



# Sustainability Report **2022**

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Executive Summary



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# Introduction



## Message from the CEO

One of Petrobras' assumptions is to communicate clearly, objectively, and with transparency about the company's contribution to sustainability projects. Thus, the 2022 Sustainability Report sets forth our environmental, social and governance (ESG) strategy, commitments, targets, indicators, performance and practices.

In 2022, Petrobras' contribution to society with employee compensation, taxes, suppliers, financial institutions, and shareholders was BRL 483 billion. Additionally, investments of around BRL 121 million in voluntary social and environmental projects, of BRL 462 million in social and environmental programs related to licensing requirements, of BRL 32 million in cultural and sports projects were made,

in addition to donations totaling BRL 272 million in aid to families under socially vulnerable situations.

The publication of the Petrobras Human Rights Guidelines, the establishment of the Human Rights Commission and the placing of specific commitments on the subject in the strategic plan inaugurated a new way of doing things for the company. In early 2023, we published our positioning aimed at promoting diversity and to strictly counter any harassment or discrimination. And the first steps towards this have already been taken, with the implementation of the Petrobras Program Against Sexual Violence. This is our goal, and we acknowledge there is a long way to go.

Peoples' health and well-being, environmental protection and operational safety are non-negotiable values and were present in the activities carried out throughout 2022, in line with the ambitions of zero fatalities and zero spills. In that regard, Petrobras seeks to constantly act to remain a global safety benchmark in the oil and gas sector. In 2022, we had a Total Recordable Injury (TRI) of 0.68, which represented an increase of 0.14 when compared to the previous year. Still, it was below the alert limit of 0.7 set by the company for the year. However, with the deepest regret, we report the occurrence of five fatalities in 2022, which underwent a strict analysis and learning process to continuously improve our processes in order to make them safer and more resilient. In this regard, we held Human Factors Day,



where strengthening active listening by the workforce provided learning from daily activities and the continuous improvement of our processes and the strengthening of our safety, environment and health culture proactively and preventively.

Improving the integrity and the reliability of facilities and process improvement have been a constant pursuit at Petrobras and, as a result, over the past five years, process safety accidents have been reduced by more than half. In 2022, nine events involving oil and oil products spills with a volume greater than one barrel were recorded. Fortunately, the integrated emergency response structure made it possible for fast and effective actions to be taken for the prevention and mitigation of the impacts of these accidental events.

Recognizing the climate urgency, for more than a decade Petrobras has been working on the decarbonization of its operations, ensuring a robust path towards reducing operational emissions. In addition to the improvements already achieved over the years, we have the ambition to achieve neutrality of operational emissions by 2050. Between 2015 and 2022, absolute operational Greenhouse Gases (GHG) emissions fell by 39% and we made progress in emissions efficiency in all our operational segments. As of 2023, we aim to further expand our operations in low-carbon businesses, developing new business opportunities in CCUS (carbon

capture, utilization, and storage), renewable energy, hydrogen and biorefining, as well as promoting nature-based solutions that mitigate climate change, in particular the preservation and expansion of forests.

In compliance with license requirements, 65 protected areas were strengthened, through a contribution to the Environmental Compensation Fund, in the amount of BRL 66.5 million. We also invested approximately BRL 95 million in research and development of technological solutions projects aimed at improving the management of biodiversity, water resources, and effluents, as well as minimizing, giving value, and reusing solid waste. In the last three years, we have reduced fresh water withdrawal by more than 20% in our operations and reduced the generation of process residue by around 18%. In 2022, 76% of waste from the process was destined. Our Biodiversity Action Plans, which are being prepared for all our facilities, are aimed at improving biodiversity in our areas of operation, and we are already developing methodologies for assessing the net gain in biodiversity.

In line with the continuous improvement of transparency and governance, in 2022, Petrobras approved a new Tax Policy, as well as the Price Formation Guideline for Petroleum and Natural Gas Products in the Domestic Market. And, in 2023,

we approved the new commercial strategy for defining gasoline and diesel prices, in line with the aforementioned guideline. Our governance efforts have been recognized, and for the sixth consecutive time we were certified with the Governance Indicator of the Office for Coordination and Governance of State-owned Companies (IG-SEST), ranked the highest level of the indicator.

For the second year in a row, we are part of the Dow Jones Sustainability Index World™, with a maximum score in the Environmental Report, Risks Related to Water and Social Report criteria, and special mention in the Operational Eco-efficiency, Labor Practices and Human Rights criteria.

Following major transformations in the world, in special, changes in the energy, digital, social, and environmental segments, Petrobras is going through a phase of changes and new perspectives. In April 2023, we approved our new organizational structure. The new organizational chart aims at preparing the company for the energy transition, strengthening the project development area through greater integration with the research and development area and increasing the synergy between corporate processes.

With agility and great teamwork, on June 1, 2023, we approved the strategic and guiding elements of the Petrobras Strategic Plan for the period from 2024 to 2028, including planned investments in low carbon



projects of between 6% and 15% of the total investment in the next plan. We also outlined six new guidelines: attention to people; adequacy and improvement of to the current refining park; focus on profitable assets and E&P decarbonization; sustainable development of the country; fair energy transition; and international operations through technological and operational partnerships.

These drivers will lead us to the company's vision, which has been revised: "To be the best diversified and integrated energy company in value generation, building a more sustainable world, reconciling the focus on oil and gas with diversification into low carbon businesses (including petrochemicals and fertilizers), sustainability, safety, respect for the environment and total attention to people."

This vision reinforces our vocation of being an integrated energy company and highlights the business diversification needed for the energy transition, while reinforcing our concern for people.

We are committed to the socioeconomic development of the regions where we operate and to improving the quality

of life of society as a whole, respecting human rights and the environment, in accordance with the principles of the United Nations Global Compact and the Guiding Principles on Human Rights and Business and inspired by the Sustainable Development Goals.

Those are the changes that will materialize the reason of our existence, which is set forth in our new purpose: "To provide energy that ensures prosperity in an ethical, just, safe, and competitive way." What we seek is a trajectory for the energy transition to a fair, inclusive low-carbon economy, with changes in energy use patterns, assessing and minimizing the social impacts for all parties: our employees, communities, and our entire supply chain.

