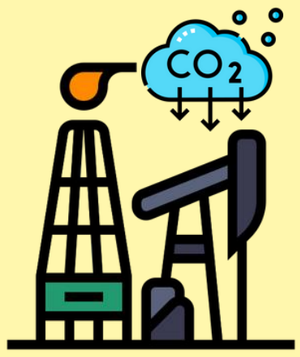
Resolution 8/2024

Decarbonization of Brazilian E&P

Article 3

Executive Summary – DPG/SPG/E&P/NTE – June 2025

CHARACTERISTICS OF BRAZIL'S E&P EMISSIONS



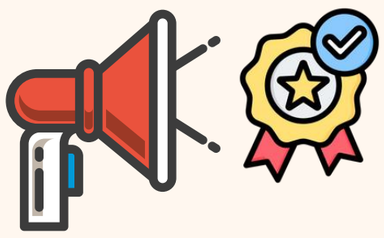
- In 2023, the Brazilian Oil and Gas sector accounted for 12% of greenhouse gas emissions from the national energy sector and approximately 2% of the country's total emissions (SEEG).
- *47% of these emissions originated from Exploration and Production (E&P) activities.*
- Despite the relatively low impact on Brazil's national climate ambitions, reducing E&P emissions is both feasible and strategically relevant in light of a future with declining global oil demand and increasing international restrictions related to the carbon intensity of products (e.g., the European Union's CBAMs).

2037 Scenario

-19% **+40%**

The study indicates that it is possible to reduce between 4% and 19% of cumulative E&P emissions (an average of 6.6 $MtCO_2e$/year), even with a 40% increase in production. Grid-based electrification was the measure with the greatest impact in the highest-reduction scenario.

RECOMMENDED ACTION AREAS



DISSEMINATION OF BEST PRACTICES AND REDUCTION OF INFORMATION ASYMMETRY

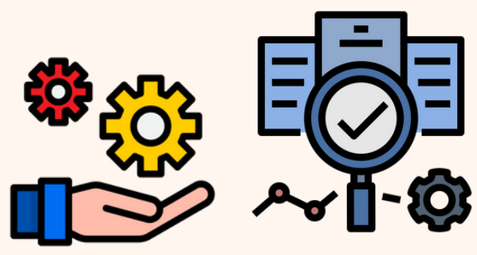
- Ensure alignment in technological knowledge and operational best practices related to the measurement and mitigation of GHG emissions.
- Require operators to present decarbonization alternatives in their Development Plans (PDs).

PROMOTION OF CAPACITY BUILDING AND INNOVATION

- Enable technological progress at the pace required to respond to a constantly evolving environment and increasing emissions-related restrictions.
- Strengthen the entire supply chain that supports E&P activities.

INCENTIVES FOR THE IMPLEMENTATION OF DECARBONIZATION PROJECTS

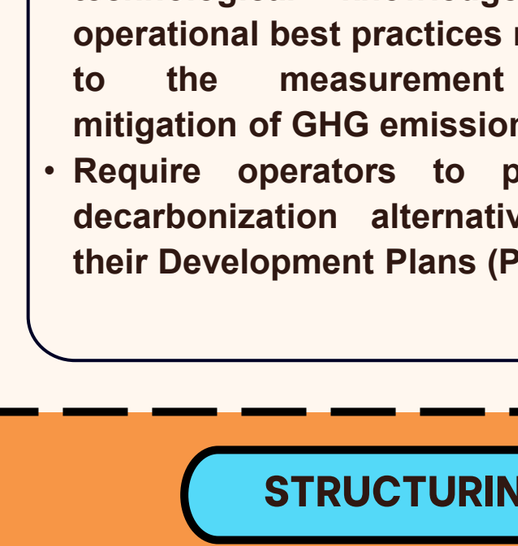
- Promote lower-carbon production by fostering an attractive business environment.
- Provide a market setting that encourages investment opportunities and supports low-carbon energy sources.



SUPPORT FOR REGULATORY AND MONITORING ACTIVITIES

- Ensure the availability of appropriate tools for the regulation and monitoring of E&P activities.
- Contribute to the continuous improvement of new business models and to the attraction of key market players.

STRUCTURING OF ACTIONS

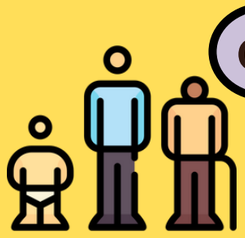


Combine short-term actions, feasible with current technologies, with medium- and long-term actions that require innovation and greater investment.

Identify high-emitting equipment and assets.

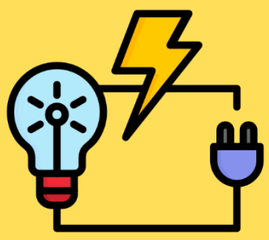
Increase regulatory requirements for operators to adopt the best available technologies.

CHALLENGES AND SCENARIO-SPECIFIC CONSIDERATIONS



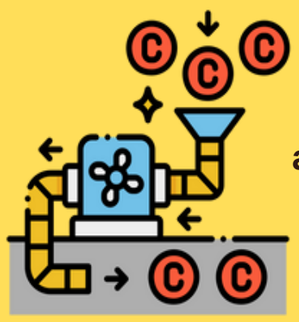
AGE OF ASSETS

Comparison between the flexibility of greenfield projects and existing assets, which involve high operational interruption costs.



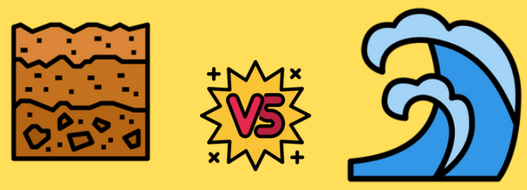
ELECTRIFICATION

Efficiency gains with emission reductions by leveraging the country's renewable energy potential. Particularly challenging for offshore operations.



CCUS

Regulatory maturation and increased attention from public policies to support applications beyond EOR.



EXPLORATORY ENVIRONMENT

Intrinsic characteristics of onshore and offshore production profiles.

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