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# Análise dos ODS divulgados nos relatórios de sustentabilidade das empresas com alto potencial poluidor, integrantes do setor de Petróleo, Gás e Biocombustível da B3

## *Analysis of the SDGs disclosed in the sustainability reports of companies with high polluting potential that are part of B3's Oil, Gas and Biofuel sector*

## *Análisis de los ODS divulgados en los informes de sostenibilidad de las empresas con alto potencial contaminante que forman parte del sector de Petróleo, Gas y Biocombustibles de B3*

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**PALAVRAS-CHAVE**
Objetivos de Desenvolvimento Sustentável.
Desenvolvimento Sustentável.
Relatório de Sustentabilidade.

**Resumo:** O presente estudo teve como objetivo identificar e analisar os Objetivos de Desenvolvimento Sustentável (ODS) divulgados nos relatórios de sustentabilidade das empresas com alto potencial poluidor, integrantes do setor de Petróleo, Gás e Biocombustível da B3. A pesquisa adotou a abordagem qualitativa, caracterizando o estudo como exploratório, descritivo e documental. Tendo como amostra as empresas: Cosan, Petrobrás, Enauta e Ultrapar. Os dados foram obtidos por meio dos relatórios de sustentabilidade ou relato integrado das organizações pesquisadas no período de 2016 a 2021. Como instrumento de coleta de dados e análise de resultados foram utilizados os softwares R, na mineração de dados textuais dos relatórios, e ATLAS.ti versão 23 para análise de conteúdo. Os resultados desta pesquisa destacaram que os ODS mais divulgados foram o 8, 9 e 12, ou seja, ODS mais conectados e direcionados às atividades fins das empresas. O ODS 13 também foi destaque na divulgação, em parte, pela urgência do combate às mudanças climáticas e pelo entendimento de que os combustíveis fósseis são fontes emissoras significativas de carbono para a atmosfera, o que direciona as organizações a buscarem uma atuação alinhada às metas do ODS 13. Quando analisado cada relatório de forma mais aprofundada, identificou-se inconsistências entre o discurso de adesão aos ODS e a definição prática e operacional dos ODS com metas alinhadas à Agenda 2030.

***KEWORDS***
*Sustainable Development Goals.*
*Sustainable development.*
*Sustainability report.*

***Abstract:*** *This study aimed to identify and analyze the Sustainable Development Goals (SDGs) disclosed in the sustainability reports of companies with high polluting potential, members of the Oil, Gas, and Biofuel sector of B3. The research adopted a qualitative approach, characterizing the study as exploratory, descriptive, and documental. Taking the following companies as a sample: Cosan, Petrobrás, Enauta, and Ultrapar. Data were obtained through sustainability reports or integrated reporting of the organizations surveyed in the period from 2016 to 2021. As an instrument for data collection and analysis of results, the R software was used, in the mining of textual data from the reports, and ATLAS. ti you version 23 for content analysis. The results of this research highlighted that the most publicized SDGs were 8, 9, and 12, that is, SDGs that are more connected and directed to the core activities of companies. SDG 13 was also highlighted in the disclosure, in part, due to the urgency of combating climate change and the understanding that fossil fuels are significant sources of carbon emissions into the atmosphere, which directs organizations to seek actions in line with the targets of SDG 13. When analyzing each report in more depth, inconsistencies were identified between the discourse of adherence to the SDGs and the practical and operational definition of the SDGs with goals aligned with the 2030 Agenda.*

***PALABRAS CLAVE***
*Metas de desarrollo sostenible.*
*Desenvolvimiento sustentable.*
*Reporte de Sostenibilidad.*

***Resumen:*** *Este estudio tuvo como objetivo identificar y analizar los Objetivos de Desarrollo Sostenible (ODS) divulgados en los informes de sostenibilidad de las empresas con alto potencial contaminante, integrantes del sector Petróleo, Gas y Biocombustibles de B3. La investigación adoptó un enfoque cualitativo, caracterizando el estudio como exploratorio, descriptivo y documental. Tomando como muestra las siguientes empresas: Cosan, Petrobrás, Enauta y Ultrapar. Los datos se obtuvieron a través de informes de sostenibilidad o informes integrados de las organizaciones encuestadas en el período de 2016 a 2021. Como instrumento de recolección de datos y análisis de resultados se utilizó el software R, en la extracción de datos textuales de los informes, y ATLAS .ti versión 23 para análisis de contenido. Los resultados de esta investigación destacaron que los ODS más publicitados fueron el 8, 9 y 12, es decir, ODS más conectados y dirigidos a las actividades centrales de las empresas. El ODS 13 también se destacó en la divulgación, en parte, debido a la urgencia de combatir el cambio climático y la comprensión de que los combustibles fósiles son fuentes importantes de emisiones de carbono a la atmósfera, lo que lleva a las organizaciones a buscar acciones en línea con las metas de los ODS. 13. Al analizar con mayor profundidad cada informe, se identificaron inconsistencias entre el discurso de adhesión a los ODS y la definición práctica y operativa de los ODS con metas alineadas con la Agenda 2030.*

## Introduction

The Sustainable Development Goals (SDGs) are part of the 2030 Agenda of the United Nations (UN) and cover the period 2016-2030. Unlike the Millennium Development Goals (MDGs), the SDGs apply to all countries. It makes a significant symbolic difference by recognizing that all countries, rich and poor, have work to do to achieve the SDGs. The rationale for the SDGs is that the 17 individual goals represent the diverse elements of sustainability and that, taken together, they provide a holistic representation of the complexity and interdependencies of sustainable development. Each objective has a series of associated targets and indicators (Valencia et al., 2019).