We trust that, with the combination of strategic assets, a highly qualified and committed technical workforce, and the largest research center in Latin America, it will be possible to promote solutions for a sustainable future of Petrobras in the coming decades and for the newer generations. And we will do all this while valuing our workers and ensuring the level of excellence in operational safety.

**"There is no value creation without taking care of people and without thinking about our impact on the world.**

**That is true sustainability."**



**Jean Paul Prates**  
Petrobras CEO



# About the report

The 2022 Sustainability Report meets the requirements of Law 13,303/16 and covers the period from January 01, 2022, to December 31, 2022, with the addition of relevant data regarding the history or facts that occurred in the initial months of 2023, until 06/01/2023. In the cases when this occurs, the period is stated.

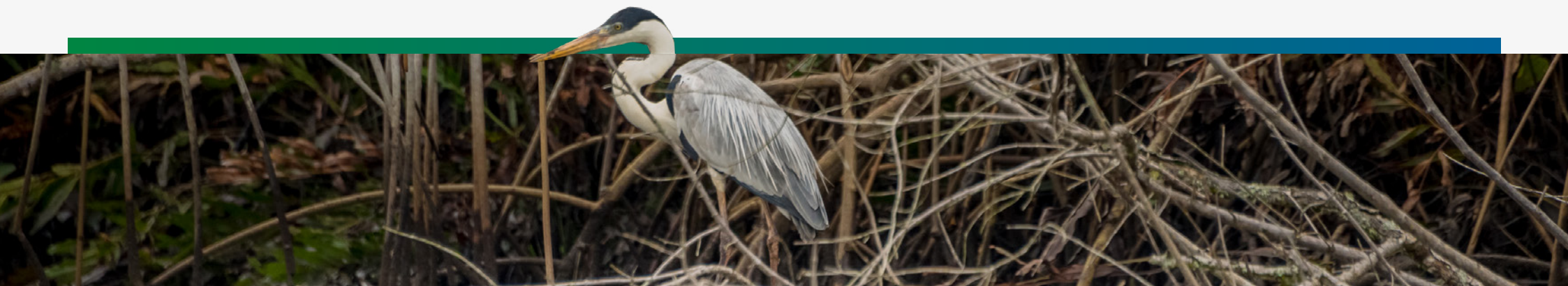
We use the Global Reporting Initiative (GRI Standards 2021) as guidelines for sustainability reporting, and we respond to indicators contained in standards from the Sustainability Accounting Standards Board (SASB), aimed at the oil and gas industry that are suitable for our organization (Exploration & Production, Midstream and Refining & Marketing). As a complementary reporting methodology, we use the International Petroleum Industry Environmental Conservation Association (Ipieca) Sustainability Reporting Guide.

The scope of information includes our activities in Brazil and abroad, including data regarding subsidiaries listed in the Financial Statements, when relevant to the parent company (consolidated). In some cases, the data considers only the parent company or the parent company and some subsidiaries that bring materiality to the indicator. In this case, the information under consideration is stated next to the indicator.

This report and its materiality matrix were approved by our Executive Board. KPMG is responsible for the limited assurance service for the information in the 2022 Sustainability Report .

**The company overview, documents and report summaries can be found in the chapters:**

- > **About the report**
- > **About us**
- > **Auditor´s limited assurance report**
- > **GRI content index**
- > **SASB content index**
- > **Staff**





# Materiality

The ten material topics that make up our matrix are the result of the process of context analysis, impact mapping, analysis of significance, prioritization and validation of the topics that represent our most significant impacts on the economy, the environment, and people, including impacts on human rights.

## Petrobras materiality construction process



The stakeholders included for the significance stage were:

### Customers

### Consumers/Society

### Communities in coverage area

### Suppliers

### Investors

### Media

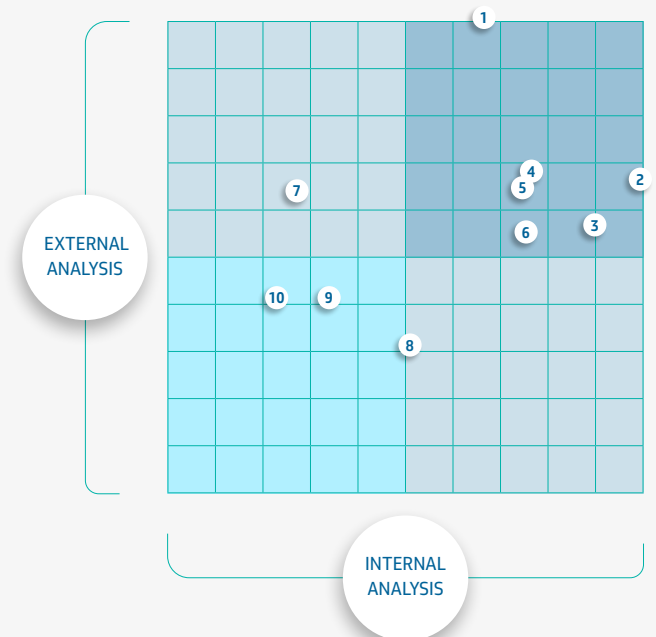
### Public authorities

### Internal public

Petrobras' material topics are listed below, in order of significance, with the first item being the most important.

- 1° Economic impacts**
- 2° Business integrity**
- 3° Climate resilience, GHG emissions and other gases**
- 4° Accident prevention and management**
- 5° Biodiversity**
- 6° Local and traditional communities**
- 7° Labor practices and equality of opportunity**
- 8° Safety, health, and well-being**
- 9° Water and effluents**
- 10° Waste management and decommissioning**

> [Click here to read the Materiality chapter in its entirety](#)



