SDG GOALS PROGRESS THROUGH 2022
for Ecopetrol, YPF, Petrobras and Pemex
MANAGEMENT FOR ENERGY TRANSITION?

ECOPETROL
Sustainable Development VP

Has three Vice-President Level offices dedicated to decarbonization and energy transition: Sustainable Development VP (Support Area), Low Emission Solutions VP (Operation Area) Science, Technology and Innovation VP (Corporation Area).

YPF
Department of Sustainability and Energy Transitions

Has a department focused on sustainability and energy transitions and Risk and Sustainability Committee, made up of six regular directors.

PEMEX
No Dedicated Office
Recently installed a Sustainability Committee

Currently lacks a dedicated office focused on decarbonization and energy transition. However, in May 2023, a Sustainability Committee was established. This committee, composed of members from Pemex’s Administrative Council, including Executive Officers and High-Ranking Government Representatives, has been tasked with the mission of aligning the state company with ESG (Environmental, Social, and Governance) goals.

PETROBRAS
Office of Energy Transition and Sustainability

Has an office focused on energy transition and sustainability.
**MANAGEMENT FOR ENERGY TRANSITION?**

**ECOPETROL**

Yes–Midterm objectives include a 25% reduction in emissions by 2030 and a roadmap that will look to reduce fugitive emissions and venting from gas flaring, energy efficiency in operations, a renewable energies portfolio, hydrogen and CCS.

**YPF**

Yes- Plans to be Net Zero by 2050 with goals to reduce methane emissions by 30% by 2030.

**PEMEX**

No mention of specific Net Zero Plan

**PETROBRAS**

Year Not Specified

Yes–However the date for Net Zero is not specified. They have goals to reach 25% reduction in absolute operation emissions by 2030.
**GREEN BONDS?**

**ECOPETROL**
NOC finances and Green Bonds
- NOC has not issued bonds specifically tied to Green Projects.
- However, the company has been successful in global bond markets, raising over $1 billion on two separate occasions this year. The funding obtained will be used to pay-off previous loans, boost oil and gas production, in addition to decarbonization efforts and accelerate Colombia’s energy transition. Ecopetrol has operated at net profit in 9 of the last 10 years.

**YPF**
NOC finances and Green Bonds
- YPF has recently had net negative profits but received its first green bond in 2022 with a total amount of 63.9 million dollars through YPF Luz.

**PEMEX**
NOC finances and Green Bonds
- NOC has not issued bonds specifically tied to Green Projects.
- This year, Fitch Rating downgraded Pemex’s Long-Term Foreign and and Local Currency Issuer Default Ratings (IDRs) to B+ from BB-. The downgrade reflects the company’s continued weak operating performance further limiting its ability to source financing from banks, investors and suppliers. Pemex has received over $40 billion in government transfers over the last 5 years, while operating at a loss in 8 of the last 10 years.

**PETROBRAS**
NOC finances and Green Bonds
- Petrobras has maintained its profit in the last few years and recently in 2022 pursued a $1.25 billion loan.

**FINANCIAL PERFORMANCE**
PRODUCTION EFFICIENCY
Total production of NOCs (thousands boed)
from 2011-2021

SDG Goals introduced

PROFITABLE
Net negative profits

ECOPETROL
YPF
PEMEX
PETROBRAS

Production (thousands of boed)

PRODUCTION EFFICIENCY
Total production of NOCs (thousands boed) from 2011-2021

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</table>

ECOPETROL
- Reduced Flaring Ratio to Production: Improved from 2017-2019
- Reduced Emission Ratio to Production: Yes, Reduced Emission Ratio from 2019-2021
PRODUCTION EFFICIENCY
Total production of NOCs (thousands boed) from 2011-2021

**SDG GOALS PROGRESS THROUGH 2022** for Ecopetrol, YPF, Petrobras and Pemex

**PRODUCTION EFFICIENCY**
Total production of NOCs (thousands boed) from 2011-2021

**PROFITABLE**
Net negative profits

**REDUCED FLARING RATIO TO PRODUCTION?**
INITIALLY IMPROVED
Returned to Previous Ratio of Production to Flaring

**REDUCED EMISSION RATIO TO PRODUCTION?**
NOT SIGNIFICANTLY
Reduced Emission Ratio Minutely When Profitable
PRODUCTION EFFICIENCY
Total production of NOCs (thousands boed) from 2011-2021

