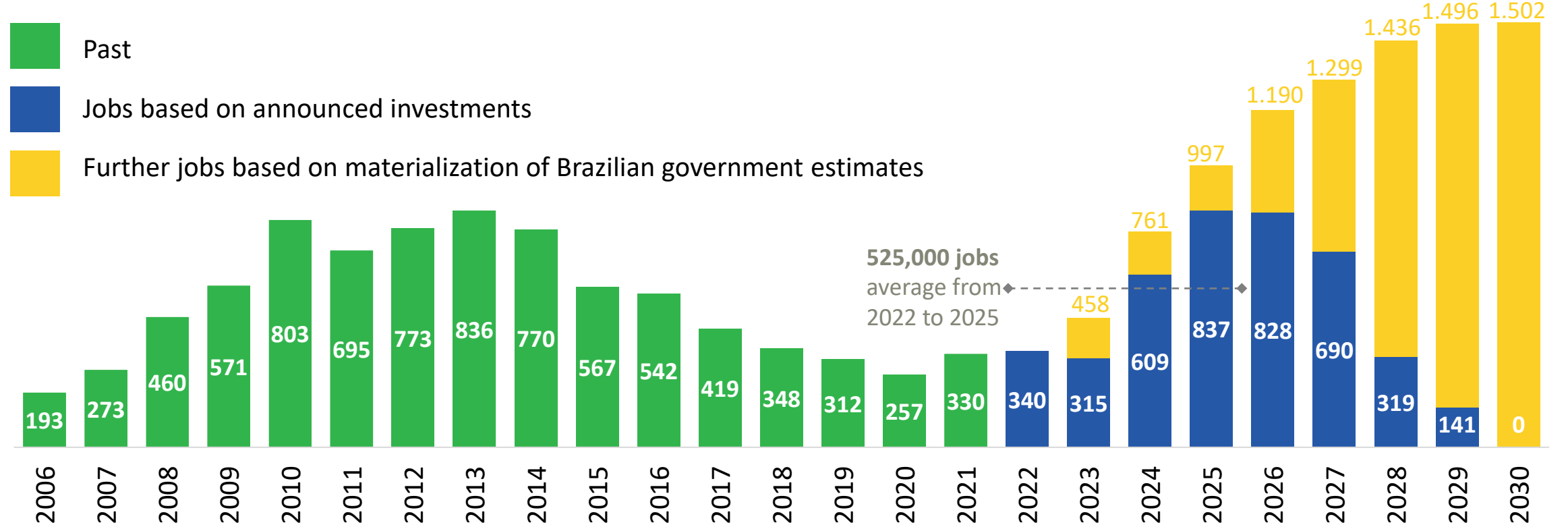
A multi-year agenda of bid-rounds, either for mature or new oil fields, with more attractive rules, will contribute to the sector stable and continuous growth, with more jobs and wealth generation.

PROPOSAL

Expedite and improve attractiveness of exploratory blocks bid-rounds

If the potential investment estimated by the Brazilian government is materialized, the UPSTREAM segment may reach over 1 million jobs from 2026 onwards

Jobs in the UPSTREAM segment – Past and Future (thousands)



Source: calculation from Deloitte based upon [Kupfer et.al. 2000](#), which estimate direct, indirect and induced jobs, [MME 2021a](#), [PPSA 2022](#) e [Rystad Energy 2021](#)



PROPOSAL

Repetro extension, expansion
and improvements

PROPOSAL

Extension, expansion and improvements

The special tax regime Repetro is paramount to the economic feasibility of the Brazilian petroleum industry.

All production countries have instruments similar to Repetro.

The Repetro induces investments in the initial phases in which there is uncertainty on quantity and economic feasibility of reserves.

In addition to be kept extended until 2040, the instrument should be expanded to other layers of the supply chain, and be applied by more states of Brazil, so that state taxes are also reduced.

The greatest source of Government take comes from Royalties and Special Participation. Government take and jobs depend, thus, upon investments. Without Repetro, investments and jobs would be dramatically and immediately reduced.

Accumulated Government take from 2019 to 2021

	R\$ billion	%
Royalties and Special Participation	R\$ 180,16	62,50%
Contract Bonus	R\$ 70,04	24,30%
Production Shared Contracts at presalt	R\$ 2,77	0,90%
Taxes	R\$ 10,06	3,50%
Petrobras dividends (government share)	R\$ 24,11	8,40%
Other sources of government take	R\$ 1,16	0,40%
Total Government Take	R\$ 288,3	100%

Source: [IBGE 2022a](#), [ANP 2022a](#), [Tesouro Nacional 2021](#), [Petrobras 2022](#) e [PPSA 2022](#)

||| AGENDA PROPOSITIVA

Industrial Development



PROPOSAL

Industrial Development

Current industrial policy instruments are not connected to each other and not convergent to a single purpose

Instrument concept

Oil companies are obliged to invest 1% of revenues in Research, Development and Innovation. The RDI Rule.

Oil companies must purchase part of goods and services from local suppliers. The Local Content Rule.

Over 90% of Brazilian oil production is operated by state-owned Petrobras. Its purchases follow Law 13.303.

Results

Accumulated obligations reached R\$23 billion in 2022. However, due to concentration in basic research, the resources did not reach the local supply chain.

Local manufacturing capacity increased. However, there is still need to import complex goods and services and dependence on technologies developed abroad.

Excessive concentration on one oil company, with procurement based mostly on prices, led to dependence, vulnerability and instability of the supply chain.

Proposal

- Evaluate effectiveness and economic impact of the current industrial policy instruments;
- Define goals associated to Energy Transition, goods and services exports, and technological autonomy;
- Review instruments based on the goals, ensuring connection and convergence among them.

Summary

The Brazilian oil and gas sector has 1,6 million Jobs, and can growth even more

The pandemic, the conflict at Ukraine, the digital transformation and the Energy Transition are the main trends and challenges to be overcome

- The oil and gas sector is essential for a safe and just Energy Transition
- Attractiveness of investments in exploratory blocks is the main driving force of the sector
- Sector viability depends on Repetro maintained, simplified, expanded and improved
- Current industrial policy instruments effectiveness and economic impact must be evaluated. They must be revised to be connected and convergent to goals related to energy transition, goods and services exports and technology autonomy

ABESPetro