Compared to the MDGs, the SDGs represent a much broader and more integrated, complex, and challenging agenda for countries to implement. They also apply to develop and developed countries. The timeframe for achieving the targets will be medium to long-term, with most objectives and targets corresponding to a time horizon of up to 2030 (Allen et al., 2016).

To support the achievement of the SDGs, interdisciplinary cooperation with other parties is necessary, as the goals involve all aspects of human endeavor. In this situation, organizations play a significant role in supporting the achievement of goals, as they carry out many commercial activities that involve and contribute to a country's standard of living. They manage raw materials, use human resources, and carry out activities that greatly impact health and safety, social well-being, and the consumption of environmental resources. Therefore, there is a great opportunity for companies to collaborate with governments to achieve the SDGs, through their commercial activities (Gunawan et al., 2020; Izzo et al., 2020; Van der Waal & Thijssens, 2020).

For this to happen, organizations must propose a change in their commercial and business priorities, incorporating the SDGs into their management, through the operationalization of processes, that is, through the establishment of intervention plans with the definition of measures and concrete actions necessary for its implementation. Bearing in mind that the implementation of the SDGs has consequences in operational terms, this favors the optimization of operational management and the measurement of impacts interrelated with sustainability and with a predominance of the search for greater efficiency and performance improvements (Santos & Silva Bastos, 2021).

Considering that the SDGs are relevant as a global agenda to reduce inequalities, and environmental and climate impacts, they seek to promote the eradication of poverty, the promotion of decent work, gender equality, and respect for diversity, among others. In this way, the SDGs, with their goals, are integrated and include the three dimensions of sustainable development – social, environmental, and economic – and can be put into practice by governments, civil society, and organizations committed to future generations. Therefore, the guiding question of this research is how is the adoption of the SDGs disclosed in the sustainability reports of companies with high polluting potential, members of the Oil, Gas, and Biofuel sector of B3?

Therefore, this article aims to identify and analyze the SDGs disclosed in the sustainability reports of companies with high polluting potential, members of the Oil, Gas, and Biofuel sector of B3. In methodological terms, this study is characterized as exploratory, descriptive, and documentary, with a qualitative approach, with data obtained through sustainability reports or integrated reports of the organizations surveyed in the period from 2016 to 2021.

## Theoretical elements of the research

### Sustainable Development Goals – SDGs

In 2015, the United Nations General Assembly adopted the 2030 Agenda for Sustainable Development, intending to guide public

policies and inspire social actors to promote sustainable development around the world. The core of this program is 17 Sustainable Development Goals (SDGs) with 169 specific targets, the majority of which must be achieved by 2030 (Figure 1). Although the SDGs are not the first effort to set global goals, they are still, above all, the most comprehensive and detailed attempt by the United Nations to promote sustainable development ( Biermann et al., 2022).

Figure 1

**Sustainable Development Goals**


**Source:** UN (2021)

The SDGs mark a historic shift for the UN towards an agenda of sustainable development, after a long history of trying to integrate economic and social development with environmental sustainability. They, too, mark the most ambitious effort yet to place goal setting at the center of global policy and governance (Biermann et al., 2017). The UN's 17 Sustainable Development Goals (SDGs) have created a framework for environmental and social impacts, so institutional investors and corporations are using them to guide resource allocation or highlight investments aligned with existing SDGs (Consolandi et al . , 2020).

## Sustainability Reports

The concept of sustainability reporting has been addressed by experts around the world and is defined as the process of communicating the social and environmental effects of organizations' economic actions to special interest groups within society at large (Petrescu et al., 2020 ). Thus, the sustainability report aims to demonstrate the contribution to sustainable development (Beyne et al., 2021).

A sustainability report based on outcomes and impacts requires companies to demonstrate their contribution to sustaining diverse life on Earth by showing fair use of scarce resources. In this sense, the objectives of the report should be the 17 UN SDGs, which form the structure of the report (Abeysekera, 2022).

Several important studies on sustainability reporting have been carried out by experts around the world and their results have focused on the factors and degrees of adoption or non-adoption, as well as the positive or negative effects produced by them (Lloret, 2016; Morioka & de Carvalho, 2016; Thijssens et al., 2016; Shoaf et al., 2018; Bebbington & Unerman, 2018; Bebbington & Unerman, 2020; Izzo et al., 2020; Abhayawansa & Adams, 2021; Silva, 2021; Nicolò et al., 2022).

However, the current emphasis of regulatory bodies related to International Sustainability is to encourage companies to produce reports that obtain consistent and comparable information about their sustainability results (Abeysekera, 2022).

The benefits of sustainability reporting outweigh the financial risks and include opportunities to achieve reporting entities' performance in the environmental, social, and governmental framework, as well as the establishment of an operational license. Disclosure of sustainability is a differentiating factor in a competitive sector, encouraging investor confidence, confidentiality, and employee loyalty. By collecting information and building sustainability reports, companies can broaden their horizons, identifying new ways to institute environmental practices, concerning waste reduction, innovation in technological processes, and prospects for economic and social growth in certain areas (Petrescu et al., 2020).

Therefore, the concrete operationalization of the

SDGs in strategies and business models cannot be dissociated from their substantive incorporation into corporate reporting practices. and society's expectations (de Villiers & van Staden, 2006).

