

2023 RESULTS FOURTH QUARTER

CONSOLIDATING AND SECURING THE TRADITIONAL HYDROCARBON BUSINESS



PRODUCTION (mboed)



758 (mboed)
Highest quarterly production since 4Q15

Second best results in history in 2023

2023 Highest investment in 8 years (COP 27.2 trillion)*

Excluding Inorganic Investments

Low-Emission Solutions



Natural Gas and LPG*

75%

Market Share

*Liquefied Petroleum Gas (LPG)

Hydrocarbons

Production

HIGHEST IN THE LAST 8 YEARS

737 Mboed

(+27 Mboed vs 2022)

Transport

ANNUAL HISTORY OF THE VOLUME OF PRODUCTS TRANSPORTED (305.9 mbd)

1,113 Mbd

(+42 Mbd vs 2022)

Refining

RECORD IN 2023 FOR BOTH REFINERIES

420 Mbd

(+62 Mbd vs 2022)

Transmission and Toll Roads



15% Contribution to the Ecopetrol Group's EBITDA in 2023

Received Awards

~\$10 Trillion

Investments in transmission for the next years



50% Exploratory Success in 2023*

*May vary depending on results or change in status of appraisal wells. Does not include appraisal and stratigraphic wells.

Accelerating the Energy Transition



Transfers to the Nation Record
COP -58 Trillion in 2023



3.9 Petajoules of energy savings for Ecopetrol Group



COP 1.94 trillion invested in sustainability



-1.5 MtCO2e Greenhouse Gas emissions reduced by 2020-2023



Top 3 Oil and Gas Companies - Best Sustainability Practices according to Dow Jones Sust. Index



We ended 2023 with strong operational results that drove achievements across the entire company. We have achieved the second-best financial results in history by following our financial planning, enhancing our traditional business, and managing the steps toward the energy transition.

Throughout 2023, it's worth noting that Brent crude oil prices experienced a decline in 2023 compared to 2022, dropping from USD 99 per barrel to USD 82 per barrel. This decline can be attributed primarily to the slow economic recovery in China and an increase in non-OPEC crude oil supply. Moreover, geopolitical challenges and inflationary pressures further impacted our operational costs during this period.

Nevertheless, Ecopetrol's commercial strategy capitalized on increased demand for our crude oils due to OPEC+ production cuts and limitations in Canadian crude supply. Simultaneously, differentials for our refined products remained strong compared to historical levels, allowing us to leverage the growth in our refinery capacity.

In addition to this, in 2023, we achieved significant milestones:

- i) In hydrocarbons, we achieved the highest annual production figure in the last eight years (737 mboed), the highest annual volumes transported (1,113 kbd), including the highest movement through multipurpose pipeline (306 mboed) in the history of the Company, and a historical record for consolidated refining throughputs (420 mboed).
- ii) In exploration, we achieved an exploratory success rate reached 50%, with Glaucus-1 standing out, confirming the offshore potential of the Colombian Caribbean in Gorgon. Additionally, the commencing drilling of the Orca Norte-1 well, 100% by Ecopetrol.
- iii) In investments, we achieved a 97% execution rate for the year, the highest level in the last 8 years (COP 27.2 trillion).
- iv) We closed the year with a balance of COP 20.5 trillion in the Fuel Price Stabilization Fund (FEPC) and an accumulation rate lower by ~44% compared to 2022.

- v) In January 2024, we successfully issued bonds in the international market as part of the company's refinancing strategy, demonstrating strong investor appetite for our debt securities.
- vi) We transferred COP 58 trillion to the Nation, marking a historical annual record.

Financial results were aligned with operational dynamics and exceeded the main goals outlined in our Financial Plan. In the fourth quarter of 2023, we recorded revenues of COP 34.8 trillion, a net profit of COP 4.2 trillion, an EBITDA of COP 12.3 trillion, and an EBITDA margin of 35%. For the full year, we achieved consolidated revenues of COP 143.1 trillion, a net profit of COP 19.1 trillion, an EBITDA of COP 60.7 trillion, and an EBITDA margin of 42%. The gross debt/EBITDA indicator stood at 1.7 times, the return on capital employed (ROACE) was 11.5%, and the cash balance was COP 14.3 trillion.

The **hydrocarbons** business line recorded notable achievements in 2023, including declaring 11 successful wells, with three exploratory successes in the fourth quarter: Zorzal Este-1, Magnus-1, and Bisbita Centro-1. The Orca Norte-1 well, drilled in 2023 and appraised in January 2024, confirmed the presence of two gas accumulations in reservoirs other than the Orca-1 discovery, triggering a re-evaluation of the original project while expanding the gas potential of La Guajira Offshore.

In terms of **production**, we achieved an average of 737 thousand barrels of oil equivalent per day (mboed) in 2023, reflecting a 27 mboed increase compared to 2022. Significant contributions came from the Rubiales and Caño Sur Fields in Colombia and the Permian in the United States. Notably, secondary and tertiary recovery methods accounted for approximately 41% of daily production, primarily through air and water injection in Chichimene and Castilla.

In the **midstream** segment, total transported volumes for 2023 amounted to 1,113 thousand barrels per day (mbd), marking a 42 mbd increase compared to 2022, leveraging a historic EBITDA of the segment in 2023 of COP 11.8 trillion. This increase was primarily attributed to more significant crude oil volumes transported due to increased production in the Llanos region, enhanced refinery production, and operational optimizations in transportation systems.

The **downstream** segment achieved a record annual throughput of 420 thousand barrels per day (kbd), alongside a gross integrated margin of 17.6 USD per

barrel. This success was driven by the continuous operation of the Cartagena Crude Plants Interconnection (IPCC) and an average operational availability of 95%, the highest in the last 5 years.

On the **commercial** front, establishing the commercial subsidiary Ecopetrol US Trading (EUST) during 4Q23 marked a significant milestone. EUST achieved an EBITDA of USD 19.5 million and sold 9.3 million barrels of crude oil and products in its inaugural quarter of operation. Additionally, our subsidiary Ecopetrol Trading Asia continued to strengthen its presence in the Asian market, with approximately 53% of our exports directed to the continent.

In the **low-emission solutions** business line, natural gas and liquified petroleum gas (“LPG”) contributed 22% of the Group's total production during 4Q23. In renewables, we avoided emitting approximately 26,294 tons of CO₂ equivalent, which were reduced through the operation of our Brisas, Castilla, and San Fernando solar parks, CENIT solar parks, and the Cantayús Small Hydroelectric Plant.

As part of our commitment to incorporating non-conventional sources of renewable energy into our energy matrix, we have integrated 472 MW (under construction, operation, and execution). Additionally, in the field of energy efficiency, optimization of 3.89 PJ (thermal energy 3.37 PJ and electrical energy 0.52 PJ) was achieved, resulting in a reduction of emissions by 274 thousand tons of CO₂ equivalents in the Group operations, thanks to the adoption of energy optimization technologies.

In the **transmission and toll roads** business line, notable operational and financial achievements were recorded in 2023, contributing close to 15% (COP 9.1 trillion) to the Group's EBITDA. Several projects were awarded and commenced operations in Latin America during this period. In Chile, ISA Intervial was awarded the Orbital Sur Santiago concession with a reference CAPEX of USD 500 million (~ COP 1.9 trillion). In Peru, in consortium with Grupo Energía de Bogotá, construction projects totaling USD 833 million (~ COP 3.2 trillion) were awarded.

Regarding **TESG** results:

Concerning our commitment to the **environment**, around 39 million cubic meters of water were reused in operations during 4Q23, helping to alleviate pressure on water resources. Additionally, 581,532 tons of CO₂ equivalent was reduced throughout the

year, surpassing the established target by 40%. Moreover, there was an impressive 76% decrease in events associated with operations affecting the environment, marking the best performance in this area in the last five years.

At the COP 28 Climate Change Conference in Dubai, the company reiterated its commitment to ambitious goals, such as achieving net-zero carbon emissions by 2050 (scopes 1 and 2), eliminating routine gas flaring by 2030, and striving for zero net methane emissions by 2030. Furthermore, the company was recognized by the United Nations Environment Program (UNEP) for its advancements in measuring, reporting, and reducing methane emissions.

By the end of 2023, nearly 300 initiatives were registered for the **circular economy**. These initiatives included 14 projects of asphalt modified with recycled plastic for use in road sections (845 tons of asphalt, equivalent to 6 million plastic bags). Likewise, a successful test of chemical recycling was implemented at the Barrancabermeja Refinery, for processing pyrolytic oil from difficult-to-recycle plastic waste to produce circular polypropylene for food packaging, among other applications.

In the **social** dimension, in 2023, we reported the lowest occupational injury rate in our history, making us one of the top five oil companies in the world¹. However, we express regret for the two fatalities in the Tesoro 29 well accident in April 2023. I appreciate the hard work and dedication of all our Ecopetrol Group subsidiaries, especially each employee who daily spares no effort to maintain safety standards and protect the integrity and lives of our employees.

In terms of socio-environmental investment, approximately COP 594.1 billion was allocated to the Territorial Development Portfolio. This portfolio encompasses strategic and obligatory investments in social, environmental, and community relations, fostering economic and social progress in the country and reducing social disparities. Projects were implemented in various areas, including education, inclusive rural development, entrepreneurship, business development, and public and community infrastructure. Additionally, through the works in lieu of taxes mechanism, Ecopetrol spearheaded the execution of 46 projects totaling COP 416.8 billion to 2023.

In terms of **innovation and technology**, the Econova Innovation network, consisting of 5 innovation centers across different regions, achieved

¹ According with the International Association of Oil and Gas Producer

significant milestones in 2023. These include mobilizing approximately 110 stakeholders, creating 120 job opportunities, and accelerating the development of 30 ventures focused on ICT's², education, health and welfare, among other accomplishments.

Looking ahead to 2024, we remain committed to prioritizing capital discipline, meticulously managing costs, and enhancing efficiencies to generate value for all stakeholders. Our objective is to safeguard the integrity and value of our traditional business while advancing towards portfolio diversification and a just energy transition.

Ricardo Roa Barragan
President Ecopetrol S.A.

² Information and Communications Technologies

Bogotá D.C., February 29, 2024, Ecopetrol S.A. (BVC: ECOPETROL; NYSE: EC) announced today the Ecopetrol Group's financial results for the fourth quarter and cumulative year to date for 2023, prepared in accordance with International Financial Reporting Standards in Colombia.

In 2023, the Ecopetrol Group generated the second-best financial result in its history, obtaining a net profit of COP 19.1 trillion, an EBITDA of COP 60.7 trillion, and an EBITDA margin of 42%. These results were leveraged on outstanding operating performances across all business segments, reflected in increased production, refinery throughputs, transported volumes, and crude and product sales. The above was achieved despite i) lower prices compared to 2022, ii) the effect of inflation on costs, and iii) a higher effective tax rate.

Table 1: Financial Summary Income Statement – Ecopetrol Group

Billion (COP)	4Q 2023	4Q 2022	Δ (\$)	Δ (%)	12M 2023	12M 2022	Δ (\$)	Δ (%)
Total sales	34,794	39,678	(4,884)	(12.3%)	143,079	159,474	(16,395)	(10.3%)
Depreciation and amortization	3,540	3,049	491	16.1%	13,205	11,410	1,795	15.7%
Variable cost	14,224	16,015	(1,791)	(11.2%)	55,906	61,406	(5,500)	(9.0%)
Fixed cost	5,543	4,943	600	12.1%	19,067	16,642	2,425	14.6%
Cost of sales	23,307	24,007	(700)	(2.9%)	88,178	89,458	(1,280)	(1.4%)
Gross income	11,487	15,671	(4,184)	(26.7%)	54,901	70,016	(15,115)	(21.6%)
Operating and exploratory expenses	3,787	3,655	132	3.6%	11,155	9,635	1,520	15.8%
Operating income	7,700	12,016	(4,316)	(35.9%)	43,746	60,381	(16,635)	(27.6%)
Financial income (loss), net	(1,486)	(1,469)	(17)	1.2%	(5,665)	(6,835)	1,170	(17.1%)
Share of profit of companies	199	112	87	77.7%	805	768	37	4.8%
Income before income tax	6,413	10,659	(4,246)	(39.8%)	38,886	54,314	(15,428)	(28.4%)
Income tax	(454)	(2,945)	2,491	(84.6%)	(14,692)	(17,254)	2,562	(14.8%)
Net income consolidated	5,959	7,714	(1,755)	(22.8%)	24,194	37,060	(12,866)	(34.7%)
Non-controlling interest	(851)	(844)	(7)	0.8%	(4,243)	(3,630)	(613)	16.9%
Net income attributable to owners of Ecopetrol before impairment	5,108	6,870	(1,762)	(25.6%)	19,951	33,430	(13,479)	(40.3%)
(Expense) recovery for impairment long-term assets	(2,087)	(282)	(1,805)	640.1%	(2,098)	(288)	(1,810)	628.5%
Deferred tax of impairment	1,207	263	944	358.9%	1,209	264	945	358.0%
Net income attributable to owners of Ecopetrol	4,228	6,851	(2,623)	(38.3%)	19,062	33,406	(14,344)	(42.9%)
EBITDA	12,251	15,996	(3,745)	(23.4%)	60,718	75,244	(14,526)	(19.3%)
EBITDA Margin	35.2%	40.3%	-	(5.1%)	42.4%	47.2%	-	(4.8%)

The financial information included in this report has yet to be audited. It is expressed in billions or trillions of Colombian pesos (COP) or U.S. dollars (USD), or thousands of barrels of oil equivalent per day (mboed) or tons, as noted. Certain figures in this report were rounded to the nearest decimal place for presentation purposes.

Forward-looking statements: This release contains statements that may be considered forward-looking statements concerning Ecopetrol's business, operational and financial results, and prospects for growth. These are forward-looking statements and, as such, are based solely on management's expectations regarding Ecopetrol's future and its ongoing access to capital to fund Ecopetrol's business plan. Such forward-looking statements depend primarily on changes in market conditions, government regulations, competitive pressures, and the performance of the Colombian economy and the industry, to mention a few. Therefore, they are subject to change without notice.