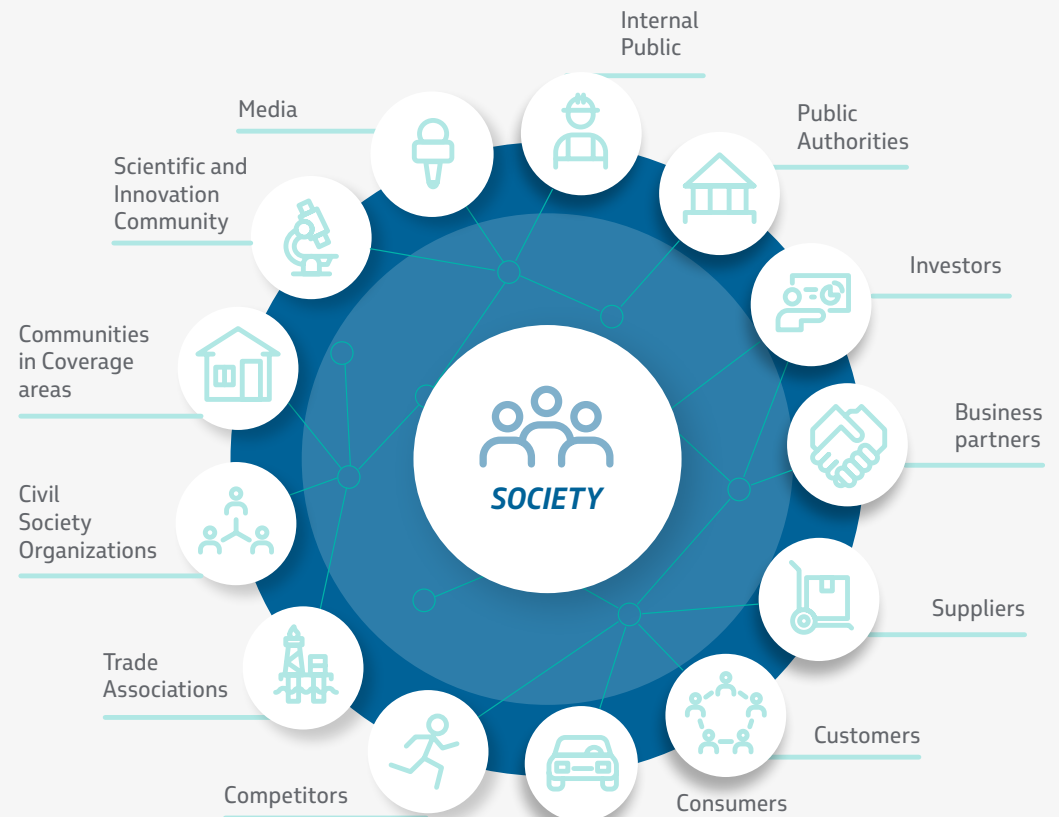
# Strategy



## Stakeholder engagement

We classify stakeholders as groups of individuals and organizations that have common social, political, economic, environmental, or cultural issues and needs. They establish or may establish relationships with us and can influence or being influenced by our activities, business, and reputation. The selection of stakeholders that will be engaged is done through prioritization based on the analysis of relevance and impact, in addition to the existing relationships. The criteria can be different according to each interest group.

Engagement actions aim at dialogue, defending interests, increasing favorability, and strengthening ties with those involved, which allows us not only to present our positions and plans, but also to better understand the doubts, needs and expectations of these stakeholders. This approximation enables a more effective flow of information and, consequently, mutual gains over time.



> [Click here to read the Stakeholder engagement chapter in its entirety](#)





# Risk management and corporate governance

Good corporate governance practices are a pillar that supports our business. Our activities are guided by ethics, integrity, and transparency.

We also believe that integrated and proactive risk management is essential for delivering safe and sustainable results. The fundamental principles of our Corporate Risk Management Policy are respect for life in all its diversity, ethical performance in compliance with legal and regulatory requirements, as well as full alignment and consistency with our strategic plan. Risk management is integrated with the guidance of risk response actions that consider the possible impacts on our stakeholders and aimed at adding or preserving shareholder value and business continuity.

## Risk management

Our risk management process is coordinated by a corporate area, allowing the standardization and uniformization of our risk analyses and the management of risk responsibilities, which are structured according to a model with three lines. In this model, each group of managers that make up the lines plays a distinct role in the governance structure. This presupposes a set of continuous and integrated activities, supported by a structure that comprises, in practice, the Board of Directors, the Executive Board, members of the general structure and all employees, service providers, and other involved parties.

The organizational units, in conjunction with the Executive Risk Management Department, are responsible for the identification, assessment and treatment of risks. Strategic risks are reported quarterly to the Executive Committee – Risk, Executive Board, Statutory Audit Committee and to the Board of Directors, and high and very high risks are reported monthly to the Statutory Audit Committee. The effectiveness of the risk management process is assessed by the Internal Auditors, a body directly subordinated to the Board of Directors.





## Compensation associated with sustainability objectives

In the Strategic Plan 2023-2027 (SP 2023-27), we present four top metrics, three of which are used for variable compensation of all our employees (IAGEE, VAZO and Delta EVA®). These metrics are elements that translate and quantify the attributes of our vision and provide more explicit guidance regarding the main objectives of the company, to ensure that activities are aligned with the main commitments established in the plan. Of these three metrics, two are correlated to ESG, the indicator showing compliance with the goals regarding greenhouse gases (IAGEE) and oil and oil product leakage volume (VAZO), committing the entire company to these goals.

Performance analysis takes place through the Performance Management (GD) process, which assesses competencies and goals. In the Performance Management process, goals are based on specific metrics, broken down from senior management scorecards into unit scorecards, seeking to ensure that individual and shared goals are shared by leadership to teams and employees, contributing to the achievement of our main metrics.