Legitimacy and stakeholder theories represent two overlapping perspectives within the broader framework of the political economy theory. They focus on corporate disclosure as a mechanism for managing the organization's relationships with society, individuals, and *stakeholder groups.* (Deegan & Blomquist, 2006; Hahn & Lülfs, 2014) .

In this sense, organizations' search for legitimacy requires an active effort to reformulate their reporting practices, including non-financial information, which demonstrates their active commitment to achieving the SDGs ( Fonseca & Carvalho, 2019; Tsalis et al., 2020).

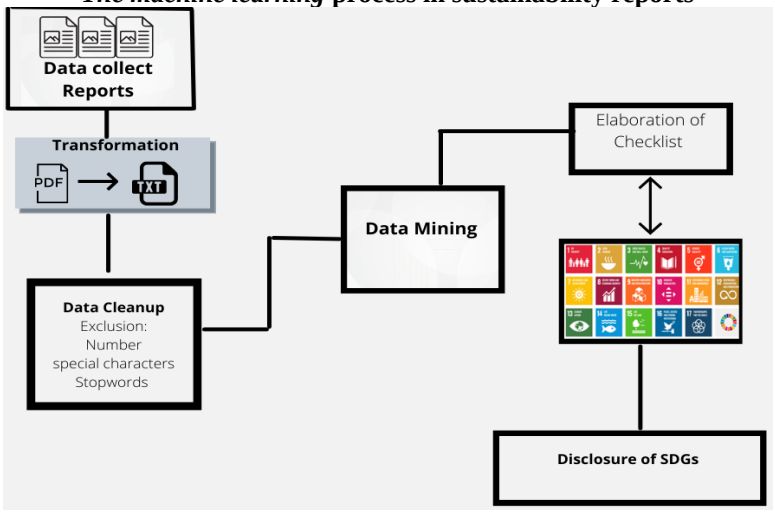
**Methodological elements of the research**

This study used a qualitative approach to guide the research. As for the purposes, it is characterized as exploratory and descriptive; and, in terms of means, it is a bibliographical and documental research. Concerning the study sample, the following organizations were selected: Cosan, Petrobras, Enauta, and Ultrapar. These companies were selected because they belong to the Oil, Gas, and Biofuel sector, with a high polluting potential and user of environmental resources, classified by Annex VIII of Law 10.165/2000, which provides for the National Environmental Policy, its purposes, and mechanisms for formulating and applying it.

For data collection, sustainability reports or integrated reports were used for the period from 2016 to 2021, through the *websites* of the surveyed organizations. With the reports in hand, textual data mining of the reports was carried out using the "R" *software*, as shown in figure 2.

Figure 2

***The machine learning* process in sustainability reports**




**Source:** Prepared by the authors (2023).

Figure 2 graphically details the methodological process of *Machine Learning* in the reports. After collecting and downloading the reports of the researched companies in "PDF", the first step was to transform them into files with the "TXT" extension. Then, utilizing data mining algorithms, relevant information was extracted and those that were not necessary for the study were excluded, enabling the reduction of the dimensionality of the files. Next, the data mining phase was carried out, through the elaboration of key terms (Table 1), which was made up of a checklist of SDG keywords, estimating the frequency of words in the reports. Then, the results of disclosures of the

17 SDGs were obtained.

Aiming to operationalize the extraction of which SDGs are disclosed by companies in the sustainability reports or Integrated reports, a checklist was prepared (table 1), based on the UN (2015), with the words related to the themes of each SDG. Subsequent to this process, the data mining phase took place, which consists of the analysis of data sets, through an automated reading, in the case of the present research, of the SDG Checklist prepared within the reports in the period from 2016 to 2021.

To analyze the reports, Bardin's (2010) content analysis was used, performed from 3 (three) phases that are necessary to perform a content analysis: 1) pre-analysis; 2) exploration of the material; and 3) treatment of results, inferences, and interpretations. At this stage of the analysis of the results, the ATLAS.ti *Software* version 23 was used. With the help of ATLAS.ti, 24 sustainability reports or integrated reports of the 4 (four) companies surveyed were analyzed, making a total of 2,510 pages, with an average of 105 pages per analyzed report.