I. Financial and Operating Results

Sales Revenue

Cumulative sales revenues for 2023 decreased by 10.3% or COP -16.4 trillion as compared to 2022, for a total of COP 143.1 trillion, as a net result of:

- A decrease of -17.5 USD/BI (COP -26.9 trillion) in crude oil and products' weighted average sales price due to a lower Brent benchmark price and narrower spreads against Brent, primarily for refined products. The decrease in crude oil and products' weighted average sales price was partially offset by:
- An increase in sales volume (COP +7.5 trillion, +51.7 mboed), due to: i) higher operational performance of the Refinería de Cartagena; ii) an increase in the production of crude oil and products; and iii) higher trading operations.
- An increase in service revenues (COP +1.1 trillion) resulting from enhanced results in energy transmission, toll roads, transport, and other services.
- An increase in the average exchange rate, positively impacting revenues (COP +1.9 trillion).

Sales revenues in 4Q23 decreased by -12.3% or COP -4.9 trillion, as compared to 4Q22, totaling COP 34.8 trillion, as a combined result of:

- A decrease in the average exchange rate, negatively impacting revenues (COP -5.4 trillion).
- A decrease of -6.5 USD/BI (COP -2.7 trillion) in the weighted average sales price of crude oil and products due to lower Brent benchmark price and narrower middle distillates spreads against Brent, which were partially offset by wider spreads negotiated in crude oil trading.
- A decrease (COP -0.3 trillion) in revenue from energy transmission, toll roads, and other services.
- An increase in sales volume (COP +3.5 trillion, +100.1 mboed), due to: i) completion of shipments negotiated under the DAP (Delivery at Place) modality, which had remained in transit during 3Q23; ii) higher production levels; and iii) enhanced operational performance in both refineries.

Table 2: Sales Volumes – Ecopetrol Group

Local Sales Volume - mboed	4Q 2023	4Q 2022	Δ (%)	12M 2023	12M 2022	Δ (%)
Medium Distillates	186.1	174.1	6.9%	175.0	171.6	2.0%
Gasoline	140.6	153.7	(8.5%)	145.5	151.9	(4.2%)
Natural Gas	93.1	90.4	3.0%	91.6	96.0	(4.6%)
Industrials and Petrochemicals	20.8	23.3	(10.7%)	21.2	22.5	(5.8%)
LPG and Propane	16.6	19.7	(15.7%)	17.9	19.0	(5.8%)
Crude Oil	(0.1)	6.0	(102%)	1.2	3.1	(61.3%)
Fuel Oil	0.2	0.2	0.0%	0.3	0.1	200.0%
Total Local Volumes	457.2	467.4	(2.2%)	452.7	464.2	(2.5%)
Export Sales Volume - mboed	4Q 2023	4Q 2022	Δ (%)	12M 2023	12M 2022	Δ (%)
Crude Oil	441.0	372.6	18.4%	430.0	400.3	7.4%
Products	113.6	76.3	48.9%	112.5	83.0	35.5%
Natural Gas*	12.3	7.9	55.7%	9.9	5.8	70.7%
Total Export Volumes	566.9	456.7	24.1%	552.4	489.1	12.9%
Total Sales Volumes	1,024.2	924.1	10.8%	1,005.0	953.3	5.4%

* Natural gas exports correspond to local sales of Ecopetrol América LLC and Ecopetrol Permian LLC

Total volume sold during 4Q23 amounted to 1,024.2 mboed, a 10.8% increase compared to 4Q22, as a result of higher export volume.

Sales in Colombia, which account for 45% of the total, decreased by -2.2% (-10.2 mboed) versus 4Q22, mainly due to:

- A decrease of 8.5% (-13.1 mboed) in gasoline sales, explained by lower domestic demand associated with the price increase.
- A decrease of 15.7% (-3.1 mboed) in LPG and propane sales due to lower quantities offered, mainly in Cupiagua.
- An increase of 3% (+2.7 mboed) in gas sales explained by: (i) increased demand for natural gas for thermal generation due to the El Niño phenomenon; and (ii) higher sales in 4Q23 due to major maintenance works in Cusiana carried out during October 2022.

International sales, which accounted for 55% of the total, increased by 24.1% (110.2 mboed) in 4Q23 versus 4Q22 due to the combined effect of:

- An increase of 18.4% (+68.4 mboed) in crude oil exports, mainly explained by higher operational availability and production.
- Upsurge of 48.9% (+37.3 mboed) in product exports due to greater product availability as a result of additional supply from the refineries, mainly the Refinería de Cartagena, leveraged by the continued operation of the Cartagena Crude Oil Plant Interconnection - IPCC.
- A growth of 55.7% (+4.4 mboed) in natural gas sales due to the success of the Permian's exploratory campaign.

Table 3: Average Realization Prices –Ecopetrol Group

USD/BI	4Q 2023	4Q 2022	Δ (%)	12M 2023	12M 2022	Δ (%)
Brent	82.9	88.6	(6.4%)	82.2	99.0	(17.0%)
Natural Gas Basket	27.2	27.6	(1.4%)	28.4	27.6	2.9%
Crude Oil Basket	78.4	76.3	2.8%	73.5	90.9	(19.1%)
Products Basket	92.9	107.9	(13.9%)	96.1	118.2	(18.7%)

Crude: In 4Q23 compared to 4Q22, there was an increase of 2.1 USD/BI in the crude oil basket prices, jumping from 76.3 USD/BI to 78.4 USD/BI, despite the drop in Brent prices. The price increase is primarily explained by better market conditions such as i) the reopening of China due to the easing of COVID-19 restrictions, which has boosted internal mobility; and ii), the appreciation of Canadian heavy crudes in the USGC³ due to maintenance activities in upstream assets and forest fires in Canada.

Refined Products: In 4Q23 compared to 4Q22, the product sales basket decreased by 15 USD/BI, from 107.9 to 92.9 USD/BI in 4Q23 as compared to 4Q22, driven by the weakening of Brent benchmark prices (-6.4%), coupled with lower international price indicators, particularly for diesel and jet fuel.

Natural Gas: Gas sales prices decreased by 0.4 USD/BI, from 27.6 to 27.2 USD/BI, primarily because of the indexation of prices to the Producer Price Index ("PPI") in the United States.

Hedging Program: During 4Q23, Ecopetrol continued its tactical hedging strategy to manage price risks actively. Ecopetrol executed tactical price hedges for 3.25 million barrels of crude oil exports, while Ecopetrol Trading Asia executed tactical price hedges for 11.9 million barrels.

Cost of Sales

Cost of sales decreased by -1.4% or COP -1.3 trillion for 2023 versus 2022, and by -2.9% or COP -0.7 trillion in 4Q23 versus 4Q22. This decrease is primarily the result of the factors described below:

Variable Costs

Cumulative variable costs in 2023 decreased by -9.0% or COP -5.5 trillion versus 2022, as a combined result of:

³ US Gulf Coast: the coastline along the southern United States the Gulf of Mexico.

- A decrease in the purchases of crude oil, gas, and products (COP -10.6 trillion) resulting from the net effect of: i) lower weighted average price of domestic purchases and imports of -22.1 USD/BI (COP -11.0 trillion); ii) lower purchased volumes of refined products (COP -7.4 trillion, -38.6 mboed), given the higher operational availability of the Refinería de Cartagena, iii) An increase in crude oil and gas volumes purchased (COP +6.6 trillion, +45.8 mboed), highlighting the increase in crude oil import requirements resulting from additional operational capacity at the Refinería de Cartagena and higher trading operations; and a higher average exchange rate for purchases (COP +1.2 trillion).
- Fluctuation in inventories (COP +3.5 trillion), mainly due to i) a lower valuation in line with the decrease in benchmark prices in 2023 versus 2022; ii) higher crude throughputs required to cover the enhanced refinery operations; and ii) an increase in the use of refined products resulting from higher production levels.
- Other variable costs increased by (COP +1.6 trillion) because of more significant operational activity across all business segments, and the increase in contract fees, the latter of which was impacted by the inflationary effect.

Variable costs decreased by -11.2% or COP -1.8 trillion in 4Q23 versus 4Q22, mainly due to the net effect of:

- A decrease in the purchases of crude oil, gas, and products (COP -3.9 trillion), attributable to the net result of: i) a positive effect on purchases owing to a lower average exchange rate (COP -2.0 trillion); ii) a decrease in volumes purchased of refined products (COP -2.7 trillion, -54.5 mboed), given the higher operational availability in the refineries; and iii) a lower weighted average purchase price of -5.9 USD/BI (COP -0.3 trillion) and iv) greater volumes of gas and crude oil purchased (COP +1.1 trillion, +30.4 mboed), given the higher throughput requirement in the refineries and higher purchases to the National Hydrocarbons Agency (“ANH” for its Spanish Acronym).
- Fluctuations in inventory (COP +1.8 trillion). In addition to the factors indicated above for the year, an increase in crude oil delivered through the DAP modality stands out.
- An increase in other variable costs (COP +0.3 trillion), driven by higher energy costs due to the El Niño phenomenon.

Fixed Costs

Fixed costs for 2023 increased by +14.6% or COP +2.4 trillion as compared to 2022, and +12.1% or COP +0.6 trillion in 4Q23 as compared to 4Q22, due to: i) increases in maintenance costs, contracted services to support the operation, materials consumed and other costs, resulting from increased production; ii) inflationary effect on costs; and iii) higher labor costs, primarily associated with higher salaries relative to the previous year.

Depreciation and Amortization

Cumulative depreciation and amortization for 2023 increased by +15.7% or COP +1.8 trillion as compared to 2022 and +16.1% or COP +0.5 trillion in 4Q23 compared to 4Q22, mainly due to increased production and higher capital investments. This was partially offset by higher reserve levels (2022 compared with 2021), which translates into a lower depreciation rate; in addition, for 4Q23, the effect of the exchange rate in the depreciation of the Group's subsidiaries, which use the U.S. dollar as a functional currency stands out. This given the revaluation of the Colombian peso against the U.S. dollar.

Operating Expenses, Net of Other income (before impairment of long-term assets)

Operating expenses for 2023, net of other income (before impairment of long-term assets), increased by +15.8% or COP +1.5 trillion as compared to 2022, primarily attributed to:

- The write-off of exploratory assets (COP +0.6 trillion), mainly Cusiana Subthrust, Cupiaga XD, and Cusiana deep, and that of unconventional reservoirs, such as La Luna and Kalé.

- An increase in labor costs, primarily associated with higher salaries (COP +0.4 trillion), driven by inflationary effects.
- Higher customs operation expenses (COP +0.3 trillion), primarily because of the higher sales volumes under the DAP (Delivery at Place) modality.
- Higher commissions, fees, and services resulting from inflation and additional operations, primarily in subsidiaries such as Interconexión Eléctrica S.A. (“ISA”) and Ecopetrol Permian LLC (“Permian”) (COP +0.2 trillion).

An increase of +3.6% or COP +0.1 trillion was recorded in 4Q23 versus 4Q22, mainly due to increased provisions and labor costs.

Impairment of long-term assets

As a result of the annual comparison of asset book values versus market values under IFRS standards, impairment expense of long-term assets of COP -2.1 trillion before taxes was recorded for 2023 as follows:

- **Exploration and Production:** an impairment expense of COP -2.7 trillion before taxes was recognized, mainly due to i) lower reserves in the Casabe, Suria, Cicuco, Toldado, and Espinal fields; ii) an increase in operating expenses due to higher inflation that impacted fields such as Llanito, Tibú and Dina Cretaceo; and iii) the decrease in the exchange rate for year-end 2023 as compared to 2022.
- **Transportation and Logistics:** an impairment expense of COP -0.6 trillion before taxes was recognized, primarily because of i) the decrease in the exchange rate for year-end 2023 versus 2022; ii) the freezing of oil pipeline fees (as opposed to their upward adjustment) as a result of Resolution 279 of 2023 issued by the Ministry of Mines and Energy of Colombia; iii) an increase in discount rates; and iv) higher costs and investments, not offset by the tariff adjustments.
- **Transmission and Toll Roads:** an impairment expense of COP -0.2 trillion was recognized, mainly for Internexa Brazil and Internexa Argentina, due to decreased performance.
- **Refining and Petrochemicals:** an impairment recovery of COP +1.4 trillion before taxes was recognized in the Refinería de Cartagena, due to higher refining margins in the medium and long term due to wider price spreads and lower crude oil costs.

Financial Result (Non-Operating)

Financial expense (non-operating) for 2023 decreased by -17.1%, or COP -1.2 trillion year-on-year, as a net result of:

- Income from exchange differences of COP -2.3 trillion, mainly associated with the revaluation of the peso against the U.S. dollar in 2023 and its impact on the valuation of the Ecopetrol Group's net liability position in dollars.
- Higher income from valuation and yields of the investment portfolio and bank accounts derived from an increase in market yield rates in 2023 (COP -1.0 trillion).
- An increase in debt-associated expenses (COP +1.4 trillion) due to i) higher indebtedness levels by the Ecopetrol Group; and ii) higher interest rates.
- Recognition of interests from a tax litigation ruling against Ecopetrol (COP +0.7 trillion).

Financial expenses (non-operating) in 4Q23 recorded levels similar to 4Q22.

Income Tax Expense

The **Effective Tax Rate** for 2023 was 36.6% versus 31.4% in 2022. The increase is mainly attributable to the effect of the surtax, a change introduced in the latest tax reform. The above was partially offset by lower rates applicable to subsidiaries under special taxation regimes, as is the case of the Refinería de Cartagena and subsidiaries in the United States.

The Effective Tax Rate for 4Q23 was -17.4%, while it was 25.8% in 4Q22, mainly attributed to: i) the update on income tax provision, as a result of the ruling issued by the Constitutional Court in November 2023 that declared the unconstitutionality of paragraph 1, Article 19 of Law 2277 of 2022 (Tax Reform Law), which prohibited deducting royalty payments from taxable income; and ii) the update of the surtax on income which decreased from 15% to 10%, based on the average Brent price for 2023.

Statement of Financial Position

Ecopetrol Group's assets decreased by COP -24.1 trillion year-on-year, mainly because of:

- A decrease in accounts receivable (COP -8.3 trillion), primarily because of the offsetting of the balance of the account receivable of the Fuel Price Stabilization Fund account (FEPC) against dividends to be paid to the Republic of Colombia for COP -21.6 trillion, and funds received for COP -4.7 trillion. Additionally, the balance of the FEPC account has decreased because of the gradual increase in gasoline prices in Colombia and the decrease in benchmark prices (COP +20.5 trillion).
- A decrease in property, plant, equipment, natural resources, and intangibles (COP -6.2 trillion), resulting from the net effect of a lower exchange rate and its implications on subsidiaries with a functional currency other than the Colombian peso, the depreciation for the period, and a higher CAPEX.
- A decrease in taxes (COP -3.0 trillion), primarily associated with the restatement of the deferred taxes resulting from the exchange rate effect.
- A decrease in inventories (COP -1.7 trillion), mainly because of prices, increased throughput in the refineries, and higher sales.