PEMEX

Reduced Emission Ratio Significantly from 2015-2017, but Increased Back to Previous 2015 Levels

Reduced Flaring Ratio to Production?
No Improvement

Reduced Emission Ratio to Production?
Not Consistently
PRODUCTION EFFICIENCY
Total production of NOCs (thousands boed) from 2011-2021

- **PRODUCTION EFFICIENCY**
- **TOTAL PRODUCTION OF NOCS (THOUSANDS BOED)**
- **FROM 2011-2021**

**ECOPETROL**
- **PRODUCTION**
- **TOTAL**
- **2011-2021**

**YPF**
- **PRODUCTION**
- **TOTAL**
- **2011-2021**

**PEMEX**
- **PRODUCTION**
- **TOTAL**
- **2011-2021**

**PETROBRAS**
- **PRODUCTION**
- **TOTAL**
- **2011-2021**

**REduced Flaring Ratio to Production?**
- **ECOPETROL**
  - Recently Improved
  - Trend Uncertain

**Reduced Emission Ratio to Production?**
- **ECOPETROL**
  - Not Consistently
  - Reduced Emissions from 2018-2020, Recently showed an increase in the emission ratio
OPERATIONAL EXCELLENCE

WORKPLACE
FATALITY RATE PER MILLION HOURS WORKED OVER TIME

OIL SPILLS
TOTAL NUMBER OF OIL SPILLS
**EMISSION REDUCTION AND RENEWABLE ENERGY INVESTMENT**

Total direct and indirect CO2 emissions from 2011-2021 before and after SDG Goals

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</table>

**SDG Goals introduced**

**Negative profits**
EMISSION REDUCTION AND RENEWABLE ENERGY INVESTMENT

Total direct and indirect CO2 emissions from 2011-2021 before and after SDG Goals

**ECOPETROL**

- 400 MW of installed capacity, 85% of which stem from solar projects.
- Wind, RNG and hydrogen pilot projects are being developed.
EMISSION REDUCTION AND RENEWABLE ENERGY INVESTMENT

ECOPETROL
YPF
PEMEX
PETROBRAS

Total direct and indirect CO2 emissions from 2011-2021 before and after SDG Goals

**YPF**

**RENEWABLE ENERGY PROJECTS?**

Demonstrated commitment to renewable energy with partnership with YPF Luz (222 MW renewable energy installed capacity), and continued expansion of wind farms (first wind farm in 2017, 3 wind farms in 2019, 2 new wind farms in 2021)
EMISSION REDUCTION AND RENEWABLE ENERGY INVESTMENT
Total direct and indirect CO2 emissions from 2011-2021 before and after SDG Goals

PEMEX
RENEWABLE ENERGY PROJECTS?
Increasing installed capacity falls under the responsibility of CFE, Mexico’s electric state utility company. As provided by its laws, Pemex is a decentralized agency whose priority function is to carry out the activities of exploration, exploitation and other actions demanded by the operation and strategic management of the oil industry, in order for activities related to renewable or alternative energies to represent a smaller segment within the line of business.
EMISSION REDUCTION AND RENEWABLE ENERGY INVESTMENT
Total direct and indirect CO2 emissions from 2011-2021 before and after SDG Goals

Petrobras has diversely invested into renewable energy, investing diversely into biofuels, wind, solar and carbon recapture technologies.
**SDG GOALS PROGRESS THROUGH 2022** for Ecopetrol, YPF, Petrobras and Pemex

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**SOURCES**

**Ecopetrol**
- Sustainability reports:
  https://www.ecopetrol.com.co/wps/portal/Home/tesg/reports-standards/reports
- Organization Chart:
- Net Zero Plan:
- Investments in Clean Energy and Renewables:
  https://www.ecopetrol.com.co/wps/portal/Home/es/noticias/detalle/inversion-ge-2023-transicion-energetica#:~:text=Cerca%20de%20COP%204.1%20billones,estudios%20de%20almacenamiento%20y%20captura

**Pemex**
- Sustainability Reports:
- 2023-2027 Business Plan:
- Statistical Directory:
  https://www.pemex.com/ri/Publicaciones/Paginas/AnuarioEstadistico.aspx

**Petrobras**
- Sustainability Reports:
  https://www.sec.gov/Archives/edgar/data/1119639/000129281421001152/pbraform20f_2020.htm
- Green Bond:

**YPF**
- Green Bond:
- Sustainability Reports:
  https://sustentabilidad.ypf.com/index_en.html