**Table 1**
**SDG checklist**

| SDG | Words Related to the SDGs |
|---|---|
| 1, Poverty Eradication | Poverty, poor, Poor, Refugee, vulnerable, vulnerable, Misery, Eradicate, Eradication, social vulnerability. |
| 2, Zero Hunger and Sustainable Agriculture | Hunger, Agriculture, farming, Nutrition, Malnutrition, Food, Overweight, Food, Food, Needy, farmers, Farmers, producer, producers, Malnutrition, undernutrition. |
| 3, Health and Wellness | Health, Drugs, alcoholism, vaccines, vaccination, immunization, Epidemic, Pandemic, occupational, rehabilitation, emotional, readaptation, work, psychological, Leave(s), self-care, tobacco, smoking, injury, injuries, |
| 4, Quality Education | Education, teaching, school, teacher, teachers, school, school, schooling, Youth, Youth, Professional adult(s), apprentice, apprenticeship(s), learning, intern(s), trainees. |
| 5, Gender Equality | Equality, Gender, Sex, Male, Female, Discrimination, Prejudice, Man, Men, Woman, Women, Violence, trafficking, Empowerment, transsexual, transsexuality, transgender, transgender, equity, identity, Lesbian(s), Gay, Bisexual, Transgender, Queer, Intersex, and Asexual. |
| 6, Water Potable and Sanitation | Water, Effluents, Sanitation, Desalination, waste, recycling, rivers, aquifers, lakes, water, water, potable, reuse, reuse, reuse, reused |
| 7, Energy is Affordable and Clean, | Energy, Energy, Renewable, Renewables, Electricity, Bioenergy, Biofuels, Biodiesel, Ethanol, wind, Fossil, fossils, photovoltaic, microgeneration, hydroelectric plant, |
| 8, Decent Work and Economic Growth | Modernization, Modern, economical, Efficiency, Innovative, Innovation, Innovative, Innovative, Young, Young, work, employment, productivity, management, unemployment, formalization, employee, collaborator, collaborators, employability, Salary, compensation, training, career, harassment(s), maternity, paternity, entrepreneurship. |
| 9, Industry, Innovation, and Infrastructure | Industry, Innovation, Infrastructure, Industrialization, Industry, Technology, Transport, Highway, Railroad, Waterway, Ports, Airport, Ferries, Export, Import, Credit, Bankruptcy, patent, privacy, Community, Efficiency. |
| 10, Reduction of Inequalities | Ethnicity, Inequality, Inclusion, Politics, Migration, discrimination, meritocracy, race, racism, sexism, feminism, Diversity, Sexism, Empowerment, ethnic, Lesbian, Gay, Bisexual, Transgender, Queer, Intersex, Asexual, discrimination against, harassed, LGBTQIA. |
| 11, Cities and Communities sustainable | Housing, resident, residents, Highways, Housing, Transport, Urbanization, Community Investment(s), Aid, Municipality, Territorial, Indigenous, Quilombola, |
| 12, Consumption and Production responsible, | Consumption, Recycling, production, Eco-efficiency, Reuse, Waste, Recycled, Recycle, labeling, consumer, consumers, waste(s), chain(s), supply(s), Seal, packaging, packaging, reuse, Certification, certifications, ISO, circularity, circular, |
| 13, Action Against Global Climate Change | *Decarbonization*, warming, Climate, Resilience, Adaptation, Disaster(s), Mitigation, mitigations, GHG, Climate, Emissions, Emissions, Carbon, Carbon, offset. |
| 14, Life in Water | Ocean, Sea, seas, fisheries, acidification, Mangrove, mangroves, Coastal(s), Marine, |

| | |
|---|---|
| | Ecosystem |
| 15, Earth Life | Forest(s), desertification, degradation, degraded, biodiversity, fauna, flora, Mountain, APP, Amazon, Cerrado, Pantanal, Atlantic Forest, Pampa, Caatinga, biome, ecosystem(s) deforestation, Ecosystem, Preservation, Conservation, geodiversity, biodiversity, management, socio biodiversity, |
| 16, Peace, Justice, and Effective Institutions | Peace, Justice, Violence, Abuse, Trafficking, Corruption, Bribery, Mortality, Femicide, Sexual harassment, Discrimination, Racism, Transparency, Accountability, Effectiveness, society, and institutions. |
| 17, Partnerships and Means of Implementation | Anti-corruption, Cooperation, Partnership, sharing, NGOs, institutions, Multisectoral, Multisectoral, compliance, advocacy. |

Source: Drawn from the UN (2021)

**Presentation and discussion of results**

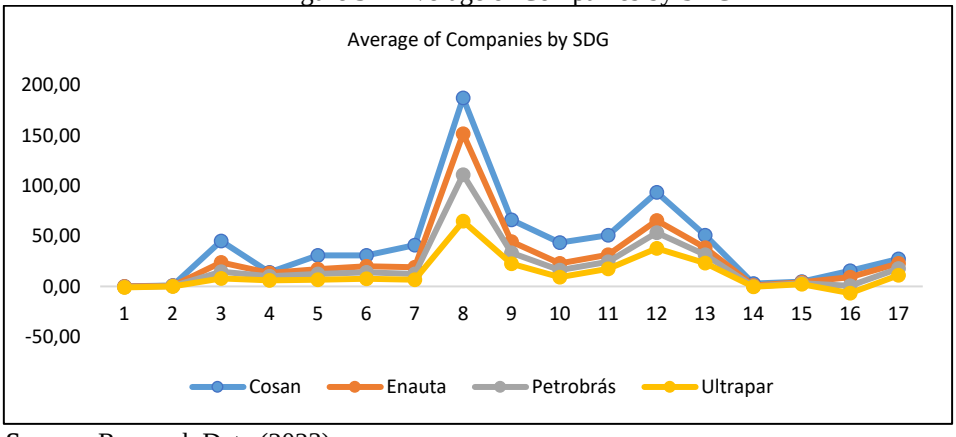
Figure 3 shows the average of the companies surveyed and shows the most publicized SDGs, from 2016 to 2021, were SDG 8 (decent work and economic growth), 9 (industry, innovation, and infrastructure), and 12 (sustainable consumption and production). These results are in line with the Bebbington studies and Unerman (2020); Izzo, Ciaburri, and Tiscini, (2020); Tsalis et al., (2020); Yu et al., (2020); Heras-Saizarbitoria, Urbieta, and Boiral (2022); Nicolo et al., (2022).