The decrease of COP -8.1 trillion in total liabilities for 2023 was mainly attributable to the net effect of:

- A decrease in financial liabilities (COP -9.3 trillion), net effect between higher debt COP +14 billion and the revaluation of the peso against the dollar COP - 24 trillion.
- Lower current tax liabilities, associated with lower net income (COP -5.6 trillion).
- Higher labor liabilities (COP +5.3 trillion), resulting from lower discount rates in the restatement of actuarial liabilities.
- An increase in provisions and other liabilities (COP +1.5 trillion).

Total equity of the Ecopetrol Group for year-end 2023 was COP 103.1 trillion. Equity attributable to Ecopetrol's shareholders was COP 78.4 trillion, a decrease of COP -16.0 trillion compared to December 2022, mainly as a result of the distribution of dividends for the period and the effect of the exchange rate on subsidiaries with a functional currency other than the Colombian peso. This was partially offset by the profits generated during the period.

Arbitration award issued in favor of Reficar S.A.S.

On June 7, 2023, Refinería de Cartagena S.A.S. was notified of the international arbitration tribunal's decision that resolved the claim filed by the Company against Chicago Bridge & Iron Company N.V., CB&I UK Limited and CBI Colombiana S.A. (hereinafter, "CB&I") before the International Chamber of Commerce, concerning the engineering, procurement and construction agreement (EPC agreement) for the expansion and modernization of the Refinería de Cartagena. The Arbitration Tribunal ordered CB&I to pay approximately USD 1,000 million plus interest to Refinería de Cartagena. The Arbitration Tribunal also dismissed CB&I's claims for approximately USD 400 million. On June 8, 2023, Chicago Bridge & Iron Company N.V. and CB&I UK Limited submitted a request for the award to be declared null.

On August 4, 2023, Refinería de Cartagena submitted a response to the request for nullity and, in turn, requested its confirmation. Likewise, on September 22, the Company presented its reply to memorandum to the request for confirmation of the Arbitration Award.

The tribunal's decision is binding for the parties, and as part of the legal process, it must be confirmed by the Southern District Court of New York.

On September 8, 2023, McDermott International, parent and controlling company of CB&I, publicly announced that it would initiate financial restructuring proceedings for its subsidiaries in the United Kingdom and the Netherlands, CB&I UK Limited and Chicago Bridge & Iron Company N.V. respectively, as a result of the ruling issued by an international arbitration tribunal of the International Chamber of Commerce against it and in favor of Refinería de Cartagena. Refinería de Cartagena S.A.S., on the advice of a global team of lawyers and experts in the field, took an active part in the corporate reorganization processes in those countries to defend its interests.

On October 10, 2023, the Defendants subsequently filed a petition with the Texas Bankruptcy Judge for the commencement of a proceeding to recognize foreign financial restructuring proceedings, known as Chapter 15 of the U.S. Bankruptcy Code. Specifically, they requested the recognition of the financial restructuring processes that McDermott International announced on September 8, 2023.

Based on the preceding, the process of nullity and recognition of the Arbitration Award (which determines the possibility of enforcing it and therefore collecting the decreed amounts) is temporarily suspended by order of the Texas Bankruptcy Judge. In this regard, it should be noted that the judge only issued an order suspending the proceedings in the United States against the Defendants' assets.

On November 29, 2023, a hearing was held to request the lifting of the temporary stay. The Judge did not grant the request; however, he determined that when new facts become available, Refinería de Cartagena may once more request the lifting of the stay.

On 27 February 2024, Refinería de Cartagena was notified of the UK Court's decision that the financial restructuring plan of CB&I UK Limited, a subsidiary of McDermott International Ltd, had been approved by the UK Court.

With respect to the reorganisation proceedings initiated by Chicago Bridge & Iron Company (now McDermott Holdings N.V.) in the Netherlands on 8 September 2023, an independent restructuring expert appointed by the court voted on 25 February 2024 on an alternative reorganisation plan under which, among other things, Refinería de Cartagena would receive a shareholding from the McDermott International Ltd. business group. We expect results in the next few months.

These events have no impact on the financial statements as of 31 December 2023.

Cash Flow, Debt, and FEPC

Table 4: Cash Position – Ecopetrol Group

Billion (COP)	4Q 2023	4Q 2022	12M 2023	12M 2022
Initial cash and cash equivalents	12,071	12,918	15,401	14,550
(+) Cash flow from operations	10,400	11,359	19,801	36,235
(-) CAPEX	(7,224)	(8,444)	(24,092)	(21,879)
(+/-) Investment portfolio movement	(27)	909	976	1,301
(+) Other investment activities	690	497	3,096	2,483
(+/-) Acquisition, borrowings and interest payments of debt	(297)	(376)	5,261	(5,492)
(-) Dividend payments	(1,711)	(2,170)	(5,571)	(13,357)
(+/-) Exchange difference (cash impact)	(1,545)	778	(2,491)	1,645
(-) Return of capital	(21)	(70)	(45)	(85)
Final cash and cash equivalents	12,336	15,401	12,336	15,401
Investment portfolio	2,001	2,726	2,001	2,726
Total cash	14,337	18,127	14,337	18,127

Cash Flow

At the end of 4Q23, the Ecopetrol Group reported cash resources totaling COP 14.3 trillion (40% in Colombian pesos and 60% U.S. dollars). During 2023, the Group generated an operating cash flow amounting to COP 19.8 trillion from operations across all business segments, primarily driven by increases in production, a positive performance by the refineries, and higher volumes transported, as well as the cash flow of COP 5.8 trillion derived from debt, net of interest. The above was partially offset by the increase in working capital, mainly due to accrued price spread balances recognized in the FEPC account and the payment of income tax by Ecopetrol. The main cash outflows for the period were (i) CAPEX disbursements, mainly in Ecopetrol and three of its subsidiaries, Permian, ISA, and CENIT; ii) dividend payments; and iii) income tax payments.

Debt

At the end of 2023, the balance sheet debt amounted to COP 105.8 trillion, USD 27,686 million (ISA Group's consolidated debt contributed USD 8,152 million), with a decrease of COP -9.2 trillion compared to 2022 due to the net effect between the higher debt COP +14 trillion and the revaluation of the peso against the dollar COP - 24 trillion. The Gross Debt/EBITDA indicator at the end of the year was 1.7 times, lower than anticipated for 2023 (2.1 times). The Debt/Equity ratio at the end of December 2023 was 1.03 times.

Principal maturities amount to ~USD 1.4 billion for 2024 and ~USD 1.3 billion for 2025, of which ~USD 1.2 billion were refinanced for 12 years in January 2024.

FEPC

At the end of December 2023, the accounts receivable from the Fuel Price Stabilization Fund account (FEPC) amounted to COP 20.5 trillion, COP -5.8 trillion less than in 2022, primarily explained by (i) the offsetting of the payment of dividends to the Republic of Colombia for COP -21.6 trillion; and ii) resources transferred to the Refinería de Cartagena for COP -4.7 trillion. The above was offset with the accrual for the period.

Efficiencies

In 2023, the Ecopetrol Group continued to work on a comprehensive strategy to enhance efficiencies and competitiveness, enabling the Company to continue its favorable operating performance and contain inflationary effects in projects and operations. As a result, in 2023 the Company incorporated historic efficiencies amounting to COP 4.5 trillion, mainly because of:

Actions focused on mitigating impacts that may affect the Group's EBITDA margin, which resulted in efficiencies for COP 2.8 trillion:

- The execution of the strategy for optimizing the dilution cost and evacuation of heavy and extra-heavy crudes by ~COP 500 billion. By 2023, the dilution factor decreased to 11.7% compared to 12.4% in 2022.
- Implementing strategies that contributed to reducing lifting costs by 0.33 USD/BI, such as energy efficiencies to optimize self-generation costs, reuse materials, improve operational efficiency in well services activities, and optimize reliability strategies.
- Applying savings-focused initiatives in our corporate and support areas.
- Implementing actions that impacted revenues by ~COP 1.7 trillion pesos, of which sales strategies, the maximization of the use of transportation systems, and the increase of higher value refined products are worth noting.

Strategies implemented to optimize investments and improve the operating and technical performance of our projects have resulted in efficiencies totaling COP 1.7 trillion:

- Ongoing strategies to improve drilling costs for 2023 stood at USD 203/ft versus USD 235/ft in 2022 and completion that reduced its levels to USD 341/ft compared to USD 391/ft in 2022 through to the incorporation of new technologies and the strengthening to operational discipline.

- Approaches for optimizing design and engineering for the efficient use of materials in the construction costs of facilities.

Investments

Table 5: Investments by Business Line –Ecopetrol Group

Inversiones	Ecopetrol Group 2023		% Share
	MUSD	TCOP Equivalent	
Hydrocarbons*	4,400	19.0	70.0%
Low-Emissions**	803	3.5	12.7%
Energy Transmission and Toll Roads	1,086	4.7	17.3%
Business Lines	6,288	27.2	

* Includes the total amount of investments in hydrocarbon transportation in each of the Ecopetrol Group Companies (both controlling and non-controlling interest).

Average exchange rate for 2023: 4,325.05.

** Includes gas and LPG investments

Investments made by the Ecopetrol Group during 2023 amounted to USD 6,288 million (COP 27.2 trillion), which represents an increase of 14.6% compared to 2022 and falls within the target range of COP 25.3 to COP 29.8 trillion.

Total investments of the Ecopetrol Group during 2023 were allocated as follows: 63% of investments, 63% of the investments were executed in Colombia, followed by 31%, executed in the United States and Brazil, while the remaining 6% was executed in countries such as Chile, Peru, Argentina, and Bolivia, among others.

Hydrocarbons

In the production segment, investments totaled USD 4,400 million (COP 19.0 trillion), comprising 70.0% of the Group's overall investments. Many of these investments were directed towards exploration and production activities (USD 3,484 million without including investments in gas or energy efficiency projects), 469 wells were drilled and completed, 343 workovers were carried out as well as enhance recovery projects, managing to mitigate the decline of the fields with an incremental production of 69.6 thousand barrels of oil equivalent per day. The main assets where this operation activity was developed were Rubiales, Caño Sur and Castilla fields in Colombia and Permian in the United States. The drilling of 23 exploratory wells stands out.

During 2023, investments in the Midstream segment amounted to USD 393 million (COP 1.7 trillion), focused mainly on intervention and maintenance activities, remote valve operation, and unit maintenance. The most important projects to which the resources were allocated include the Caño Sur block, the replacement of units in Caucasia, and the completion of the Yumbo tank, all aimed at guaranteeing the domestic supply of refined products. Transported volumes reached 1,113 thousand barrels per day, representing a 4% increase compared to 2022.

In the Downstream segment, investments totaled USD 420 million (COP 1.8 trillion) and were primarily directed toward scheduled shutdowns and initiatives to enhance asset reliability. These investments contributed to attaining an operational availability rate of 95.3% for the Barrancabermeja and Cartagena refineries, which together handled a combined throughput of 420 thousand barrels per day, an increase of 17% compared to 2022. Key projects within this segment included efforts to control SOx emissions, maintenance shutdowns for turbines at the Refinería de Cartagena, and major maintenance works at the Refinería de Barrancabermeja.

Low-Emission Solutions

Investments in the Low Emissions business, including natural gas, amounted to USD 803 million (COP 3.5 trillion), or 12.7% of the Ecopetrol Group's investments. Investments focused on enhancing the gas chain, for which 11% of the Ecopetrol Group's total investment for 2023 was allocated, focused on assets located in Floreña and Cupiagua in the Piedemonte region, and offshore in the Tayrona and Col-5 blocks and Permian in the United States.

In furtherance of the commitment to energy transition, investments in renewable energies were made for USD 41 million (COP 180 billion), mainly in the La Cira and Cartagena solar farms. In the case of energy efficiency investments, these amounted to USD 61 million (COP 260 billion), mainly in electrical synchronization projects in Rubiales and the optimization of energy sources in the Orinoquia Region.

Transmission and Toll Roads

During 2023, investments in the transmission and toll roads business amounted to USD 1,086 million (COP 4.7 trillion), of which 81% corresponded to the energy transmission business, 16% to the toll roads business, and the remaining 3% to the telecommunications business.

In Colombia, advances were made in the construction of electricity transmission projects, such as the new La Loma Sogamoso network, the Copey Cuestecitas line, the connection of Alpha and Beta wind farms, and SmartValves Barranquilla. In Brazil, investments focused on reinforcements and improvements to the network, as well as the start of construction of the lots awarded to ISA's Companhia de Transmissão de Energia Elétrica Paulista ("ISA CTEEP") during the year. In Chile, in the case of energy transmission, five extensions were made to Interchile S.A.'s ("ISA Interchile") network, and a substation and line capacity were reinforced; in the case of toll roads, the execution of the Ruta del Loa project and the complementary works in the Ruta del Maipo, Ruta de la Araucanía and Ruta de los Ríos concessions continued.

II. Results by Business Line

The company's management is reviewing in detail the operating and financial reporting model for the business lines it has established to achieve its 2040 strategy. Once this review is completed, it will be reported in a timely manner. For purposes of this report, we continue to present financial information by the segments of (i) Exploration and production; (ii) Transportation and logistics; (iii) Refining and petrochemicals; and (iv) Energy transmission and roads.

1. HYDROCARBONS

1.1 Upstream

Reserves

At year-end 2023, the net proven reserves of the Ecopetrol Group amounted to 1,883 million barrels of oil equivalent, maintaining the average levels of the last 9 years. The 2023 reserves were valued based on a Brent reference price of 82.80 USD/BI, a 15.5% decrease in price, as compared to a Brent of 97.95 USD/BI in 2022.

An organic incorporation of 307 MBOE was achieved in 2023, which represented a 43% increase as compared to the organic incorporation in 2022, mainly as a result of new projects, better forecasts of production fields, increased prospects for enhanced recovery, extensions and discoveries. However, the incorporation of reserves decreased by 188 MBOE, as a result of economic factors such as the fall in the Brent crude oil price and inflationary effects, as well as changes in technical conditions, mainly, water intrusion, in fields such as Ballena, Cupiagua and Recetor. The above resulted in a positive net incorporation of 119 MBOE. Additionally, during 2023, production discounted 247 MBOE.

The Reserve Replacement Ratio (RRR) was 48%, which includes the increase in production for the period 2023. The average reserve life was equivalent to 7.6 years.