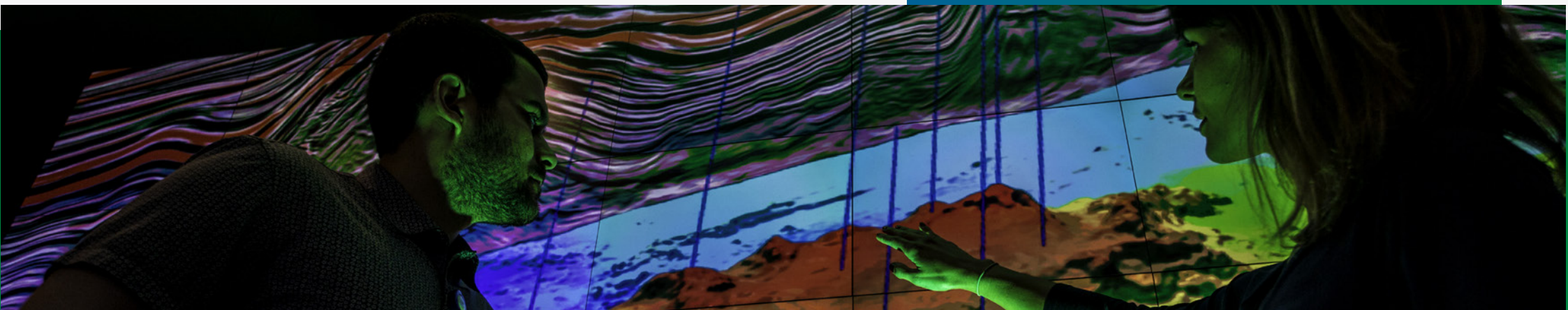
[> Click here to read the Risk management and corporate governance chapter in its entirety](#)

## Identification, assessment, and treatment of risks

The preparation of our Corporate Risk Matrix is coordinated by the corporate risk management area and involves all areas of our structure. In this process, employees with different specialties are involved so they can identify and report potential risks for our entire organization, considering any type of risks, including social, environmental, and economic risks. This process provides risk identification, its associated controls, its probability of occurrence, and its impact assessment, in addition to treatment proposals. The impact assessment considers four dimensions:

- > Financial
- > Image/Reputation
- > Legal/Compliance
- > Environmental/Life

Using the risk matrix, we identify the main events and sustainability risk factors that could affect our long-term performance. The management and treatment of these risks will be provided throughout the report.





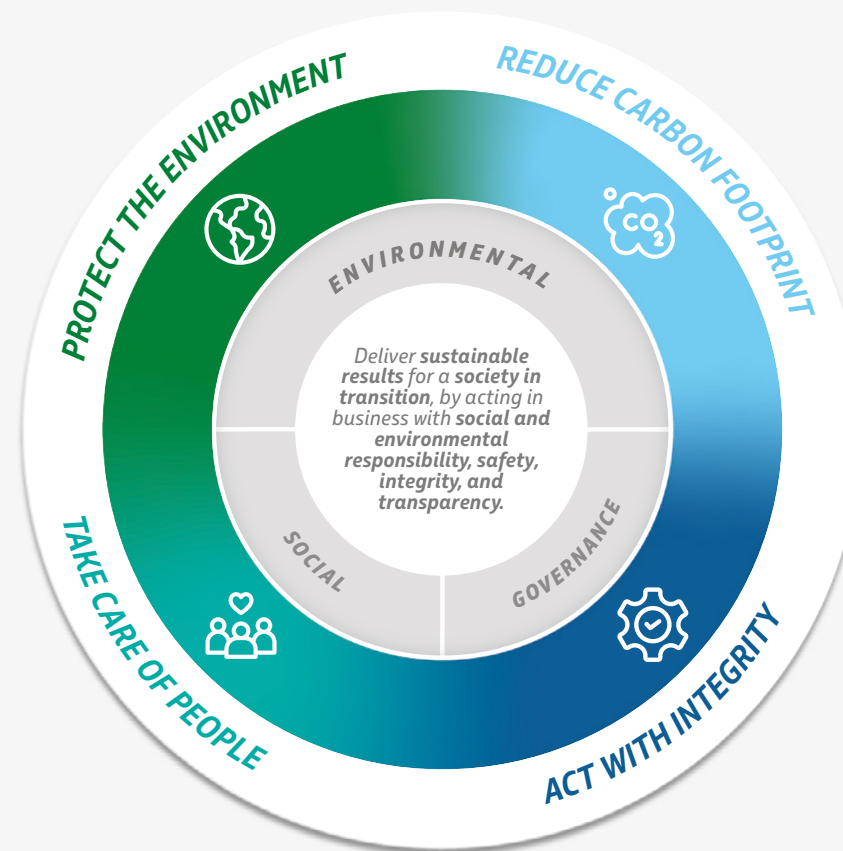
# Sustainability strategy and performance

Our SP 2023–27 was prepared preserving the company’s vision, values, and purpose.

SP 2023–27 proposes a set of strategies aimed at an effective contribution to a prosperous future, such as:

- > **deliver sustainable results for a society in transition, by acting in business with social and environmental responsibility, safety, integrity, and transparency;**
- > **maximize portfolio value, with a focus on deepwater and ultra-deepwater assets;**
- > **operate with assets focused on proximity to the oil supply and the consumer market, adding value to refining facilities with more efficient processes and new products, moving towards a low-carbon market;**
- > **operate competitively in the sale of oil and oil products, maximizing the capture of value through the integration and safe and efficient operation of the upstream and downstream logistics chain; and**
- > **innovate to generate value in our businesses, today and in the future, and achieve decarbonization goals.**

## Our ESG positioning





The commitments related to each of the four main ideas of the mandala were consolidated into a single list, in line with the concept of integrated ESG<sup>1</sup>:



## REDUCE OUR CARBON FOOTPRINT GOAL

- > Reduction of total operational absolute emissions by 30%<sup>2</sup> by 2030.
- > Zero routine flaring by 2030.
- > Reinjection of 80 million tCO<sub>2</sub> by 2025 in CCUS projects.
- > GHG intensity in the E&P segment: Achieve portfolio intensity of 15 kgCO<sub>2</sub>e/boe by 2025, maintaining 15 kgCO<sub>2</sub>e/boe by 2030.
- > GHG intensity in the Refining segment: Achieve an intensity of 36 kgCO<sub>2</sub>e/CWT by 2025 and 30 kgCO<sub>2</sub>e/CWT by 2030.
- > Consolidation of 55% reduction in the intensity of methane emissions in the upstream segment by 2025, reaching 0.29 tCH<sub>4</sub>/thousand tHC.

**AMBITION:** Neutralize emissions (scopes 1 and 2) in activities under our control and influence partners to achieve the same goal in non-operated assets by 2050<sup>3</sup>.



## PROTECTING THE ENVIRONMENT

- > 40%<sup>4</sup> reduction of our withdrawn freshwater by 2030.
- > 30%<sup>4</sup> reduction in solid waste generated in processes by 2030.
- > Allocation of 80% of solid waste generated in processes for RRR<sup>5</sup> routes by 2030.
- > 100% of Petrobras facilities with a biodiversity action plan by 2025.