Research by de Fonseca and Carvalho (2019 ), Curto-Pages et al., (2021 ), and Gunawan et al., 2020, also indicated SDG 8 as the most addressed among the others released. It is simpler to report this SDG, to the detriment of the others, because it provides, in a clear way, for organizations to track their actions and strategies towards alignment with SDG 8.

In the view of Izzo et al (2020), the justification for the more pronounced use of SDG 8 may lie in the direct relationship between corporate strategies and SDG 8, as it proposes to promote sustained, inclusive, and sustainable economic growth, full employment and productive as well as decent work for all.

Another factor that may explain this predilection for SDG 8 may be related to the conviction that economic growth is the main driver of sustainable development, directly impacted by business activities. Having an anthropocentric view of the world, in which the business discourse of sustainable development is centered on the ideology of economic growth.

Figure 3 – Average of Companies by SDG




**Source**: Research Data (2023)

About the SDGs less publicized by companies, SDGs 1 (eradication of poverty), 14 (life underwater) and 2 (zero hunger) stand out. Findings were similar to those identified in research by Izzo, Strologo, and Granà (2020) and Erin and Bamigboye (2021).

To analyze the SDGs disclosed in the sustainability reports of the companies surveyed (Cosan, Petrobrás, Enauta, and Ultrapar), aiming to deepen and seek to understand how organizations report SDGs in their reports, a content analysis was performed on the reports.

Cosan is a holding company responsible for portfolio management, control, and governance of the companies Raízen, Compass Gás e Energia, Moove, and Rumo. It operates in the energy and logistics segments and has companies specializing in fuel distribution, sugar, ethanol and electricity production, natural gas, and lubricant distribution, as well as rail transport, port lifting, and storage. The SDGs are systematically included in Cosan's reports, starting in 2018, through correlation with the materiality matrix, in the following themes and SDGs: People Management – SDG 5,8,10; Climate Change-SDG 7,13,14,15; Occupational Health and Safety – SDG 3.8; Economic Performance - SDG 9; Environmental Compliance - SDG 11.12; Products and Processes - SDG 9.12; Energy - SDG 7; Residues-ODS 11,14,15; Technology and Product Opportunities - SDG 9. Although the company reports the crossing of each of the material topics with the SDGs, there are no strategies and goals related to the aforementioned SDGs in the organization.

In 2019, the company makes public ten commitments to sustainable development, based on Cosan's vision, best practices, and market references, especially the 17 SDGs.

The 10 commitments were: ensuring the safety of employees, processes and operations - SDG 3.8; promote and encourage energy efficiency, in addition to preparing and keeping up-to-date inventories of greenhouse gas (GHG) emissions in all businesses - SDG 7,12,13,14,15; promote gender diversity in selection processes and succession map, in addition to continuously developing people - SDG 3,5,8,10; spread ethical values among everyone on the team - SDG 8.17; seek forms of financing linked to sustainability criteria ( *Green/ Social/ Transition /ESG- related* ) - SDG 11,12,17; contribute to the sustainable development of Brazil, starting with the locations surrounding the companies' operations - SDG 1,16,17; promote transparency in relation to business management and in line with Environmental, Social and Governance aspects - SDG 3,5,7,8,9,10,12,13,14 ,15; participate in forums and voluntary initiatives related to sustainability and innovation, to discuss, influence and learn, always seeking the best global practices - SDG 4,9,11,17; reduce by 15% emissions per ton per useful kilometer (TKU) at Rumo by 2025 - SDG 12,13,14,15; reduce the carbon footprint of ethanol produced by Raízen by 10% by 2030 – SDG 7,12,13,14,15.

It should also be noted that, in 2019, Cosan continued to correlate the SDGs with the materiality matrix and report the achievements against the 10 commitments to sustainable development, descriptively, with some metrics for reducing the environmental impact, in an incipient and subjective. In 2020, Cosan restructured its commitments to sustainable development, bringing together the following themes: risk management and cybersecurity, people, and assets (SDG 3.8), seeking to ensure the safety of employees, processes, and operations; as well as technological innovation and digitization (ODS 4,9,11,17), aiming to participate in forums and voluntary initiatives related to sustainability and innovation, to discuss, influence and learn. Thus, it aims to identify opportunities for partnership, innovation, and technology.

Still, with the themes correlated to the SDGs, the organization presents, in the governance theme, the practices of corporate governance (SDG 8.17), in which it reports to spread ethical values among everyone in the company and promote transparency concerning business management, aligned to Environmental, Social and Governance aspects (SDG 3,5,7,8,9,10,12,13,14,15). Cosan states that it has joined the UN Global Compact, and is part of the 2021 portfolio of the Corporate Sustainability Index (ISE B3), the Carbon Efficient Index (ICO2 B3), and the S&P B3 ESG Brazil *Index*. The climate change theme (SDG 7,12,13,14,15), displays the strategy to promote and encourage energy efficiency; as well as preparing and keeping up-to-date inventories of greenhouse gas (GHG) emissions in all businesses. Finally, it brings people management and the promotion of diversity (SDG 3,5,8,10) as the last sustainable development commitment, seeking gender diversity in selection processes and succession map, in which it proposes to develop people continuously, to increase the number of women in senior leadership positions.

In 2021, Cosan continues to show its commitment to sustainable development, correlating them with the SDGs. Currently, this occurs more systematically, with structured goals and follow-up status. Another aspect to be highlighted is the use of indicators from the Sustainability Accounting Standards Board *( SASB )*, connected to the sectors and industries of the companies invested by Cosan and correlated to material issues, as well as the use of the recommendations of the -Task on Climate-Related Financial Disclosures ( *Task Force on Climate-related* Financial *Disclosures* – TCFD).