Of the 119 MBOE incorporated in 2023, 93 MBOE were the result of the better capacity for execution and implementation of improved recovery expansion projects in fields such as Chichimene, Castilla and Akacias, among others. In addition, fields such as Cano Sur and Rubiales presented positive reserve revisions due to good production performance and new drilling projects to implement in the future.

In 2023, proven developed reserves grew around 4% compared to 2022, evidencing an improvement in the Company's execution capacity. Of the total 1P reserves, 78% are liquid reserves, and 22% are gas reserves.

Table 6: Reserves – Ecopetrol Group

MBOE	2023	2022
Initial Reserves	2,011	2,002
Revisions	9	63
Enhanced Recovery	93	81
Purchases	0	48
Sales	0	0
Extensions and Discoveries	17	57
Production	(247)	(240)
Year-end Proved Reserves	1,883	2,011

Exploration

In 2023, Ecopetrol and its partners drilled 23 exploratory wells of which 8 wells were successful, 8 are under appraisal and 7 were declared dry. In addition, during the year, 3 successful wells were declared (drilled in 2022) totalizing 11 successful wells declared in 2023, with an estimated potential of between 100 and 150 MBPE⁴ of resources.

Details of the 3 exploratory successes declared in 4Q23 are listed below:

- Zorzal Este-1, located in the municipality of Villanueva in Casanare and operated by Geopark in association with Hocol S.A. (“Hocol”) (50%), reported proven hydrocarbons with an API gravity of 33° in initial tests.
- Magnus-1 (A1), located in block CPO 09 in the municipality of Castilla la Nueva and operated by Ecopetrol (55%) in association with Repsol (45%), reported proven hydrocarbons with an API gravity of 11.8°.
- Bisbita Centro-1, located in the municipality of Barranca de Upía in Meta and operated by Geopark (50%) in association with Hocol (50%), reported proven hydrocarbons with an API gravity of 19°.

Offshore exploration activity included: i) the exploratory success of Glaucus-1 in the COL-5 block operated by Shell, which proved the presence of a gas reservoir; ii) the Orca Norte-1 well, which started drilling began in November 2023 and was successfully completed in January 2024, proved the presence of two gas accumulations in reservoirs other than the Orca-1 discovery, triggering a re-evaluation of the original project, while expanding the gas potential of La Guajira Offshore. Orca Norte-1 was the first deepwater well to be 100% operated by Ecopetrol S.A., in accordance with the highest industry standards and iii) the delineation campaign continues for the Uchuva discovery, located in the Tayrona block, continued with the drilling of the Uchuva-2 well which is expected to start in 2Q24.

At the domestic level, in 2023 Ecopetrol, together with its subsidiary Hocol and partners, acquired 210 km and 440 km² equivalent of 2D and 3D seismic information, respectively. Additionally, information already acquired from the Colombian Geological Service was purchased: 6,265 km equivalent of 2D seismic information by Ecopetrol, 540.16 km of 2D, and 104.8 km² equivalent of 3D seismic by our subsidiary Hocol.

In addition, 6,709.8 km² equivalent of 3D seismic and 5,972.19 km of 2D seismic were reprocessed. Regarding non-seismic methods, 27,503 km equivalent of aerogradiometric data acquired from IFTG was processed. The acquisition, processing and interpretation of these data will improve the subsurface image by identifying and evaluating potential new accumulations in the basins where Ecopetrol is present.

⁴ Estimated potential corresponds to 6 of the 11 discoveries, with the remaining discoveries currently being evaluated for their potential.

Internationally, during 4Q23, the Brazilian subsidiary continued advancing in the acquisition of the Santos Sur multi-client 3D seismic program (8,643 km²), which is expected to be completed in 1Q24. Likewise, the maturation process of the Pau Brasil-1 which is expected to start drilling activities in 1H24.

Production

Table 7: Gross Production –Ecopetrol Group

Production - mboed	4Q 2023	4Q 2022	Δ (%)	12M 2023	12M 2022	Δ (%)
Crude Oil	499.1	496.9	0.4%	498.7	492.8	1.2%
Natural Gas	127.7	126.0	1.3%	129.2	132.7	(2.6%)
Total Ecopetrol S.A.	626.8	622.9	0.6%	627.9	625.5	0.4%
Crude Oil	17.1	17.8	(3.9%)	17.0	17.1	(0.6%)
Natural Gas	18.1	18.5	(2.2%)	18.4	19.8	(7.1%)
Total Hocol	35.2	36.3	(3.0%)	35.5	36.9	(3.8%)
Crude Oil	6.0	6.4	(6.3%)	5.9	8.1	(27.2%)
Natural Gas	0.9	1.0	(10.0%)	0.9	1.2	(25.0%)
Total Ecopetrol America	6.9	7.5	(8.0%)	6.8	9.3	(26.9%)
Crude Oil	52.3	32.9	59.0%	38.6	23.8	62.2%
Natural Gas	36.6	20.5	78.5%	27.8	14.0	98.6%
Total Ecopetrol Permian	88.9	53.5	66.2%	66.4	37.8	75.7%
Crude Oil	574.4	554.1	3.7%	560.2	541.8	3.4%
Natural Gas	183.4	166.1	10.4%	176.4	167.6	5.3%
Total Ecopetrol Group	757.8	720.1	5.2%	736.6	709.5	3.8%

Note 1: Gross production includes royalties and is prorated by Ecopetrol's participation in each Company. Natural Gas includes gas and white products (LPG, propane, and butane).

Note 2: Consolidated data are rounded.

In 2023, the Ecopetrol Group's production reached 736.6 thousand barrels of oil equivalent per day (mboed), with Ecopetrol S.A. contributing 627.9 mboed and Ecopetrol subsidiaries contributing 108.7 mboed.

A year-on-year increase of 27.1 mboed (2.4 mboed for Ecopetrol and 24.7 mboed for the subsidiaries) was reported for 2023, primarily as a result of (i) the entry into operation of the first fluid treatment train in the Caño Sur field, which enabled an increase in production to levels of 40.6 mboed by December 2023; (ii) incremental production in the Permian; and (iii) greater water management capacity in the Rubiales field.

The results offset the impact of: i) events affecting public order and the environment (-6.7 mboed in 2023 vs -4.6 mboed in 2022), ii) lower gas sales due to attacks on the Caño Limón Coveñas pipeline which affected the Gibraltar field, and the lower market demand in the first months of 2023, as well as the Termosuria and Termococa maintenance, and iii) the road closures that connect Llanos Orientales, among others.

In the 4Q23 an increase of 17.3 mboed was achieved vs 3Q23, reflecting continued and committed production management, of which the following is worth highlighting: i) incremental volumes (+22.6 mboed) in the Permian; ii) inputs from development wells in CPO9 (+0.9 mboed); and iii) the reactivation of the Dalmatian field in Ecopetrol America (+1.4 mboed).

These results offset the impacts of: i) events affecting public order and the environment in Caño Sur, CPO9, and CPI Suroriental (-4.7 mboed in 4Q23 vs -3.2 mboed in 3Q23); and ii) impacts from electrical events mainly in Yarigui, Rubiales, Castilla and Chichimene (-2.1 mboed in 4Q23 vs 3Q23), among others.

In drilling activities, by year-end 2023, the Ecopetrol Group had drilled and completed 469 development wells with an average occupancy level of 28 active rigs.

In 2023, Ecopetrol continued to implement recovery programs to enhance the recovery factor of the fields. By year-end 2023, the fields with secondary and tertiary recovery programs contributed 40.6% of the Ecopetrol Group's daily production.

In Permian Basin, we achieved average production of 66.4 mboed (net ECP before royalties). During the year, 120 wells were drilled, and 109 new wells were brought on production.

In January and February 2024, environmental events occurred in the Caño Sur, Capachos, Arauca, Rubiales, Acacias, Quifa, Apiay and Loma Larga fields, affecting production by approximately 580,000 barrels equivalent, with the greatest impact on Caño Sur and Rubiales, whose blockages were lifted on 9 February, allowing production to be gradually restored.

By 2024 production levels are estimated between 725 and 730 mboed. These levels consider identified challenges, such as i) the El Niño phenomenon; ii) environmental and physical security situations; and iii) environmental permits currently in progress.

Lifting and Dilution Cost

Table 8: Lifting Cost – Ecopetrol Group

USD/BI	4Q 2023	4Q 2022	Δ (%)	12M 2023	12M 2022	Δ (%)	% USD
Lifting Cost*	13.24	9.13	45.0%	10.91	9.21	18.5%	24.5%
Dilution Cost**	4.93	4.96	(0.6%)	4.78	5.66	(15.5%)	100.0%

* Calculated based on barrels produced without royalties. ** Calculated based on barrels sold.

Lifting Cost

4Q23 vs. 4Q22

Compared to 4Q22, in 4Q23 the lifting cost was 13.2 USD/BI, increasing by 4.1 USD/BI, mainly explained by:

Cost Effect (+2.62 USD/BI): i) Increased costs due to higher electrical energy costs (+1.04 USD/BI) resulting from increases in consumption associated with incremental production levels and higher fees driven by external effects such as the “El Niño phenomenon” and inflation; ii) an increase in the number of maintenance activities performed on wells and the surface (+0.6 USD/BI); iii) an increase in operational support services costs due to the inflationary effect on their rates (+0.4 USD/BI); iv) increase in contractual fees and volumes of chemical treatments required for fluids, associated with incremental production (+0.15 USD/BI); and v) services contracted with partners (+0.4 USD/BI), among others.

Exchange rate effect (+2.03 USD/BI): An impact in the average COP/USD exchange rate (-738 COP/USD), decreasing from 4,808 COP/USD to 4,070 COP/USD.

Volume Effect: (-0.54 USD/BI): Increase in production levels.

Cumulative 2023 vs. Cumulative 2022

The lifting cost was 10.9 USD/BI in 2023, increasing by 1.7 USD/BI compared to 2022, mainly explained by:

Cost Effect (+2.25 USD/BI): increased costs due to i) higher electrical energy costs (+0.6 USD/BI) resulting from increased consumption associated with incremental production, and higher fees driven by external effects such as the “El Niño phenomenon” and inflation; ii) an increase in operational support services costs due to the inflationary effect on their rates, (+0.5 USD/BI); iii) an increase in the number of maintenance activities and civil works due to increase in activity (+0.3 USD/BI); iv) increased number of well interventions (+0.3 USD/BI); and v) increase in contractual fees and volumes of chemical treatments required for fluids, associated with incremental production (+0.1 USD/BI), among others.

Exchange rate effect (-0.18 USD/BI): an impact in the average COP/USD exchange rate (+70 COP/USD), increasing from 4,255 to 4,325 COP/USD.

Volume Effect (-0.37 USD/BI): Increase in production levels.

In summary, the aforementioned external factors, such as the El Niño phenomenon, inflation, and the exchange rate, impacted the lifting cost by 4.66 USD/BI for 4Q23 and 1.41 USD/BI in 2023.

Efficiencies totaling 0.80 USD/BI for 4Q23 and 0.33 USD/BI for 2023 partially mitigated the increase in cost, primarily in the power, subsoil, and surface maintenance.

Dilution Cost

Year-on-year, the dilution cost for 2023 decreased by 0.88 USD/BI and stood at 4.78 USD/BI. This result is mainly explained by:

The dilution factor decreased 0.7% from 12.4% in 2022 to 11.7% in 2023.

Price effect (-0.43 USD/BI): a decrease in the purchase price of Nafta (-17.91 USD/BI) associated with a lower Brent benchmark indicator.

Exchange Rate Effect (-0.08 USD/BI): an impact in the average COP/USD exchange rate (+70 COP/USD), increasing from 4,255 to 4,325 COP/USD.

Volume Effect (-0.37 USD/BI): an incremental production primarily from the Chichimene, Caño Sur and Rubiales fields and increased consumption through greater injection and refinery blends.

Financial Results

Table 9: Income Statement – Exploration and Production

Billion (COP)	4Q 2023	4Q 2022	Δ (\$)	Δ (%)	12M 2023	12M 2022	Δ (\$)	Δ (%)
Total revenue	20,809	20,979	(170)	(0.8%)	81,404	90,883	(9,479)	(10.4%)
Depreciation, amortization and depletion	2,372	1,888	484	25.6%	8,532	7,139	1,393	19.5%
Variable costs	7,594	6,725	869	12.9%	29,518	27,876	1,642	5.9%
Fixed costs	3,790	3,240	550	17.0%	13,777	11,734	2,043	17.4%
Total cost of sales	13,756	11,853	1,903	16.1%	51,827	46,749	5,078	10.9%
Gross income	7,053	9,126	(2,073)	(22.7%)	29,577	44,134	(14,557)	(33.0%)
Operating and exploratory expenses	2,377	2,367	10	0.4%	6,856	6,022	834	13.8%
Operating income	4,676	6,759	(2,083)	(30.8%)	22,721	38,112	(15,391)	(40.4%)
Financial result, net	(448)	(363)	(85)	23.4%	(1,390)	(1,928)	538	(27.9%)
Share of profit of companies	5	21	(16)	(76.2%)	27	30	(3)	(10.0%)
Income before income tax	4,233	6,417	(2,184)	(34.0%)	21,358	36,214	(14,856)	(41.0%)
Provision for income tax	(180)	(1,809)	1,629	(90.0%)	(10,061)	(12,167)	2,106	(17.3%)
Consolidated net income	4,053	4,608	(555)	(12.0%)	11,297	24,047	(12,750)	(53.0%)
Non-controlling interest	17	29	(12)	(41.4%)	91	95	(4)	(4.2%)
Net income attributable to owners of Ecopetrol before impairment	4,070	4,637	(567)	(12.2%)	11,388	24,142	(12,754)	(52.8%)
(Expense) income from impairment of long-term assets	(2,741)	(890)	(1,851)	208.0%	(2,741)	(890)	(1,851)	208.0%
Deferred tax on impairment	1,213	312	901	288.8%	1,213	311	902	290.0%
Net income attributable to owners of Ecopetrol	2,542	4,059	(1,517)	(37.4%)	9,860	23,563	(13,703)	(58.2%)
EBITDA	7,414	8,973	(1,559)	(17.4%)	32,436	46,357	(13,921)	(30.0%)
EBITDA Margin	35.6%	42.8%	-	(7.2%)	39.8%	51.0%	-	(11.2%)

Revenues decreased year-on-year compared to 2022 and quarter-on-quarter compared to 4Q22, mainly due to lower Brent benchmark prices, partially offset by higher sales volumes resulting from incremental crude oil production. Additionally, the lower average exchange rate also negatively impacted results.