## ACT WITH INTEGRITY

- > Measure and disseminate the social return of at least 50% of voluntary socioenvironmental projects (by 2025).
- > Keep socioeconomic diagnosis of communities up to date (up to 3 years) in 100% of operations (of all business units and refineries in the portfolio).
- > Promote human rights (HR) and diligence the operations (100% training of employees in HR and 100% of operations with due diligence in HR) by 2025.
- > Promoting diversity by providing an inclusive working environment.
- > Development of impact initiatives, which contribute to the solution of social and/or environmental problems, involving opportunities to act with our stakeholders and customers of Petrobras products.
- > Promotion of safe operations, based on the protection of life, empowering 100% of the leadership in mental health and acting in the promotion of the well-being of more than 38,000 employees.



## CARE FOR PEOPLE

- > Adoption of a governance model that allows a balance between efficiency and control.
- > Promotion of an environment of reference in ethics, integrity and transparency at Petrobras.
- > Encouraging the adoption of ESG practices among our stakeholders.

1) The commitments that indicate a reduction percentage are based on 2015.

2) Regarding absolute emissions, Petrobras' commitment seeks to maintain the level of emissions in 2030 in relation to 2022 when we consider the emissions related to the average thermoelectric dispatch of the last 5 years in this year's projection. Petrobras' commitment is not to exceed 54.8 million tons of CO<sub>2</sub> in 2030, unless there is a strong demand for electricity generation from thermal plants due to national water stress events. Achieving this commitment considers the possibility of using carbon credits as a complementary strategy and depends on actions to gain efficiency and divestments provided for in SP 2023-27.

3) Our ambition refers to emissions within Brazilian territory, where more than 97% of our operational emissions occur. For the other emissions, we also aim for neutrality within a period compatible with the Paris Agreement, in line with local commitments and international organizations.

4) In relation to 2021.

5) Reuse, recycling, and recovery.

Main sustainability metrics<sup>1</sup> (consolidated)

INDICATOR	2022 ACHIEVEMENT	GOAL OR MAXIMUM ADMISSIBLE LIMIT (LMA) FOR 2022	2022 PERFORMANCE	GOAL OR LMA FOR 2023
<b>Fatalities</b>	<b>5</b>	<b>LMA: Zero</b>	Actual results below zero fatality goal	<b>Goal: Zero</b>
<b>TRI<sup>1</sup></b>	<b>0,68</b>	<b>LMA &lt;0.7</b>	Actual result <b>3%</b> under the planned Warning Level for the year	<b>&lt; 0.7</b>
<b>VAZO<sup>2</sup></b>	<b>218,03 m<sup>3</sup></b>	<b>Goal: Zero LMA: 120 m<sup>3</sup></b>	Actual result was above the volume leaked in 2021 (11.6 m <sup>3</sup> ) and <b>82%</b> above the warning limit established for 2022	<b>Goal: Zero LMA: 120 m<sup>3</sup></b>
<b>IGEE<sup>3</sup> E&amp;P</b>	<b>15 KgCO<sub>2</sub>e/boe</b>	<b>16.5 kgCO<sub>2</sub>e/boe</b>	Actual result <b>9.1%</b> less than the emission intensity goal established for 2022	<b>Note<sup>4</sup></b>
<b>IGEE<sup>3</sup> Refining</b>	<b>37.9 KgCO<sub>2</sub>e/CWT</b>	<b>39.2 kgCO<sub>2</sub>e/CWT</b>	Actual result <b>3.3%</b> less than the emission intensity goal established for 2022	<b>37.8 kgCO<sub>2</sub>e/CWT</b>

> [Click here to read the Sustainability strategy and performance chapter in its entirety](#)

1) Fatalities and TRI (Total Recordable Injuries) data include Petrobras Parent Company, Libra, Petrobras Bolivia S.A. (PEB), Petrobras International Braspetro B.V. – Sucursal Colombia (GDP-COL) and Transpetro. Emission data considers all companies that we have operational control over.

2) Leaked volume of oil and oil products. The volumes of oil and oil products leaked related to our operation are computed (not including clandestine deviations) of all occurrences with account for a volume leaked above one barrel (0.159m<sup>3</sup>) and that have reached water bodies or non-waterproofed soil.

3) Intensity of Greenhouse Gas Emissions.

4) Considering the unique profile of GHG emissions during the commissioning process of new E&P units, which do not represent the intrinsic performance of these units in full operation, as of 2023 the indicator of the E&P segment that will be part of our top metric will refer to the intensity of GHG emissions from currently implemented units (IGEE E&P Implemented Units). For 2023, the target for IGEE E&P Implemented Units is 15.04 kgCO<sub>2</sub>e/boe. The IGEE E&P indicator of the total portfolio, related to our history and commitment to sustainability, will be maintained and we will also start to monitor the GHG emissions performance of the new units only (IGEE E&P New Units). In this sense, we increased the transparency on the performance of the E&P segment by monitoring two new metrics.

# Governance



## Economic impacts

Due to the size of our business and our value chain, we have a relevant economic impact, especially on the Brazilian economy.

As defined in our material topics, economic impacts are the consequences arising from the payment of taxes, royalties, salaries and suppliers, distribution of dividends and their consequences at the local, national, and global level, such as the multiplier effect on the economy, social transformations and improvements in infrastructure.

This includes impacts on the business, the market and the value chain arising from vulnerability to commodity prices, variation in production and demand, pricing policy adopted, and investments and divestments of companies and assets, as well as our tax approach, tax compliance and accountability reports for payments to governments.



## Business integrity

Good corporate governance and compliance practices are a support pillar for our business. Our work is guided by ethics, integrity, and transparency. Additionally, considering our operations in increasingly competitive markets, it is important that our governance model ensures the balance between efficiency and control to ensure that we operate quickly and safely at the same time.