Petrobrás is a publicly traded corporation, controlled by the Federal Government, which has integrated and specialized operations in the oil, natural gas, and energy industry. It is renowned for its oil and natural gas exploration and production technology in ultra-deep waters. The company Petrobras specifically mentions the SDGs, as of 2017, when it informs that in its report it will be demonstrating its performance with the Principles of the Global Compact and the Sustainable Development Goals (SDGs) of the United Nations. However, the organization does not present this information throughout the document, it only indicates in the footnote of the report that the correlation of information with the indicators of the GRI *Standards,* SDGs, and Principles of the Global Compact is available in a supplementary notebook called Sustainability 2017: Correlation with *Global Reporting* indicators *Initiative* (GRI), Sustainable Development Goals (SDGs) and principles of the Global Compact, not available in the sustainability report as an attachment, but on the organization's website.

Meanwhile, the sustainability report identifies several strategies, goals, and actions of the organization that could be indicated as an integral part of its alignment with the SDGs, in an integrative way, with the management of the business.

In 2018, Petrobras inserted the SDGs in the topic related to materiality, in the report, and links SDGs 3, 8, 9, 12, and 16 to the organization's material topics. It also communicates that, throughout the Integrated Report, contributions to the achievement of SDGs 1,4,5,6,7,13,14,15, and 17 can be found. does not show, in a structured way, how its activities and operations contribute to achieving the listed Sustainable Development Goals. This company again exposes, through the

2018 Sustainability Supplementary Notebook, the correlation between the *Global Reporting indicators Initiative* (GRI) and the Sustainable Development Goals (SDGs).

Petrobras continues, in 2019, to link the same SDGs in its report, as it did in 2018. However, it highlights, in the socio-environmental investment part, that such objectives contribute positively to the communities located in the areas in which they operate, driving cultural changes, economic, social, and environmental and are linked to the Sustainable Development Goals (SDGs ): (1) Poverty Eradication, (4) Quality Education, (5) Gender Equality, (6) Clean Water and Sanitation, (8) Work Decent and Economic Growth and (10) Reducing Inequalities, (13) Action on Global Climate Change and (14) Life on Water. Even so, there is more of a discourse than an organizational engagement with the SDGs.

Furthermore, it should be noted that this possibility of organizational engagement with the SDGs could be identified in the Petrobrás Socio-environmental Program, which highlights four lines of action of the program, reviewed in January 2020, are Education, Sustainable Economic Development, Ocean and Climate, directed towards four of the SDGs: (4) Quality Education, (8) Decent Work and Economic Growth; (14) Life in Water; and (15) Earthly Life. This program emphasizes that the cross-cutting themes to be considered in all projects that make up the portfolio are early childhood, innovation, and cultural transformation. It presents the lines of action, the alignment with the business, benefits, and the most relevant indicators, and the assessment of the communities' needs are carried out by the multidisciplinary teams of the operating units, according to information in the report.

In 2020, the organization modified its materiality matrix, through a process of identifying, evaluating, and prioritizing relevant topics, with its *stakeholders*, which may affect the generation of value in the short, medium, and long term. The material themes are mainly linked to the following SDGs: 3,4,5,7,8,11,12,13,14,15,16. After prioritizing the SDGs, Petrobras lists, in detail, in a table, the SDGs and goals, the related material theme, as well as the strategic components such as purpose, value, management model, and the organization's commitment to these SDGs.

The 2021 report presents, for the first time, the indicators contained in the *Sustainability Accounting Standards Board* (SASB) standards, aimed at the oil and gas industry. The SDGs are included in the report, based on the Governance, environmental and social dimensions. The Governance dimension presents the commitment to adopt a governance model that allows for a balance between efficiency and control. It highlights the material topics for the organization: Economic-Financial Resilience, Business Ethics and Anti-Corruption and Regulatory Environment, Market Opening, and Competition. It also lists the related SDGs and targets. For this dimension, SDGs 7 and 16 are listed. SDG 7, Accessible and Clean Energy, with goal 7.1 as a highlight, ensures universal, reliable, modern, and affordable access to energy services by 2030, and SDG 16. Peace, Justice, and Effective Institutions with the goals 16.5 Substantially reduce tax evasion, corruption, and bribery in all its forms and 16.6 enhance the transparency, *accountability*, and effectiveness of institutions at all levels.

Enauta Participações SA, formerly known as

Queiroz Galvão Exploração e Produção (QGEP), is a Brazilian company operating in the oil and gas exploration and production sector. In 2016, the organization makes no mention of the SDGs. In 2017, it reports that it participated in the group of companies that analyzed and contributed to the public consultation of the document *Mapping the Oil and Gas Industry I'm the Sustainable Development Goals: An Atlas*, through the Social Responsibility Commission of the Brazilian Institute of Petroleum, Gas, and Biofuels (IBP). The document, called Atlas, prepared for the global oil and gas sector, presents the industry's most adherent goals within the scope of the 17 SDGs, launched by the 2030 agenda. atmospheric GHG concentrations and global temperatures, according to the Paris climate agreement. However, the company does not discuss, throughout the report, its actions related to the SDGs, presenting the SDGs only in the GRI summary at the end of the report.