Cost of sales increased year-on-year compared to 2022 and quarter-on-quarter compared to 4Q22 due to the net effect of:

- Greater execution from i) higher electricity fees impact associated with the El Niño phenomenon; ii) inflationary effect on the rates of materials needed for well interventions and chemical treatment; iii) incremental activity in the subsoil, surface, and contracted services; and iv) higher consumption of electricity and chemical treatment associated with production increases.

- Higher transportation costs due to an increase in transported volumes; and ii) costs associated with the execution of reversal cycles in the Bicentenario Pipeline, resulting from fewer days of operation of the Caño Limón Pipeline.
- Lower purchase costs due to: i) lower purchase prices and volumes of diluents; and ii) decreases in domestic purchases due to lower prices, partially offset by iii) higher purchased volumes from the ANH and third parties.

Operating expenses increased in 2023 relative to 2022, as well as for 4Q23 versus 4Q22, mainly due to: i) the implementation of new environmental legal provisions and addressing contingencies; ii) higher sales volumes under the DAP (Delivery at Place) modality by subsidiaries dedicated to commercialization activities; iii) the write-off of investments in the Ecopetrol América Rydberg asset registered in 2022; and iv) higher expenses capitalized due to an incremental execution of investment projects.

Exploratory expenses increased in 2023 as compared to 2022 due to Ecopetrol's increased recognition of seismic activities at Ecopetrol S.A. and of unsuccessful exploratory projects. A decrease in 4Q23, as compared to 4Q22 due to a lower exploratory activity.

Financial results (non-operating) decreased in 2023 compared to 2022, mainly due to the combined effect of i) income derived from exchange rate differences resulting from a lower closing exchange rate relative to the segments' liability position; ii) higher investment portfolio returns, partially offset by iii) higher interest expenses due to increased indebtedness levels and increases in interest rates. However, expenses increased in 4Q23 compared to 4Q22, mainly due to the recognition of the default interest payment associated with final rulings on contributions to public works.

Income tax for 2023 and 4Q23, compared to 2022 and 4Q22, respectively, is impacted by the effect of the update to the surcharge implemented by the most recent Tax Reform. Additionally, for 4Q23 the income tax was updated associated to the royalty's deductibility.

1.2 Midstream

Table 10: Transported Volumes - Ecopetrol Group

mbd	4Q 2023	4Q 2022	Δ (%)	12M 2023	12M 2022	Δ (%)
Crude Oil	823.8	783.7	5.1%	807.0	772.6	4.5%
Products	311.5	305.6	1.9%	305.9	298.1	2.6%
Total	1,135.3	1,089.3	4.2%	1,112.9	1,070.7	3.9%

Note: Volumes reported are subject to adjustments due to Volumetric Quality Control (VQC) changes as the volumetric balances are formalized.

The total volume transported by year-end 2023 totaled 1,112.9 mbd, an increase of 42.2 mbd versus 2022. Likewise, in 4Q23, the total volume transported increased by 46 mbd compared to 4Q22.

Crude: Volumes transported rose by 4.5% in 2023 year-on-year and by 5.1% in 4Q23 versus 4Q22, as a result of increased country production, mainly in the Llanos region; ii) higher deliveries of Castilla Norte crude at the Barrancabermeja refinery; and iii) capture of additional barrels from third parties that were previously outside the pipeline network. Approximately 88.4% of the crude volume transported was owned by the Ecopetrol Group.

During 4Q23, four third-party pipeline incidents occurred, as opposed to only one incident in 4Q22. Additionally, the number of illicit valves removed in 4Q23 increased by 10% compared to 4Q22. During 2023, there was a 50% increase in the number of detected pipeline damages caused by third parties, as well as a 10% increase in the number of illicit valves removed, as compared to 2022.

To ensure the evacuation of production from the Caño Limón field following damages to the Caño Limón-Coveñas pipeline caused by third parties, 13 reversion cycles of the Bicentenario pipeline were performed in 2023, with an

obtained volume of approximately 3.4 million barrels. We highlight that no reversion cycles were carried out during 4Q23 or 4Q22.

Refined Products: In 2023 and 4Q23, volumes transported increased by 2.6% and 1.9%, respectively, versus the comparable periods in 2022, mainly due to greater number of barrels obtained from the refineries, driven by i) the high performance of the Pozos Colorados - Galán system; and ii) optimized transport system operations that allowed capturing new volumes previously moved by tanker trucks. Approximately 26.7% of the volume transported by pipeline were Ecopetrol products.

We underline the historical record reached in 2023 in the transport of products, topping 306 mbd, thanks to the excellent performance of our critical systems, including 295 mbd in the Refinería de Barrancabermeja, 28.5 mbd in the Cartagena - Baranoa system, and 160 mbd in Pozos Colorados - Galán system.

By utilizing new technology to detect illicit connections, as well as other initiatives to manage physical infrastructure security risks, during 2023 and 4Q23, the removal of illicit valves jumped by 94% and 215% compared to 2022 and 4Q22, respectively.

Caucasia unit replacement project: Oleoducto de Colombia (ODC) replaced three internal combustion pumping units with three new electric units at the Caucasia station to ensure the system's reliability and transport capacity, simultaneously reducing the carbon footprint and direct CO₂ emissions. On December 20, 2023, 100% of construction was completed on the project, with a total investment of approximately USD 19.2 million.

Approval for construction of Caño Sur line: During 2023, the three project planning stages were completed, including the conceptual and basic engineering, for the construction of a new pipeline that will connect the Centauros station to kilometer 30 of the Oleoducto de Los Llanos Oil pipeline (ODL), to ensure the efficient transportation of the current and incremental production of the Caño Sur Este field.

Galán storage tanks begin operations: To increase the national operational storage capacity of products, the reworking of tank No. 8168 at the Galán station has been completed, with a storage capacity of 250,000 barrels of naphtha. The conversion from Oil to Natfa in this tank, is located at the Barrancabermeja refinery, involved deep cleaning of the tank's inlet and outlet lines, repair and installation of booster pumping units, and construction and installation of a dome.

Cenit and Oleoducto Bicentenario multi-purpose pipeline merger: The company Oleoducto Bicentenario de Colombia S.A.S (OBC) was subject to a reorganization merger process whereby it was absorbed by Cenit Transporte y Logística de Hidrocarburos S.A.S. (Cenit). This transaction was registered in the commercial registry on December 28, 2023. This transaction dissolved OBC without liquidation, and all its assets, liabilities, rights, and obligations were transferred to Cenit.

New regulatory framework developments: On December 20, 2023, the Ministry of Mines and Energy issued Resolution 40745 of 2023 whereby multiphase pipeline transportation activities were regulated. This regulatory framework enables the transportation and logistics segment to continue assessing specific projects that might benefit the Company.

The Ministry of Mines and Energy published its regulatory agenda for 2024 on December 30, 2023, which will enter the phase of communication with stakeholders in 2Q24. It seeks to modify the methodology for setting fees and the regulation of crude oil transportation by pipeline.

On December 30, 2023, the CREG published Memo 099-23, which details its regulatory agenda for 2024. This memo indicates that in 1Q24, the final resolution of the proposed methodology for the fee payment structure of liquid fuels and LPG transport activities by pipelines is expected to be published.

Cost per Barrel Transported

Table 11: Cost per Barrel Transported - Ecopetrol Group

USD/BI	4Q 2023	4Q 2022	Δ (%)	12M 2023	12M 2022	Δ (%)	% USD
Cost per Transported Barrel	3.77	3.06	23.2%	3.09	2.84	8.8%	21.1%

The cost per barrel transported in 4Q23 was 3.77 USD/BI, increasing by 0.71 USD/BI versus 4Q22. The aggregate price to December 2023 stood at 3.09 USD/BI, increasing by 0.25 USD/BI relative to the same period of 2022, explained by:

- Cost Effect (+0.42 USD/BI):** Primarily attributed to inflation effect impacting global maintenance contract fees and support areas and personnel costs, among others; ii) increased fixed costs associated with higher maintenance activities and an increase in contracted services; iii) higher variable cost due to the increase in materials and energy consumption because of more significant volumes transported and higher prices consistent with market conditions; iv) greater emergency response expenses, and v) higher depreciation mainly due to a greater level of capital investment and the exchange rate effect on the depreciation of segment subsidiaries with the USD as their functional currency.
- Exchange Rate Effect (-0.05 USD/BI):** an increase of 70 in the average COP/USD exchange rate, increasing from 4,255 to 4,325 COP/USD.
- Volume Effect (-0.12 USD/BI):** i) lower cost per barrel for additional volume transported (+3.9%) compared to the aggregate to December 2022 associated with increase in national production, mainly in the Llanos area; ii) higher deliveries of Castilla Norte crude to the Barrancabermeja refinery; iii) captures of additional barrels from third parties that were previously outside the pipeline network; and iv) greater transport of refined products as a result of greater availability of products in refineries and operational efficiencies in the transportation systems.

Financial Results

Table 12: Income Statement – Midstream

Billion (COP)	4Q 2023	4Q 2022	Δ (\$)	Δ (%)	12M 2023	12M 2022	Δ (\$)	Δ (%)
Total revenue	3,686	4,087	(401)	(9.8%)	15,510	13,956	1,554	11.1%
Depreciation, amortization and depletion	376	373	3	0.8%	1,451	1,415	36	2.5%
Variable costs	257	210	47	22.4%	885	720	165	22.9%
Fixed costs	633	629	4	0.6%	2,044	1,758	286	16.3%
Total cost of sales	1,266	1,212	54	4.5%	4,380	3,893	487	12.5%
Gross income	2,420	2,875	(455)	(15.8%)	11,130	10,063	1,067	10.6%
Operating expenses	309	331	(22)	(6.6%)	1,014	924	90	9.7%
Operating income	2,111	2,544	(433)	(17.0%)	10,116	9,139	977	10.7%
Financial result, net	(136)	67	(203)	(303.0%)	(191)	(121)	(70)	57.9%
Share of profit of companies	0	1	(1)	(100.0%)	0	0	0	-
Income before income tax	1,975	2,612	(637)	(24.4%)	9,925	9,018	907	10.1%
Provision for income tax	(729)	(912)	183	(20.1%)	(3,640)	(3,104)	(536)	17.3%
Consolidated net income	1,246	1,700	(454)	(26.7%)	6,285	5,914	371	6.3%
Non-controlling interest	(279)	(351)	72	(20.5%)	(1,258)	(1,167)	(91)	7.8%
Net income attributable to owners of Ecopetrol before impairment	967	1,349	(382)	(28.3%)	5,027	4,747	280	5.9%
(Expense) income from impairment of long-term assets	(630)	(406)	(224)	55.2%	(630)	(406)	(224)	55.2%
Deferred tax of impairment	221	142	79	55.6%	221	142	79	55.6%
Net income attributable to owners of Ecopetrol	558	1,085	(527)	(48.6%)	4,618	4,483	135	3.0%
EBITDA	2,543	2,955	(412)	(13.9%)	11,778	10,695	1,083	10.1%
EBITDA Margin	69.0%	72.3%	-	(3.3%)	75.9%	76.6%	-	(0.7%)

Revenues for 2023 increased year-on-year, given the effect of i) higher volumes transported due to the increase in production of crude oil and refined products, along with operational efficiencies in the transportation systems; ii) higher average annual exchange rate; iii) annual fees update; and iv) the execution of 13 contingent reversal cycles in the Bicentenario pipeline, versus only one cycle executed in the previous year. In contrast, 4Q23 revenues decreased versus 4Q22, mainly due to the combined effect of a lower average exchange rate versus the same quarter of the previous year; partially offset by higher volumes transported as a result of the aforementioned conditions.

Cost of sales in 2023 and 4Q23 increased compared to 2022 and 4Q22, primarily attributed to i) the inflationary effect on maintenance contract fees, operating support area costs, and personnel costs, among others; ii) increased maintenance activities and contracted services; and iii) higher materials and energy consumption due to greater volumes transported and increases in energy prices consistent with market conditions.

Operating expenses in 2023 increased versus 2022, resulting from higher emergency response expenses, in addition to greater social investment activities, increased personnel expenses, and rises in insurance policies. Year-on-year, 4Q23 figures decreased compared to 4Q22, primarily due to higher provisions recognized for contingencies during the 4Q22.

Net financial (non-operating) income for both 2023 and 4Q23 versus 2022 and 4Q22 decreased primarily because of the effect of the foreign exchange rate on the segment's net U.S. dollar asset position.

1.3 Downstream

In 2023, the Downstream segment achieved an average operational availability of 95.3%, the highest in the past five years, records at both refineries, thanks to stringent obedience to the scheduled plant shutdown plan that ensured the reliability of the assets, alongside a positive health, safety and environment (“HSE”) performance.

The refineries achieved in 2023 a joint throughput of 419.6 mbd and a combined gross margin of 17.6 USD/BI compared to a joint throughput of 357.5 mbd and a combined gross margin of 21.0 USD/BI in 2022. In 4Q23, the refineries reached a joint throughput of 428.9 mbd and a combined gross margin of 13.1 USD/BI, relative to 344.9 mbd and 19.9 USD/BI in 4Q22, respectively.

These results were due to the successful implementation of strategic, operational, and commercial strategies, which resulted in: i) operational stability of refinery assets and petrochemical plants; ii) integrated planning throughout the logistics chain that maximized the consumption of domestic crude oil in the refineries and an administrative emphasis on eliminating bottlenecks; and iii) positive performance of the segment's efficiency program, capturing revenue and cost benefits.

During 2023, the refineries delivered gasoline with less than 46.1 ppm sulfur and diesel with less than 11.8 ppm sulfur, complying with the national fuel quality standard of Resolution 40444 (maximum sulfur content in gasoline of 50 ppm and diesel of 15 ppm).

We would like to emphasize progress in the following key initiatives and projects, aligned with the pillars of our Strategy 2040:

- Circular Economy:
 - Successful tests of pyrolytic oil from post-consumer plastic waste at the Refinería de Barrancabermeja's catalytic cracking unit. This oil is obtained through a pyrolysis process, providing value to this waste product that would typically end up in a landfill or is poorly disposed of, thus harming the environment. Esenttia produced around 19 tons of polypropylene (“PP”) with circular refinery grade propylene (“RGP”) sent by the Refinería de Barrancabermeja.
 - Loading of oily sludge from the Refinería de Barrancabermeja into the coke unit of the Refinería de Cartagena, contributing to reducing greenhouse gases (“GHG”) emissions and satisfying the integrated waste management corporate goal.