The material topic of business integrity includes governance and compliance mechanisms, covering aspects of corporate integrity, positioning in relation to ethics and anti-corruption, and promotion of a balanced and fair environment. It includes actions to prevent, detect and remedy misconduct and harmful acts committed against the company. This includes those related to fraud, corruption, influence peddling, money laundering, commercial sanctions, conflict of interests, harassment, discrimination, and other illicit activities against management that cause economic and reputational impacts for the company, its investors and value chain, as well as the management of contracts and availability of public information regarding them. It also includes the risk of negative impacts due to a weak system, ineffective controls or biased supervision, as well as the risk of positive impacts due to responsible business practices and integrity commitments in the value chain.



## GOVERNANCE



Economic  
impacts

### MATERIAL TOPICS



Business  
integrity



1 NO  
POVERTY



5 GENDER  
EQUALITY



8 DECENT WORK AND  
ECONOMIC GROWTH



9 INDUSTRY, INNOVATION  
AND INFRASTRUCTURE



10 REDUCED  
INEQUALITIES



12 RESPONSIBLE  
CONSUMPTION  
AND PRODUCTION



16 PEACE, JUSTICE  
AND STRONG  
INSTITUTIONS



17 PARTNERSHIPS  
FOR THE GOALS

#### Added Value Distribution<sup>1</sup>



**BRL 29,191 million**  
Direct compensation  
(personnel and management)



**BRL 224,836 million**  
Taxes



**BRL 40,013 million**  
Financial institutions  
and suppliers



**BRL 189,005 million**  
Shareholders  
(including retained  
profits)

#### Other contributions to society<sup>2</sup>



**BRL 121 million**  
Volunteer socio-  
environmental projects



**BRL 49 million**  
Cultural, sports and  
business, science, and  
technology projects



**BRL 348 million**  
Environmental  
monitoring  
programs and  
projects in  
environmental  
licensing processes



**BRL 114 million**  
Projects to mitigate and  
compensate for socio-  
economic impacts



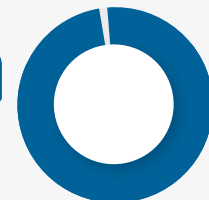
**BRL 272 million**  
Donation

### 258 processes (100%) were reassessed

based on risk factors related to fraud and corruption



**34%** of our internal controls, including those aimed at preventing and detecting potential occurrences of fraud and corruption



**98.6 %**  
of employees signed  
the informed consent  
agreement of the Code of  
Ethical Conduct

**99.2 %**  
employees trained in  
ethics and integrity<sup>3</sup>

**99.2 %**  
employees trained  
in General Law  
for Personal Data  
Protection



**2,365**  
reports received<sup>4</sup>  
Of the reports verified  
in 2022: 374 were  
confirmed or partially  
confirmed, 922 were not  
confirmed, and 1,056  
were dismissed<sup>5</sup>



Statutory Audit  
Committee obtained  
detailed information  
on **34** compliance  
incident complaints  
that were considered  
to be the most critical



**107**  
disciplinary  
measures to  
employees

1) Consolidated data. Amounts distributed according to the 2022 Value Added Statement. Direct compensation includes salaries, profit sharing, variable compensation, FGTS and benefits (advantages, retirement and pension plan and health insurance plan). In 2022, the payment of taxes and government participations was BRL279 billion and the amount of dividends paid to Petrobras shareholders was BRL194 billion.

2) Consolidated data.

3) Excluding employees on long-term leave or assigned to other corporate holdings and external entities, the percentage is 99.7%. This data covers only employees of Petrobras Parent Company (including those assigned to subsidiaries).

4) The data considered in the survey refer to Petrobras and its subsidiaries.

5) The dismissals are mainly due to the lack of feedback from the whistleblowers to the Reporting Channel regarding necessary additional information. In addition, reports presented by third parties and in which the potential victim does not agree to deal with the demand are also dismissed.

# Environment



## Climate resilience, GHG emissions and other gases

The impacts related to the material topic “climate resilience, GHG emissions and other gases” correspond to direct and indirect emissions of greenhouse gases (Scope 1, 2 and 3), the company’s risks, and opportunities in the face of climate change and energy transition. It includes management of atmospheric emissions and their impacts on ecosystems, people’s health, and the well-being of local communities, as well as the positive impacts of implementing technologies in the process to reduce the intensity of emissions, in the development of products with less environmental impact and mitigation programs and projects.

The transition to a low-carbon economy can affect our business in several ways, such as reduced demand for fossil fuels and the consequent reduction in their prices, carbon pricing, and operational impacts due to climate change. We map these risks, quantify their impacts and define actions for their management, such as emission reduction commitments and technological innovation activities.



## Accident prevention and management

Accident prevention and management correspond to the set of strategies, plans and management practices adopted by the company to promote the safe operation of assets and maintain the readiness of emergency response systems to mitigate impacts on human life, the environment, infrastructure, and reputation. It includes the ability to perform integrated work with public authorities, partners, the community, and other actors in emergencies, such as response actions for leaks at sea to prevent them from reaching the coast or any sensitive areas.



## Biodiversity

The material topic consists of managing biodiversity risks and impacts, seeking to avoid and minimize impacts, such as changes in air of ecosystems quality and loss of fauna and flora, and when this is not possible, recover and/or compensate for residual impacts in line with the mitigation hierarchy, throughout the life cycle of the projects. It includes programs and projects for environmental protection and restoration, contributing to the conservation and improvement of biodiversity and ecosystem services, especially in areas of high biodiversity value in terrestrial and especially marine environments, due to the greater activity in this biome.



## Waste management and decommissioning

Waste management covers measures for the proper management of solid waste throughout the lifecycle of our businesses, including circular economy practices, which seek to prevent generation, reduce, reuse, recycle, treat hazardous and non-hazardous waste and environmentally appropriate disposal of waste to value materials and resources while avoiding or mitigating possible impacts to the environment and human health. This material topic includes the decommissioning process related to dismantling, transportation and disposal of equipment, structures, and waste, as well as its risks and opportunities. It also includes the proper planning and execution of studies and projects, all while seeking sustainability, environmental protection, safety, and care for people.



## Water and effluents

The availability of water quantity and quality is essential for our operations. We use water directly for our oil, gas and oil products production and processing units; for steam generation; refrigeration; human consumption; among others. As a result, practically all of our activities generate domestic and industrial effluents, such as produced water.

Therefore, we undertake efforts to continuously improve the management of water resources and effluents, considering our value of respect for the life and integrity of our facilities.