In the 2018 report, to consolidate a systemic view of the economic, social, and environmental impacts, the company describes that it identified eight material topics for the communication of sustainability management with a direction to achieve the SDGs. The main topics are: Operational and people safety – SDG 3.8; Management of environmental impacts of production – SDG 12 and 14; Risk Management – SDG 12; Governance and compliance – SDG 16; Model of partnerships – SDG 9.12; Climate change and energy transition – SDG 13; Relationship and impacts on communities – SDG 8.10; and financial soundness and wealth generation – SDG 8.10.

Another aspect highlighted was the predominance of activities in the marine environment, as well as the risks of accidents and environmental pollution, noting how the company's projects can strongly contribute to SDG 14 (Life in Water). In the following goals: 14.1 – prevent and significantly reduce marine pollution of all types, especially that arising from land-based activities, including marine debris and nutrient pollution; 14.2 - sustainably manage and protect marine and coastal ecosystems to avoid significant adverse impacts and take measures for their restoration, in order to ensure healthy and productive oceans ; 4.3 - minimize and address the impacts of ocean acidification, including through enhanced scientific cooperation at all levels; 14.4 - regulate collection, and end overfishing and destructive fishing practices, and implement management plans to restore fish populations in the shortest possible time; 14.5 - conserve at least 10% of coastal and marine areas based on the best available scientific information; 14.7 – increase the economic benefits from the sustainable use of marine resources, including through the sustainable management of fisheries, agriculture and tourism; and target 14.b - provide small-scale artisanal fishers with access to marine resources and markets.

Metocean Project, in which they expand their knowledge about the mangroves, estuaries, and meteorological conditions (Brazilian equatorial margin). Adopted a model of local engagement and investment in the Canavieiras Marine Extractive Reserve, helping to protect ecosystems and marine fauna, as well as aiming to map and organize fishing activities and improve the infrastructure available to residents associations. It also participated in the environmental mapping for the response to the emergency at sea (MAREM [1]).

[1] MAREM - the georeferenced database that allows detailed analysis of the region eventually affected by an oil spill in

In 2019, the company changed its name and launched itself as Enauta and revised its strategic positioning and corporate purpose with a focus also on the energy universe. Bearing in mind that exploration and production activities are capital-intensive and have several risks inherent to their development, the organization sought to build a corporate governance model that would support the business strategy and make it possible to guarantee an ethical and transparent relationship with all interested parties. It was based on the following SDGs: SDG 8 - in operations and value chain, aim to ensure decent and safe working conditions for all; SDG 16 - with solid corporate governance and *compliance systems and structures*, seeking to ensure responsible decision-making and fight corruption; SDG 17 - the business model based on working in partnership with other players and suppliers, seeking to share knowledge and resources.

Enauta is a company that has most of its exploration and production assets located in the Brazilian seas (offshore fields). According to the organization, the business model, until 2020, brings a direct connection with SDG 14 – Life in the Water, which directs its actions to contribute to the conservation and sustainable use of the oceans. Thus, in 2020, it becomes a signatory to the *Sustainable platform ocean Principles*, promoted by the United Nations Global Compact.

These Sustainable Ocean Principles provide a framework for responsible business practices across industries and geographies. They build on and complement the United Nations Global Compact's Ten Principles on human rights, labor, environment and anti-corruption. By understanding and recognizing the urgency and global importance of a healthy ocean, as well as directing measures to promote ocean well-being for current and future generations. This initiative sets guidelines for sustainable practices in the oceans, providing a network with business leaders around the world to share clear possibilities across the industry for a healthy ocean.

In 2021, Enauta conducted a new process to structure the materiality matrix, following the GRI and *Value principles Reporting Foundation* (Integrated Reporting). In the report, 12 Sustainable Development Goals (SDGs) were correlated and prioritized in material themes, namely: Climate change and energy transition - SDG 1.13, with prospects for mitigating climate change and adapting the business to the transition scenario of energy matrix for sources with lower carbon emissions; Safety of operations and people - SDG 3.9, covering aspects of health and safety at work, operational risk management, emergency preparedness and promotion of a safety culture for partners and suppliers; Governance and strategy – SDG 8, which includes the evolution of internal control processes, auditing, and corporate governance influences the development of business and growth strategy; Ethical conduct and legal compliance – SDG 8.16, focusing on respect for human rights, compliance with legislation and the fight against corruption; as well as Knowledge and corporate culture – SDG 1,4,8, alignment of employees with corporate culture and technical knowledge.

As well as actions for training and valuing professionals and engagement in *Environmental, social, and corporate*

Brazil. MAREM is part of the National Emergency Action Plan for Fauna Impacted by Oil (PAE-Fauna), resulting from a partnership between IBAMA and the Brazilian Institute of Oil, Gas, and Biofuels (IBP).

*governance* - emerging ESG, are reported by the company as relevant to the generation of value in the long term. Also Diversity and inclusion – ODS 5,10,11, in the organization's view, diversity guides new perspectives and innovation in processes. Stakeholders show interest in knowing the company's policies and practices to enable a more inclusive professional environment for women, less-represented racial groups, and people with physical disabilities, generating *an* inclusive and diverse environment. Environmental management - SDG 6,12,14,15 addresses the management of risks and environmental impacts associated with activities for operating and exploring oil and gas fields. Also, Community Development – SDG 11,12, aims at management to promote the socioeconomic and environmental development of traditional communities and to compensate for any impacts on the traditional way of life of these populations.