- Progress in the construction of the mechanical recycling plant in Esentia reached 95%. The plant's objective is to transform recycled material into polyolefins and is expected to begin operations during 1Q24.
- Ecodiesel received the Colombian Institute of Technical Standards and Certification's (ICONTEC for its Spanish acronym) carbon-neutral certification, becoming the first biodiesel company in the country to receive this certification.
- Commissioning of the new sour water management system at the Refinería de Barrancabermeja, reducing the solids and hydrocarbons dragging in the sour water flow, increasing the reliability of the systems, and eliminating the risk of wastewater contamination due to loss of containment.
- Approvals of the start-up of the following projects in the Refinería de Cartagena:
 - Production of aromatics, contributing to the energy transition by generating new products and decarbonizing the refinery by providing low-emission hydrogen.
 - Production of sustainable air fuel ("SAF") through co-processing, aimed at producing biofuels for the aviation industry.

Refinería de Cartagena

In 2023, the Refinería de Cartagena refinery reached an all-time yearly record throughput of 197.8 mbd and the second-highest yearly gross refining margin ever with 19.7 USD/BI.

In 4Q23, the Refinería de Cartagena achieved a throughput of 187.9 mbd, surpassing that of 4Q22 by 56.6%, mainly due to the continuous operation of the Cartagena Crude Oil Plant Interconnection (IPCC), as well as a 94% rate of operational availability for the units. The refinery also showed improvements in the utilization factor and refined product production, exceeding 4Q22 by 29.3% and 57.2%, respectively.

Gross margin in 4Q23 was 14.1 USD/BI, down 29.5% from 4Q22, impacted by weaker diesel, jet fuel, and gasoline differentials, partially offset by optimized feedstock cost and higher diesel and jet fuel yields.

**Table 13: Throughput, Utilization Factor, Production and Refining Margin
- Refinería de Cartagena**

Cartagena Refinery	4Q 2023	4Q 2022	Δ (%)	12M 2023	12M 2022	Δ (%)
Throughput* (mbd)	187.9	120.0	56.6%	197.8	139.8	41.5%
Utilization Factor (%)	85.3%	66.0%	29.3%	90.7%	71.9%	26.1%
Production (mbd)	182.8	116.3	57.2%	192.2	136.0	41.3%
Gross Margin (USD/BI)	14.1	20.0	(29.5%)	19.7	22.9	(14.0%)

* Corresponds to actual throughput volumes processed, not volumes received

Refinería de Barrancabermeja

In 2023, the Refinería de Barrancabermeja refinery achieved a historical annual record operational availability of 96.1% and a throughput of 221.8 mbd, the highest in the past five years.

In 4Q23, the Refinería de Barrancabermeja reached a throughput of 241.0 mbd, the highest quarterly throughput in the last 16 years, mainly due to high operational availability (96.9%) and increased light crude product received. The 4Q23 gross margin was 12.4 USD/BI, down 37.4% from 4Q22, affected by weaker diesel, jet fuel, and gasoline cracks, partially offset by higher yields from these fuels.

**Table 14: Throughput, Utilization Factor, Production and Refining Margin
- Refinería de Barrancabermeja**

Barrancabermeja Refinery	4Q 2023	4Q 2022	Δ (%)	12M 2023	12M 2022	Δ (%)
Throughput* (mbd)	241.0	224.9	7.2%	221.8	217.7	1.9%
Utilization Factor (%)	85.0%	77.2%	10.1%	79.5%	74.9%	6.1%
Production (mbd)	245.2	226.6	8.2%	225.4	220.8	2.1%
Gross Margin (USD/BI)	12.4	19.8	(37.4%)	15.7	19.8	(20.7%)

* Corresponds to actual throughput volumes processed, not volumes received

Esenttia

In 2023, polypropylene (PP) prices fell due to moderating demand and high inventories, reducing year-on-year sales results and total margin. The company implemented mitigation strategies to address this challenging environment, including the redirection of sales to profitable products, hedging, spot purchases of polymer-grade propylene, and new administrative and operational efficiencies.

Worth highlighting are i) start-up of the Plant 2 Expansion Project in February 2023, which will increase PP production capacity by 15% in an environment of more favorable market conditions; ii) production of around 19 tons of PP with circular RGP throughput sent by the Refinería de Barrancabermeja; iii) by December, 95% progress had been achieved in the construction of the Mechanical Recycling Plant, which is expected to begin operations during 1Q24; and iv) 7th place as exceptional employer in the Great Place To Work ranking.

Table 15: Sales and Margin – Esenttia

Esenttia	4Q 2023	4Q 2022	Δ (%)	12M 2023	12M 2022	Δ (%)
Total Sales (KTON)	115.8	128.4	(9.8%)	494.2	526.0	(6.0%)
Total Margin (USD/Ton)	91.9	114.7	(19.9%)	85.9	214.9	(60.1%)

Invercolsa

There are currently 4 million users connected to the gas service, including through controlled and non-controlled Invercolsa subsidiaries. The volume of natural gas traded grew by +1.3 Mm³ (+0.5%), and the secondary market by +8.5 Mm³ (+21%) compared to the same period of 2022. In Liquefied petroleum gas -LPG-, Invercolsa continued showing improved results during the four quarters of 2023, achieving an operational EBITDA three times higher than that of 2022. Total EBITDA, which includes the equity method, was COP 573 billion, a +17% (+COP 82 billion) increment versus the same period of the previous year, and net income under the equity method closed at COP 341 billion, growing by +20% (COP 57 billion) year-on-year.

Refining Cash Cost

Table 16: Refining Cash Cost*

USD/BI	4Q 2023	4Q 2022	Δ (%)	12M 2023	12M 2022	Δ (%)	% USD
Refining Cash Cost	5.28	4.84	9.1%	4.55	4.48	1.6%	16.7%

* Includes Barrancabermeja and Cartagena refineries and Esenttia.

Refining Cash Cost increased by 0.44 USD/BI in 4Q23 versus 4Q22, explained by:

- **Cost effect (+1.06 USD/BI):** Higher operational activity and inflationary effect.
- **Exchange rate effect (+0.23 USD/BI):** a decrease of COP -738 in the average COP/USD exchange rate, decreasing from 4,808 to 4,070 COP/USD.
- **Volume effect (-0.85 USD/BI):** +84 mbd increase in crude throughput in refineries.

The total annual figure to December 2023 increases by 0.07 USD/BI versus that of December 2022, explained by:

- **The cost effect (+0.88 USD/BI)**, which reflected increased operational activity and the inflationary effect.
- **Exchange Rate Effect (-0.07 USD/BI)**: an increase of +70 in the average COP/USD exchange rate, increasing from 4,255 to 4,325 COP/USD.
- **Volume effect (-0.74 USD/BI)**: +62 mbd increase in crude throughput in refineries.

Financial Results

Table 17: Income Statement – Downstream

Billion (COP)	4Q 2023	4Q 2022	Δ (\$)	Δ (%)	12M 2023	12M 2022	Δ (\$)	Δ (%)
Total revenue	19,085	23,064	(3,979)	(17.3%)	82,148	89,179	(7,031)	(7.9%)
Depreciation, amortization and depletion	501	485	16	3.3%	2,084	1,780	304	17.1%
Variable costs	17,623	20,064	(2,441)	(12.2%)	71,008	76,341	(5,333)	(7.0%)
Fixed costs	737	540	197	36.5%	2,625	2,211	414	18.7%
Total cost of sales	18,861	21,089	(2,228)	(10.6%)	75,717	80,332	(4,615)	(5.7%)
Gross income	224	1,975	(1,751)	(88.7%)	6,431	8,847	(2,416)	(27.3%)
Operating expenses	797	919	(122)	(13.3%)	2,459	2,248	211	9.4%
Operating income (loss)	(573)	1,056	(1,629)	(154.3%)	3,972	6,599	(2,627)	(39.8%)
Financial result, net	(224)	(421)	197	(46.8%)	(894)	(1,582)	688	(43.5%)
Share of profit of companies	53	51	2	3.9%	252	222	30	13.5%
Loss before income tax	(744)	686	(1,430)	(208.5%)	3,330	5,239	(1,909)	(36.4%)
Provision for income tax	733	47	686	1,459.6%	(390)	(1,245)	855	(68.7%)
Consolidated net income	(11)	733	(744)	(101.5%)	2,940	3,994	(1,054)	(26.4%)
Non-controlling interest	(50)	(42)	(8)	19.0%	(214)	(185)	(29)	15.7%
Net income attributable to owners of Ecopetrol before impairment	(61)	691	(752)	(108.8%)	2,726	3,809	(1,083)	(28.4%)
(Expense) income from impairment of long-term assets	1,492	1,102	390	35.4%	1,483	1,096	387	35.3%
Deferred tax of impairment	(298)	(221)	(77)	34.8%	(296)	(219)	(77)	35.2%
Net income attributable to owners of Ecopetrol	1,133	1,572	(439)	(27.9%)	3,913	4,686	(773)	(16.5%)
EBITDA	219	1,924	(1,705)	(88.6%)	7,310	9,537	(2,227)	(23.4%)
EBITDA Margin	1.1%	8.3%	-	(7.2%)	8.9%	10.7%	-	(1.8%)

Revenues in 2023 decreased year-on-year attributed to i) lower prices of middle distillate products and gasoline; and ii) deterioration of refined product spreads, in both cases associated with market factors. Likewise, revenues decreased during 4Q23 compared to 4Q22 due to the aforementioned market factors and the lower average official representative spot market exchange rate (TMR for its Spanish acronym).

Cost of sales decreased in 2023 versus 2022 mainly due to lower crude feedstock cost, partially offset by i) cost associated with the higher cargo volumes; and ii) the higher average TRM. When comparing the reduction in 4Q23 versus 4Q22, the decrease was mainly caused by the lower feedstock cost, partially offset by the higher cargo cost.

Operating expenses increased in 2023 year-on-year because of higher sales and marketing expenses due to the increase in volumes sold abroad. A reduction occurred in 4Q23 figures versus 4Q22, mainly explained by the major maintenance performed at the Refinería de Cartagena during 4Q22.

The 2023 and 4Q23 **financial results (non-operating)** compared to the results of the same periods in 2022 showed a decrease in expenses resulting from the exchange rate difference effect in the segment's net position valuation.

Income tax for 4Q23 relative to 4Q22 was impacted by the update of the surtax that came into effect in the recent tax reform, applicable to the segment's results in Ecopetrol S.A.

1.4 Sales and Marketing

In 4Q23, the sales subsidiary in Houston, Ecopetrol US Trading (EUST), was incorporated. This office aims to solidify the presence of the Ecopetrol Group in the United States, establishing synergies with the subsidiaries Ecopetrol USA, Ecopetrol America, and Ecopetrol Permian. In its first quarter of operation, EUST marketed 9.3 million barrels of crude oil and products, obtained an EBITDA of USD 19.5 million and a net profit of USD 15.4 million. These results were gained through the subscription of term contracts for the sale of Castilla crude oil and other products, such as fuel oil and naphtha, providing logistics and market efficiencies.

In line with the Ecopetrol Group's decarbonization strategy, the Carbon Trading Desk carried out the first carbon credit trading operations with third parties, which represented the mitigation of approximately 75 thousand tons of CO₂e.

During 2023, the Company offset ~505 thousand tons of carbon through carbon credits from natural climate solutions projects in Colombia, associated with emissions generated by the extraction, production, refining, and transportation of crude oil (Castilla Blend and Apiay Blend) and refined products (extra gasoline and asphalt) from Ecopetrol S.A.'s portfolio.

2. LOW EMISSION SOLUTIONS

Gas Strategy and Sales

In 4Q23, the Low Emission Solutions, natural gas, and LPG lines contributed 22.2% to the Ecopetrol Group's total production, reaching 162.1 mboed. During 4Q23, gas sales averaged 105.4 mbed, increasing by 7.2% (+7.1 mboed) relative to 4Q22, primarily because of higher deliveries to third parties associated with energy price increases in the market and the appearance of the "El Niño" phenomenon.

Renewable Energies

As of December 2023, the Company had reduced CO₂ equivalent emissions by approximately 26,294 tons. Savings of approximately COP 49,806 million were achieved from the operation of the Brisas, Castilla, San Fernando, and other CENIT solar parks, as well as the Cantayús Small Hydroelectric Plant.

Furthermore, as part of the process of incorporating non-conventional renewable energy sources into our energy matrix, the construction of 7 MW of energy-generating capacity at the Cartagena Solar Farm was completed. Also, the La Cira solar farms are under construction with 56 MW of capacity; an additional 16 MW will be incorporated in the Cartagena solar farm, and the transport segment will add 12 MW in solar power from Ocesa, 7 MW from ODC, and 16 MW from CENIT. Finally, there are two solar farms in the execution stage with the expectation of starting construction in 2024, contributing 125 MW to our matrix that accumulated at the end of 2023 472 MW in operation, construction and execution of Non-Conventional Renewable Energy Sources - FNCER.

Energy Efficiency

Between 2018 and 2023, the energy efficiency program has reduced and optimized 10.9 PJ of energy demand, in the operations of the Ecopetrol Group, equal to a savings of COP 262.1 billion and avoiding emissions of 707.7 thousand tons of CO₂e through electricity savings and the inclusion of thermal energy.

Specifically in 2023, reductions were achieved in the order of 3.89 PJ⁵ and 274 thousand tons of CO₂ (3.37 PJ through thermal energy and 0.52 PJ in electrical energy) in the Ecopetrol Group's operations, with the inclusion of energy optimization technologies, such as modeling and identifying improvement opportunities using artificial intelligence algorithms in injection systems in the Orinoco region, the use of nanofluids in water disposal wells for energy optimization in injection plants in the Andean-East region, more efficient gas consumption in the Cusiana

⁵ These results do not include initiatives carried out by Hocol, Esenttia, and self-generation projects.

turbocompressor in the Piedemonte Vice-Presidency, the development of digital twins analytics in Ocesa, and the use and adoption of the Visual Mesa real-time energy optimization tool for the Cartagena and Barrancabermeja refineries.

Hydrogen

During 4Q23, we signed an amendment to the synergies agreement with Cenit to operate the Bogota mobility pilot hydrogen plant. In addition, a request for information was presented to identify potential electrolyzer suppliers and companies that can provide engineering, procurement, and construction services in electrolysis hydrogen production projects.