The topic includes variation in the availability or quality of water in our areas of influence due to withdrawal and/or discharges associated with the company’s activities.

It covers negative impacts on biodiversity and human health in the case of water scarcity for withdrawal or for assimilating our effluents, and positive impacts such as the return of water resources with better quality than those withdrawn, or in the implementation of projects for the conservation and recovery of springs and riparian forest.

## ENVIRONMENT



	2015 SITUATION	2022 SITUATION	2025 COMMITMENT	2030 COMMITMENT
<b>Climate resilience, GHG emissions and other gases</b>				
TOTAL OPERATIONAL ABSOLUTE EMISSIONS	> 78.2 million tCO <sub>2</sub> e	> 47.7 million tCO <sub>2</sub> e		> 54.8 million tCO <sub>2</sub> e
ROUTINE FLARING	> Continuous improvement in the use of the produced gas, reaching 97.3% in 2022			> ZERO routine flaring <sup>1</sup>
GEE INTENSITY IN THE E&P SEGMENT	> 22 kgCO <sub>2</sub> e/boe	> 15 kgCO <sub>2</sub> e/boe	> 15 kgCO <sub>2</sub> e/boe	> 15 kgCO <sub>2</sub> e/boe
GHG INTENSITY IN THE REFINING SEGMENT	> 43 kgCO <sub>2</sub> e/CWT	> 39.7 kgCO <sub>2</sub> e/CWT	> 36 kgCO <sub>2</sub> e/CWT	> 30 kgCO <sub>2</sub> e/CWT
INTENSITY OF METHANE EMISSIONS IN THE E&P SEGMENT	> 0.65 tCH <sub>4</sub> /thousand tHC	> 0.26 tCH <sub>4</sub> /thousand tHC	> 0.29 tCH <sub>4</sub> /thousand tHC	
REINJECTION IN CCUS PROJECTS <sup>2</sup>	> 2.9 million tCO <sub>2</sub>	> 40.8 million tCO <sub>2</sub>	> 80 million tCO <sub>2</sub>	

	2021 SITUATION	2022 SITUATION	2025 COMMITMENT	2030 COMMITMENT
<b>Water and effluents</b>				
FRESH WATER WITHDRAWAL	> 151 thousand megaliters	> 122 thousand megaliters		> 91 thousand megaliters
<b>Waste management and decommissioning</b>				
GENERATION OF SOLID WASTE	> 278 thousand tons	> 249 thousand tons		> 195 thousand tons
WASTE SENT TO RRR ROUTES	> 68%	> 76%		> 80%
<b>Biodiversity</b>				
BIODIVERSITY ACTION PLANS	> 25%	> 25%	> 100%	

Accident prevention and management	
218.03 m <sup>3</sup> leaked <sup>3</sup> in 2022	> 81.7% above Maximum Admissible Limit (LMA) for the company for 2022
12 Tier 1 accidents	> 33 Tier 2 accidents

> [Click here to read the Environment in its entirety](#)

1) In accordance with the World Bank's zero routine flaring initiative.

2) CO<sub>2</sub> reinjection values in CCUS projects accumulated since 2008.

3) Leaked volume of oil and oil products. The volumes of oil and oil products leaked related to our operation are computed (not including clandestine deviations) of all occurrences with account for a volume leaked above one barrel (0.159m<sup>3</sup>) and that have reached water bodies or non-waterproofed soil.



# Social



## Local and traditional communities

Our activities can have an impact on the social dynamics of the communities where we operate. These changes may occur in one or more of the following: livelihoods, economy, culture, community, political system, environment, health and well-being, individual and property rights, and people's fears and aspirations.

We manage the socioeconomic impacts and risks that may affect the communities located in the areas where our activities are carried out through environmental licensing or through the management of social and environmental risks and local Social Responsibility plans.

The impacts on indigenous and traditional communities such as fishing communities, should be considered.

The topic includes impacts from the company's efforts to raise community awareness of accidents, including those caused by third parties, such as fuel theft, and to prevent violence or violation of human rights by the company's security forces in conflict situations. It also addressed positive impacts such as security and protection for local communities through dialogue between communities and public security forces.



## Labor practices and equality of opportunity

The material topic labor practices and equal opportunities corresponds to employment opportunities and positive impacts on workers by the employment practices adopted and their influence on the supply chain. It includes impacts on employees, on their careers and development, and on the organizational environment due to the level of transparency in communication and the establishment of dialogue, especially in career advancement processes, and the company's policies and practices in relation to the promotion of non-discrimination, diversity, equity, inclusion, and equality of opportunity.