Ultrapar Participações is a publicly traded organization with shares traded on the B3, which operates in the oil, fuel, and gas refining and distribution sectors, through Ipiranga and Ultragaz. It offers storage services for liquid bulk through Ultracargo. Ultra Group Holding is responsible for financial, corporate, and investor relations activities.

The SDGs are evidenced at Ultrapar, starting in 2020, when the company presents the correlation of the SDGs with the materiality matrix, ensuring a more assertive connection between the strategic drivers of the business and the priority socio-environmental and governance themes. The organization also identified which SDGs the Grupo Ultra's sustainability agenda would have the most power to contribute to. Thus, it presented four pillars, namely: Governance, Resources and Environment, Shared Value with Society, and People Management and Development and its material themes.

Within the Governance pillar, material topics are included - Ethics and Integrity, Data Privacy. The theme Ethics and Integrity – SDG 10,12,16,17 addresses the promotion of a business environment governed by compliance and transparency in commercial relations, through training and campaigns with employees and third parties on anti-corruption, anti-competitive practices, and illegal favoritism. In turn, Data Privacy – SDG 16, is related to compliance with current legislation, with the need to implement internal policies and procedures to guarantee the privacy and security of information for employees, customers, and consumers.

In the Resources and Environment pillar, the topics are Energy Transition and Eco-Efficient Operations. The Energy Transition - SDG 7,12,13,15, contemplates the long-term structural change in energy systems, through the gradual replacement of fossil energy sources by renewable sources in the production and consumption of energy. Now, Eco-Efficient Operations – SDG 6,7,8,12,13,14, considers the efficient use of electricity, fuels, and water and minimization of waste generation in the units/operations.

The Shared Value with Society pillar corresponds to Responsibility with the Surroundings and Value Chain. Responsibility with the environment – SDG 1,2,4,6,10,12, according to Ultrapar, is related to "acting in a transparent and socially inclusive manner, strengthening dialogue with communities, through community relationship programs, carried out through social investment and

voluntary support for promotion and local development around the operations" (Ultra Integrated Report, 2020, p.79).

In this context, the Value Chain - SDG 8,9,12, seeks to promote, through value chain management, the means for suppliers, resellers, and other partners to comply with legal requirements that guarantee the protection of human rights, practices labor, environmental, ethical and health and safety issues.

The last pillar is People Management and Development, with Innovative, Inclusive, and Excellence Culture and Health and Safety, as material topics. The Innovative, Inclusive, and Excellence Culture - ODS 3,4,5,8,10,16,17, acts guided by respect for labor laws throughout the value chain and promotion of initiatives for the development of human capital within the organization, aiming at attraction and retention, development, and engagement. Concerning Health and Safety - SDG 3,8,12, the company reports efforts to properly manage the risks associated with work processes and environments and the performance of employee duties.

In 2021, Ultrapar continues to present in its report the correlation between material topics and Sustainable Development Goals. However, the organization does not deepen the integration of the SDGs and their goals with the business model. Therefore, signaling a lack of knowledge about the specific role of the organization in addressing the SDGs and the real impact of this initiative on its practice.

Finally, some of the goals present specific challenges for the oil and gas industry, notably SDG 13 - Action against global climate change. It is currently one of the most discussed topics, given the need to take urgent measures to combat climate change and its impacts.

Therefore, a particular challenge for the oil and gas industry, is that although oil and gas have enabled and contributed to industrialization and human development, its use has also contributed to the increase in atmospheric carbon dioxide, which in turn has contributed to warming the climate system. So, by endorsing the 2030 Agenda, organizations agree to comply with the SDGs, and that also means adopting efforts to reduce or prevent the emission of greenhouse gases and at the same time mitigate the risks of climate change.

## Final considerations

The present study aimed to identify and analyze the SDGs disclosed in the sustainability reports of companies with high polluting potential, members of the Oil, Gas, and Biofuel sector of B3. Based on the analysis of the collected data, it was verified that the companies studied disclose SDGs 8, 9, and 12 more in their reports, that is, the most connected and directed towards the companies' core activities. When we analyzed each report in more depth, we identified inconsistencies between the discourse of adherence to the SDGs and the practical and operational definition of the SDGs with goals aligned with the 2030 Agenda.

Another SDG that was also the focus of disclosure in the reports of the surveyed organizations: was SDG 13 (climate change). In part, due to the urgency of combating climate change and the understanding that fossil fuels are significant sources of carbon emissions into the atmosphere. This also directs organizations to seek to act in line with the goals of SDG 13. In this situation, companies' efforts must be focused on the development of tools and projects to reduce the carbon footprint of operations, in the same way, that organizations must seek other energy sources, less polluting to make the energy transition.

Fulfilling the objectives of the Paris Agreement implies a transformation of the energy system throughout this century. The

global challenge is to guarantee access to energy while moving towards zero greenhouse gas (GHG) emissions in the second half of this century. Improved access to reliable and affordable energy is essential for the growth of strong economies, for improvements in quality of life that are sustainable, and for the eradication of poverty (UNDP et al., 2017).

In this sense, the commitment of organizations in the Oil and Gas sector is essential in this context of sustainable development. Currently, these companies must not only be capable and responsible for minimizing and/or mitigating risks and not causing damage but must evolve with technologies and new business models that allow their companies to progressively migrate to biofuels and renewable sources. Therefore, these organizations need to survive in a future where oil and gas will be less prevalent.

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