3. ENERGY TRANSMISSION AND TOLL ROADS

3.1 Energy Transmission

Projects Awarded

During 2023, we were awarded contracts representing investments of COP 9.8 trillion in the coming years, underscoring a solid growth trajectory in our businesses and geographies.

During 4Q23I SA CTEEP was awarded 40 reinforcement projects, which together will represent total CAPEX of BRL 229 million (~COP 181 billion).

In Peru, the Private Investment Promotion Agency (ProInversión) awarded ISA in consortium with Grupo de Energía Bogotá (GEB) the construction, operation and maintenance of two projects with more than 1,000 kilometers of power transmission circuit. These two projects in Peru will enable the entry of clean energy into the system, contributing to the energy transition, and their benchmark CAPEX is USD 833 million⁶ (~COP 3.2 trillion).

Additionally, ISA signed a private connection contract with Ecopetrol to execute the Orinoquia Regional Vice-Presidency Demand Support project at the Suria substation.

Project Start-Ups

- Colombia: The Guayepo Solar Park connection project to the Sabanalarga Bolívar substation began operations.
- Brazil: 100% of IE Itaúnas, IE Triângulo Mineiro, which together add about 250 kilometers to the network and 26 reinforcements to the ISA CTEEP network.
- Peru: The Chinchá Nueva and Nazca Nueva substations and the Reinforcement No. 2 - Planicie substation expansion entered operation. Additionally, the private project Puerto Chancay became operative, and the system operator (COES)⁷ approved its integration into the national electricity transmission grid in January 2024.

ISA controlled companies continue to move forward in the construction of 34 energy transmission projects in Colombia, Brazil, Chile, and Peru, which, when operative, will add over 5,500 km of power lines to the network and generate revenues of approximately USD 331 million between 2024 and 2029. In addition, ISA CTEEP is advancing in the construction of 197 grid reinforcements in Brazil.

⁶ Reference CAPEX estimated by Proinversión.

⁷ For its Spanish acronym - Comité de Operación Económica del Sistema Interconectado Nacional

3.2 Toll Roads

During 4Q23, progress continued in the construction of the Ruta del Loa project and the Ruta de la Araucanía and Ruta de Los Ríos concessions in Chile.

- Ruta del Maipo signed a complementary agreement with the Chilean Ministry of Public Works for investments estimated at USD 106 million (~COP 0.4 trillion), which will be paid by extending the concession term.
- ISA INTERVIAL in Chile, submitted the best bid for the Orbital South Santiago Concession for the design, construction and operation of 25 kilometers of a new urban highway and a benchmark CAPEX of USD 500 million (~\$1.9 trillion)

Financial Results

Table 18: Income Statement – Energy Transmission and Toll Roads

Billion (COP)	4Q 2023	4Q 2022	Δ (\$)	Δ (%)	12M 2023	12M 2022	Δ (\$)	Δ (%)
Total revenue	3,557	3,777	(220)	(5.8)%	14,168	13,358	810	6.1%
Depreciation, amortization and depletion	291	304	(13)	(4.3)%	1,138	1,076	62	5.8%
Fixed costs	1,324	1,604	(280)	(17.5)%	4,791	4,779	12	0.3%
Total cost of sales	1,615	1,908	(293)	(15.4)%	5,929	5,855	74	1.3%
Gross income	1,942	1,869	73	3.9%	8,239	7,503	736	9.8%
Operating expenses	455	264	191	72.3%	1,383	1,070	313	29.3%
Operating income (loss)	1,487	1,605	(118)	(7.4)%	6,856	6,433	423	6.6%
Financial result, net	(679)	(699)	20	(2.9)%	(3,110)	(3,107)	(3)	0.1%
Share of profit of companies	144	39	105	269.2%	530	516	14	2.7%
Loss before income tax	952	945	7	0.7%	4,276	3,842	434	11.3%
Provision for income tax	(278)	(271)	(7)	2.6%	(600)	(738)	138	(18.7)%
Consolidated net income	674	674	-	-	3,676	3,104	572	18.4%
Non-controlling interest	(539)	(481)	(58)	12.1%	(2,862)	(2,372)	(490)	20.7%
Net income attributable to owners of Ecopetrol before impairment	135	193	(58)	(30.1)%	814	732	82	11.2%
(Expense) income from impairment of long-term assets	(208)	(88)	(120)	136.4%	(210)	(88)	(122)	138.6%
Deferred tax of impairment	71	30	41	136.7%	71	30	41	136.7%
Net income attributable to owners of Ecopetrol	(2)	135	(137)	(101.5)%	675	674	1	0.1%
EBITDA	2,081	2,092	(11)	(0.5)%	9,117	8,556	561	6.6%
EBITDA Margin	58.5%	55.4%	5.6%		64.3%	64.1%	0.2%	

Operating income in 2023 increased from 2022, mainly due to income from the energy business with projects that began operations, the positive impact of contractual escalator clauses, and higher returns on contractual assets. The improvement came mainly from the adjustment of construction margins, the furthering of improvements and reinforcement in Brazil, and the end of the provisions applied by the CREG associated with the voluntary decrease in fees, resuming the use of the PPI as a revenue escalator in Colombia.

These effects were partially offset by i) the revenue decreases in the toll road business due to the financial impact in the valuation of financial assets in Chile from UF (Unidad de Fomento) to CLP (Chilean pesos), along with the end of the Ruta del Bosque concession; and ii) in the telecommunications business, due to lower customer acquisitions, disconnections, reduced capacities, and loss of internet service users in Brazil, Colombia, and Peru. Likewise, these results influenced the revenue decrease observed between 4Q23 and 4Q22.

Operating costs and expenses in 2023 increased year-on-year, primarily due to i) in the energy business, inflationary pressures on costs, higher maintenance and conservation services for transmission lines and substations, personnel services, fees, and environmental and social expenses, and ii) in the telecommunications business, higher costs for expanding service to new customers and infrastructure maintenance. These effects were offset mainly by lower costs in the toll road business with the end of the Ruta del Bosque concession.

4Q23 **operating costs and expenses** decreased compared to 4Q22 because of lower construction activity in Chile, mainly in Ruta del Loa, where construction progress was temporarily halted due to problems with local communities.

The **net financial result** for 4Q23 versus 4Q22 showed lower expenses considering the profit from the repurchase of Interchile's international bond notes, higher financial yields from cash surpluses, and lower expenses from the exchange difference on the UF-indexed debt in the toll road business in Chile. The cumulative figure remains consistent with that seen in 2022.

Through the **equity method**, 4Q23 results increased versus 4Q22, primarily due to the residual value adjustment in the energy interconnection projects in Ivaí and Taesa owing to the inflationary effect (IGP-M, the general market price index in Brazil). Likewise, 2023 presented a year-on-year increase versus 2022, resulting from the favorable effect of conversion to Colombian pesos.

Income tax for 2023 decreased compared to 2022 as a favorable consequence of the exchange rate difference and Ecopetrol's interest surtax impact on the debt acquired to finance the purchase of ISA. Excluding this effect, tax expense increased in 2023 versus 2022 primarily because of: i) higher profits recorded by Interchile for bond repurchase; and ii) the change in the expectations that tax losses in the deferred tax of ISA Inversiones Chile, ISA Inversiones Costera Chile and Internexa Chile would be recovered. The increase was partially offset by the higher deduction of interest on own capital (*juros de capital propio*) in ISA CTEEP.

III. Technology, Environment, Social and Corporate Governance (TESG)

The Ecopetrol Group recognizes that achieving long-term value requires realizing sustainable value beyond financial value, which implies achieving a balance between profitability and TESG. In this regard, we present below the main advances in this period:

Occupational health and safety

In 2023, the Ecopetrol group presented the lowest historical value in the frequency of injuries to people (TRIF), 0.26 injuries per million man-hours worked, a figure that includes direct and allied personnel, which corresponds to a decrease of 20% compared to 2022.

Integrated Water Management

In 4Q23, 39 million cubic meters of water were reused in operations (a total of 153 million m³ in 2023), meaning that the Company avoided capturing and/or discharging this volume, thus reducing pressure on water resources. This figure represents an 11% increase in 4Q23 compared to 4Q22 and 16% increase versus the annual total, equaling 79% of the total water required to operate. These results have been achieved thanks to good water reuse and recirculation practices implemented in the Barrancabermeja and Cartagena refineries and production fields.

During 4Q23, 10.4 million cubic meters of fresh water were captured (a total of 41.3 million m³ in 2023), representing a 9% increase with respect to the volume captured in 4Q22 and 8% increase versus the 2022 yearly total, which is 21% of the total water required to operate during this period. The increased volume of water captured is due to a higher crude throughput in the refineries, which requires higher water volume for this process. However, the improvement in water efficiency in the refining segment is notable, resulting in a 13% increase in the recirculated water volume and a 7% year-on-year reduction in the amount of water intensity captured by 1.27 BI water/BI crude.

Agroforestry reused 1.4 million cubic meters of treated production water from the Castilla and Rubiales fields (a total of 5.1 million m³ in 2023), allocated to the irrigation of agroforestry and oil palm crops, a volume increase of 60% in 4Q23 versus 4Q22 and 35% relative to the annual total. This was possible with the entry into operation of the pilot program (Water Use System for Agricultural Reuse) jointly with Frontera Energy Colombia, which seeks to evaluate the feasibility of reusing treated production water from the Rubiales and Quifa fields to irrigate oil palm crops in the municipality of Puerto Gaitán (Meta).

Additionally, Ecopetrol S.A. obtained an "A-" Leadership rating in the last CDP Water Security performance evaluation, placing Ecopetrol S.A. as one of the 101 best companies in the list with an A rating evaluated in this category and positioning it as the best rated company in the Oil and Gas sector in Latin America. CDP highlights Ecopetrol's assessment of impacts, risks and opportunities associated with water, its policies and ambition to achieve water neutrality. The company also obtained a maximum score of 100 in the evaluation of the water management component of the Dow Jones Sustainability Index.

Climate Change - Decarbonization

In 2023, the Ecopetrol Group decreased its GHG emissions by 581,532 tCO_{2e} by implementing optimization of energy consumption, renewable energy, reduction of fugitive emissions and venting, and flaring, surpassing the target of 416,672 tCO_{2e} by 40%. The total reduction for the 2020-2023 period was 1,491,645 tCO_{2e}.

Ecopetrol, a member of the UN's Oil & Gas Methane Partnership 2.0 (OGMP 2.0), received the "gold standard" recognition from the United Nations Environment Program (UNEP) for its progress in measuring, reporting, and reducing methane emissions. This distinction is awarded to companies in the oil and gas sector that employ a detailed approach for measuring and reporting methane emissions and reduction targets for directly operated assets, in compliance with the Oil and Gas Methane Partnership (OGMP 2.0), of which Ecopetrol has been a member since 2020.

Ecopetrol participated in the United Nations Climate Change Conference COP-28, held in Dubai, United Arab Emirates. Stands out the Company's adherence to the global sectoral agreement to accelerate the decarbonization of oil and gas (Oil and Gas Decarbonization Charter, OGDC), signed by more than 50 companies operating in five continents and representing approximately 40% of the world's hydrocarbon production. Ecopetrol is one of the 30 state-owned companies to join this agreement, which commits the signatories primarily to the following goals: (i) attain net zero carbon emissions by 2050 (scopes 1 and 2); (ii) eliminate routine flaring by 2030; and (iii) aiming for near-zero methane emissions by 2030.

In November 2023, Ecopetrol joined the Oil and Gas Climate Initiative (OGCI) titled "Aiming for Zero Methane Emissions by 2030," which seeks to treat methane emissions with the same seriousness afforded to industrial and process safety.

The corporate risk map was updated, including the risk "Inadequate response to climate change, water, and biodiversity challenges," in order to, among other things, provide a timely, efficient, and effective response to commitments, obligations, and expectations regarding climate change, water, and biodiversity, considering stakeholders' expectations as well (government, society, community, workers and investors).

Biodiversity

The Company designated five new eco reserves, reaching Ecopetrol Group's goal of establishing 20 eco-reserved, totaling an area of 15,583 hectares in conservation.

During 2023, 167,922 hectares underwent conservation actions and processes, and the Company subscribed to approximately 1,700 voluntary conservation agreements with local communities.

Circular Economy

By year-end 2023, Ecopetrol had more than 300 circular initiatives, with 97 completed and 99 in execution. The following initiatives stand out:

- Had employed asphalt modified with recycled plastic in 14 road sections nationwide and 350 tons exported to Central America. Additionally, we have introduced road signs made of 100% recycled plastic on the roads of the Barrancabermeja refinery. In total, these projects have reused more than 6 million plastic bags.

- The entry into operation of Transmilenio's first sustainable station operated with solar panels and constructed employing 19 tons of plastic waste.
- Completed the TRL8 maturity assessment of oily sludge technology as an asphalt binder for low-traffic roads jointly with the National Institute of Roads (Instituto Nacional de Vías or "INVIAS") and Universidad del Cauca. A pilot is currently underway in the Rubiales field.
- Achieved the first stage of the chemical recycling project in partnership with Esenttia, Refinería de Barrancabermeja, PepsiCo, and other companies, which seeks to incorporate pyrolytic oil from the recovery of ~500 tons of plastic waste recovered from landfills to produce circular polypropylene for food packaging.
- Achieved successful results in the testing of oily residues from the Refinería de Barrancabermeja to be used as raw material in the production of coke at the Refinería de Cartagena.

Environmental Planning and Authorizations

During 4Q23, Ecopetrol S.A. obtained 25 environmental authorizations to carry out its projects and operations (3 from the National Environmental Licensing Authority, ANLA, and 23 from regional environmental corporations, CARs), reaching a total of 117 positive environmental authorizations in 2023 (12 from ANLA and 105 from CARs).

Among the most significant environmental authorizations in 4Q23 was the environmental license for the Recetor Norte exploratory drilling area, located in the municipality of Aguazul, Casanare. Additionally, in 4Q23, three environmental authorizations were obtained through a legal process known as "minor change," which provides an expedited process for accepting minor pre-approved alterations to existing licenses, with final rulings received from the respective authorities, for a total of 15 authorizations in the year.

Regarding projects that support the path towards the energy transition, Ecopetrol is preparing the Environmental Impact Study of a solar energy self-generation center (82 MW) to supply energy to the Cartagena refinery, which included spaces to exchange ideas spaces and fostered participation with local authorities and various neighboring communities, to enrich the construction of the document to be submitted to ANLA for environmental licensing.

Operating Incidents with Environmental Impact of Ecopetrol S.A.