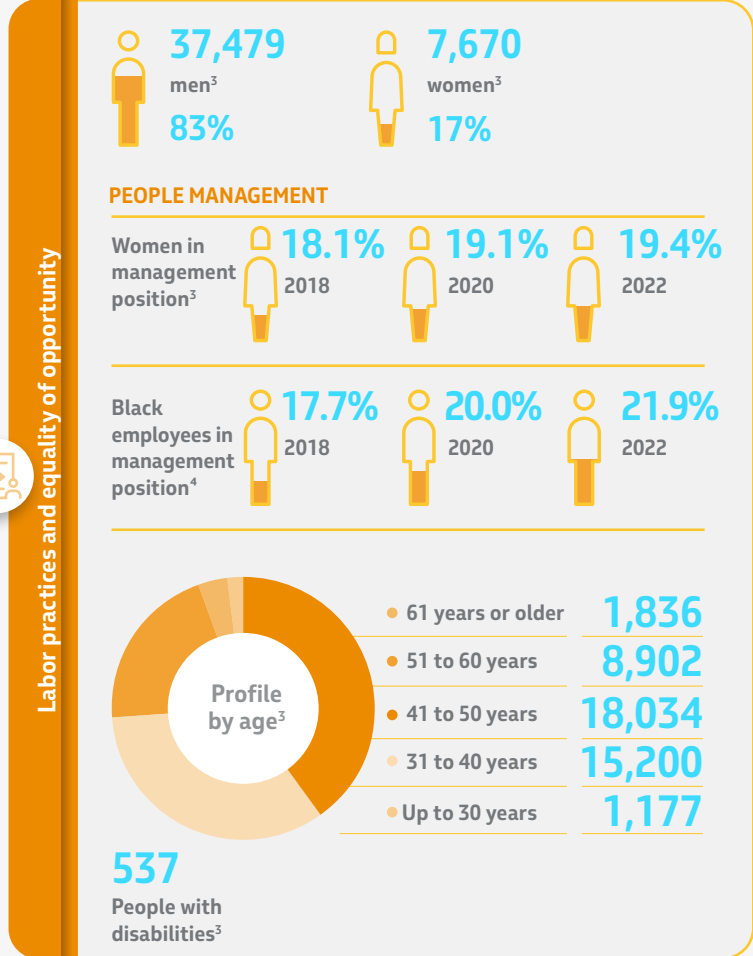
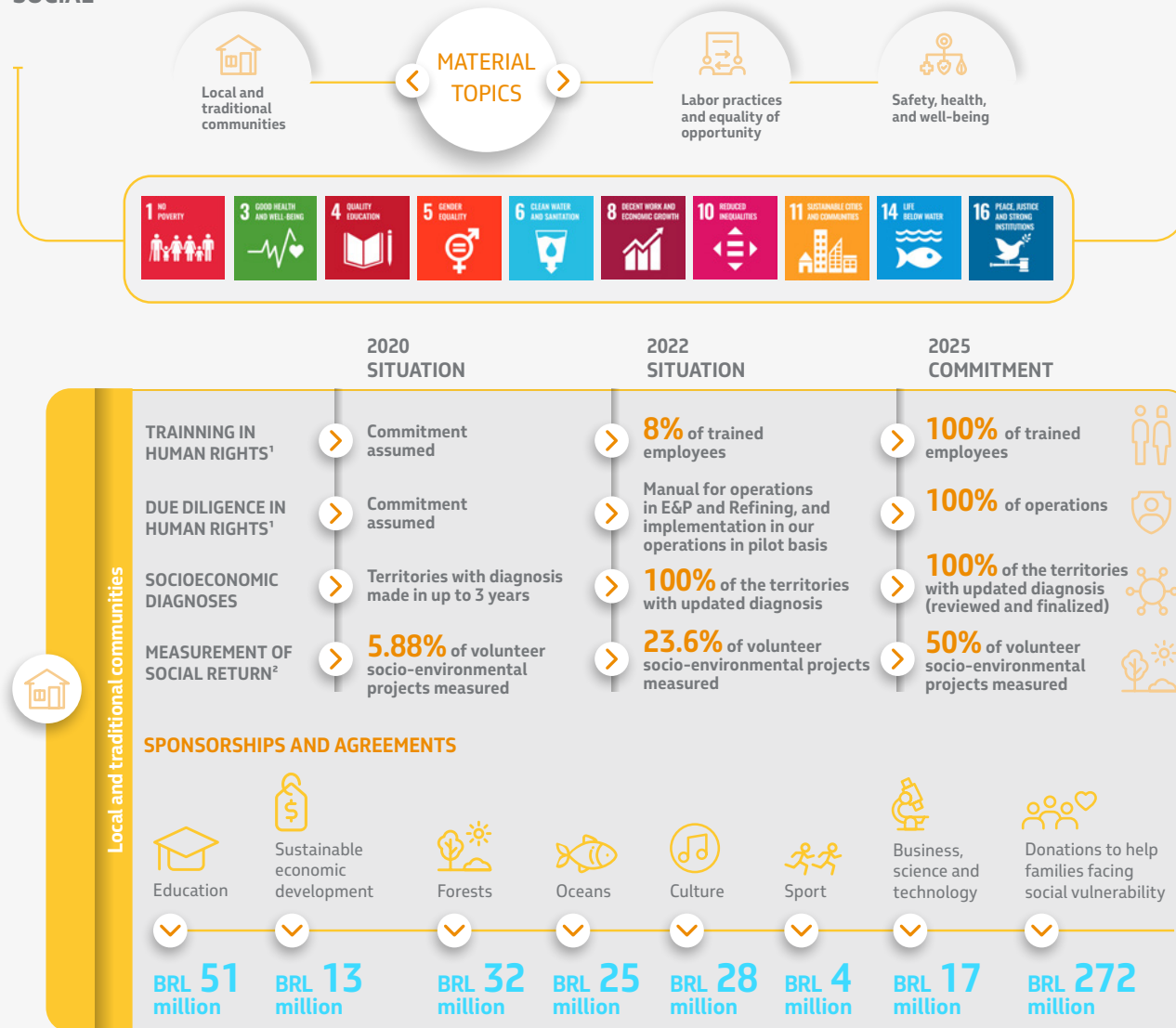


## Safety, health, and well-being

The topic of safety, health and well-being is part of the company's approach to achieving healthy and safe working conditions, including efforts to prevent physical and mental damage to workers and to promote health, seeking to avoid negative impacts such as fatalities, workplace accidents and occupational disease.



## SOCIAL



General notes: Fatalities data, TRI (Total Recordable Injuries), employees, donations, sponsorships and agreements are consolidated. Other datas are specific to the parent company Petrobras.

1) The information on human rights can be found in the **Human Rights and Corporate Citizenship Supplement**.

2) The percentage considers the cumulative number of projects measured from 2019 onwards by the number of projects in the portfolio on December 31 of each year.

3) Consolidated data.

4) Self-declared employees of black or brown color/race, not including employees of contracted companies who work on the company's premises. In the 2020 Sustainability Report, the number of employees and respective percentages were only for Petrobras Parent Company. In 2021, we present data for the parent company and subsidiaries in Brazil. Data prior to 2021 were adjusted considering this scope. For cultural reasons in some countries, the information for 2018, 2019, 2020 and 2021 could not be obtained and consolidated, including the subsidiaries abroad. The 2022 numbers consider data from the Parent Company, subsidiaries in Brazil and subsidiaries abroad (Petrobras Netherlands B.V., Petrobras America INC., Petrobras Singapore Limited, Petrobras Operaciones S.A., Petrobras Oil & Gas B.V. – Turkey branch, Petrobras International Braspetro B.V.). For cultural reasons in some countries, this information cannot be obtained and consolidated for all companies abroad.



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