In 2023, 15.3 barrels of hydrocarbons were spilled due to operating causes in incidents greater than (>) 1 barrel, which implies a 76% decline year-on-year versus 2022. This value is below the internal limit set of 63.7 barrels for 2023, the best performance over the past five (5) years for the direct operation of Ecopetrol S.A.

Social and Environmental Investment

In 2023, the Ecopetrol Group allocated COP 594,123 million in resources to execute projects within its Sustainable Regional Development Portfolio, including mandatory and voluntary social, environmental, and outreach investments. Through these investments, the Group contributes to the economic and social development of the country, executing joint projects with local authorities and the community and in alliance with national and international cooperation partners to generate well-being and contribute to the closing of social gaps.

Milestones for the year include:

Education: 150,203 students benefited from projects and programs implemented to improve school higher education quality and increase retention and coverage. Through the education-oriented programs "*Bachilleres Ecopetrol*," "*Utopia*," and "*Ecopetrol va a la Escuela*," the Company provides teacher training and delivery of teaching materials, musical classes, technology equipment for public educational institutions, school kits, and furniture.

Inclusive rural development: 8,641 farming families received assistance by integrating them into productive chains by helping them to exploit market opportunities, strengthen capacities, and encourage the sustainable use

of natural resources through programs such as “*El Campo Emprende*,” “*Modelo de Agronegocios Sostenibles (MAS) Meta*,” “*Soluciones Integrales Agropecuarias, Agrosol*,” among others.

Entrepreneurship and business development: thanks to the implementation of programs including “*Ecopetrol Emprende*,” “*Jóvenes 4.0 Innovando*,” “*Transformando Territorios*,” “*Sacúdete con los Jóvenes del Territorio*,” and “*Ella Es Astronauta*,” 8,670 entrepreneurs, MSMEs, and youths benefited from skill building in entrepreneurial and innovation aptitudes.

Public and Community Infrastructure:

- **Road infrastructure:** intervened 197.93 km of roads to help progress in the regions, provide access to improved mobility, and generate more local employment.
- **Public community infrastructure:** restored the Ricaurte Station of the Transmilenio Mass Transit System in Bogota using plastic recycling technologies in its infrastructure, winning the *Lazos de Sostenibilidad* award from the British-Colombian Chamber of Commerce in the sustainable services category. On the other hand, 13 additional facilities and 21 minor projects were built for socialization, education, sports, and recreation purposes.

Access to Public Services:

- **Drinking water and basic sanitation:** various projects were carried out in the localities of Guamal and Villavicencio in the department of Meta and Villa del Rosario in Norte de Santander, assisted 15,019 beneficiaries with improved access to drinking water.
- **Energy and gas:** 14,202⁸ homes were connected to the domestic natural gas networks in the departments of Atlántico, Santander, Casanare, Arauca, Meta, and Huila. The first agreements were signed with the government of Casanare and the mayor's office of Yopal for the construction of electric energy networks in the El Morro district of Yopal (Casanare), which will benefit 286 households in 14 villages. Through the “works in lieu of taxes” laws, the Company continued executing projects to implement solar photovoltaic solutions for 766 households to improve access to electricity in the rural areas of the municipalities of Valle del Guamuez, San Miguel, and Orito (Putumayo).

Similarly, during 2023 the subordinates of the Ecopetrol Group were developed 47 social investment projects. Among these, the following stand out:

- **Enit** assisted 194 enterprises focused on sustainable tourism, agro-productive development, and gender equity in the departments of Arauca, Norte de Santander, and Magdalena.
- **Esentia** i) installed 21 new recycled plastic furniture pieces to improve community infrastructure and spaces in the department of Bolívar, benefiting more than 9,430 people (for their production, recyclers recovered and transformed over 30 thousand kilograms of post-consumer waste plastic material); and ii) provided 50 new higher education scholarships for the neighboring communities of Cartagena, in the department of Bolivar.
- **Hocol:** i) connected 1,239 homes to the natural gas network in the departments of Huila, Tolima and La Guajira; ii) constructed artesian wells, deep wells, and pools in Maicao, department of La Guajira; iii) optimized and improved rural aqueducts in La Cristalina - Puerto Gaitán (Meta) and San Matías - Paicol (Huila); iv) supplied water to Wayuu communities in Manaure and Riohacha (La Guajira); v) delivered water filtration machines to Manaure (La Guajira); In total, these projects benefited 1,086 people. And vi) improved and constructed 7 km of roads in Tierralta (Córdoba), Santiago de Tolú (Sucre) and Purificación (Tolima).
- **ISA:** i) As part of the implementation of the SABO and SOLA Development Connection program, in partnership with the Barco Foundation, 56,355 students from 5 departments and 19 municipalities benefited.

Environmental: Ecopetrol's mandatory environmental investment includes the administration of 763 conservation agreements with 5,281 hectares for conservation and restoration, the 685.8 hectares for silvopastoral, agroforestry, and wood energy banks, and the purchase of 10 properties with 939 hectares for conservation. Ecopetrol's strategic environmental investments include the agreement of the restoration protocol in the

⁸ Correspond to Ecopetrol S.A. certified connections.

departments of Meta and Caquetá and two forest carbon projects under the Verra Biochar standard, one associated with Ecopetrol's "Wildlife Project Initiative" and the other with the "Orinoco Carbon Project."

Ecopetrol's mandatory environmental investment during 4Q23 included the following achievements: i) voluntary conservation agreements to comply with the 1% investment contract in Chichimene and Castilla la Nueva in the Orinoquia region; ii) voluntary conservation agreements to fulfill the offset measures in Apiay; iii) fulfillment of the 1% minimum mandatory investment and environmental offset in the Yaguará field, Arrayán Huila Norte; and iv) voluntary conservation agreements to fulfill the 1% investment agreement in the 50K field.

Within Ecopetrol's strategic environmental investments during 4Q23, the following stand out: (i) support provided to the Wildlife Project Initiative in prioritized landscapes to define a methodology in Orinoco grasslands to quantify carbon capture in these ecosystems; (ii) the development of a methodology to estimate carbon emission reductions in wetlands; (iii) progress in the project to conserve the vegetation cover in strategic ecosystem areas in the middle and upper basin of the Guayuriba and Metica rivers by implementing a payment scheme for environmental services; iv) completion of the carbon monitoring protocol for restoration projects in the departments of Meta and Caquetá; and v) advances in the Orinoco Carbon Project.

Cenit also realized environmental investment projects, including i) 57 restored hectares in the departments of Norte de Santander, Magdalena, and Meta; and ii) the planting of 52,800 trees in Norte de Santander.

"Works in lieu of taxes" mechanism: in 2023, the Ecopetrol Group continued to be the leading investor of the mechanism in Colombia, obtaining the largest share in the country, with 32 new projects assigned by the Territorial Renewal Agency (ART) corresponding to the taxable year 2022 for a value of COP 201,060 million that will benefit more than 529,000 Colombians. With the allocation of these projects, the Ecopetrol Group accumulates a total of 91 projects for a value of COP 758,668 million, corresponding to 36% of the total allocated in the country between taxable years 2017 and 2022.

As of 2023, 46 projects have been completed for a value of COP 416,830 million, highlighting during 4Q23 the construction of vehicular bridges in Tibú (Norte de Santander) and the improvement of infrastructure and delivery of equipment in 83 educational centers in the departments of Arauca, Putumayo, Bolívar, and Meta.

Communities and Territories

Social dialogue processes: As part of Ecopetrol's ambition for a new culture of dialogue with the communities, 57 social dialogue processes were conducted with local communities and institutions at a territorial level in 2023, including 39 carried out in 4Q23. This has contributed to deepening relationships of trust with communities, transforming conflicts, and building shared visions of the territory.

Cenit conducted 1,130 outreach activities with authorities and communities in 2023, including 307 in 4Q23, allowing us to strengthen social dialogue and encourage initiatives supporting the region's development. Esenttia held 41 meetings in 2023 that brought together more than 900 people, including 14 meetings held in 4Q23, which included community leaders from Community Action Boards, ethnic communities, local governments, and beneficiaries of social projects.

Ethnic relations: Ecopetrol concluded the community baseline survey with 66 of the 72 communities of La Guajira as part of the prior Orca Desarrollo project consultation process. It also concluded the Training in Diversity program with Wayuu indigenous communities of La Guajira and Pastos Siberia and Ingas communities in the department of Putumayo. The program was attended by 583 indigenous people and is expected to continue in 2024, expanding its scope to more areas of interest to the Company.

Energy communities: An initial portfolio of possible energy community projects was defined for the Ecopetrol Group to determine the role, level of participation, technical, legal, and financial dimensions, impact, and returns of this mechanism. The current portfolio would positively impact approximately 30,000 people by providing access to renewable energy and transforming their territories. By the end of 2023, six energy community projects with socio-environmental benefits were structured, which will begin the implementation phase in 2024.

Science, Technology, and Innovation

Through the execution of technology projects, the Vice Presidency of Science, Technology, and Innovation (VIT) generated certified benefits for the Ecopetrol Group amounting to COP 3.3 billion (USD 778 million). Of these, 56% concern business technology, 42% Ecopetrol Group's digital transformation, and the remaining 2% are in productivity and process projects, and invoicing for technology sales and tax benefits obtained for projects considered innovative by the Colombian Ministry of Science, Technology, and Innovation. The main achievements and milestones of the Vice Presidency of Science, Technology, and Innovation are highlighted below:

Exploration: An efficiency model was developed through rock sample analysis (biostratigraphy and petrography) that will contribute to develop future exploration projects in the reservoir tested by the Alqamari-2 well.

Renewable Energies: completed the wind energy technical and economic analysis for the implementation of this offshore energy in the Colombian Caribbean. In addition, the Company developed the AQUA project's ECONANO technology, which significantly improves biomass generation and agronomic yields compared to conventional fertilizers. This science encourages more efficient and sustainable agricultural practices.

Cutting-edge technology: as part of the joint agreement between Ecopetrol and the National Navy, equipment for measuring combustion gas emissions on board the ARC Simón Bolívar research vessel was installed for the first time in the country. Additionally, three Ecopetrol employees participated for the first time in the Tenth X expedition to Antarctica, coordinated by the Colombian Ocean Commission (CCO) and the Colombian Antarctic Program (PAC).

The FACSAT2-Chiribiquete nanosatellite was launched into space to monitor greenhouse gases (CO₂ and methane), a noteworthy accomplishment. This historic achievement for Colombia is the result of a partnership between Ecopetrol, the Colombian Air Force, the Ministry of Science, Technology, and Innovation, and the Ministry of Defense through the strategic cooperation agreement managed by the ICP.

Innovation: we need to highlight the Econova innovation network, comprised of five innovation centers in different regions, focused on the clusters of the Ecopetrol Group's Science, Technology, and Innovation strategy. Econova has mobilized resources of USD 1.47 million, incorporated +110 actors, generated +120 jobs, accelerated +30 ventures, launched 38 open innovation challenges, and impacted +800 companies and startups through agreements, workshops, and conferences.

Corporate Governance and Corporate Bodies

In December 2023, the Company's Executive Committee (ExCo) updated and approved a dual materiality approach (impact of ESG issues outside and inside the organization) involving various internal and external stakeholders. As a result, 14 material issues were prioritized, and four (4) elements were identified as cross-cutting issues: Just Energy Transition, Human Rights, Corporate Governance, and Circularity. Based on this analysis, the following issues were identified and prioritized: Climate change, water, biodiversity and ecosystem services, air quality, materials and waste, occupational health, industrial and process safety, human talent, sustainable territories, sustainable supply chain, financial sustainability, cybersecurity and information security, innovation, science and technology, and ethics and transparency.

Likewise, the ExCo updated and approved Ecopetrol's stakeholder identification and prioritization. As a result of this exercise, the Company increased its stakeholders from seven (7) to eleven (11): the State, employees, communities, partners, suppliers and their workers, controlled companies, shareholders and investors, media, customers, civil society organizations, and the academic and scientific community.

Human Rights

During 4Q23, senior management updated and approved the "Human Rights Guidelines", incorporating new elements that allow the Company to strengthen its commitment to respect and promote human rights, aligned with national and international standards. This new version of the Guidelines was constructed based on stakeholders'

expectations and considering the severity with which national and international actors evaluate the Company regarding its handling of human rights impacts.

Ecopetrol conducted two human rights risk assessments at the regional level (Orinoco and Andean East) and assessed its physical security process. These due diligence exercises permit the Company to identify, prevent, mitigate, and, if necessary, remediate human rights impacts. As a result, Ecopetrol established actions to counteract the identified risks and impacts.

Board of Directors

During 4Q23, the board of directors of Ecopetrol S.A. adopted, among others, the following decisions:

- Approved the appointment of Luis Felipe Rivera as Vice President of Science, Technology, and Innovation, effective October 23, 2023.
- Approved the financial plan and annual investment budget for fiscal year 2024.
- Approved the consolidated financial results of the Ecopetrol Group and individual financial results of Ecopetrol, S.A. as of September 2023, as well as the consolidated results of the Ecopetrol Group and individual financial results of Ecopetrol, S.A. for the third quarter of 2023.
- Approved the capital discipline criteria for the preparation of the investment portfolio of the three business lines of the Ecopetrol Group.
- Regarding remuneration matters, it approved the annual general salary increase for workers who are beneficiaries of the Colombian Collective Labor Agreement (Agreement 01 of 1977), the balanced scorecard 2024-2026 of the Ecopetrol Group, the targets for 2024, and the long-term incentive plan 2024-2026.
- Approved the adoption of the clawback policy as mandated by section 303A.14 "Erroneously Awarded Compensation" of the New York Stock Exchange Listed Company Manual.
- Approved the calendar for the regular meetings of the board of directors and its standing committees that support its work for 2024.

Corporate Governance

In the governance dimension, we highlight two milestones achieved in this quarter:

- Ecopetrol's participation in the OECD-Latin America Roundtable on Corporate Governance. Ecopetrol participated in the discussions and conversations regarding sustainability and resilience, board accountability, state-owned enterprises, and capital market development, among other topics.
- 60 leaders completed the "Board Directors of the Ecopetrol Group" training program in partnership with the Colombian Institute of Corporate Governance (ICGC) and *Colegio de Estudios Superiores de Administración* business school. This program seeks to strengthen the decision-making competencies and knowledge of the directors of the boards of directors of the Ecopetrol Group companies.
- In 2023 Ecopetrol was recognized as the third company in the O&G industry with best practices in sustainability, which ratifies Ecopetrol's progress in ensuring operations under the best international sustainability standards.
- Regarding the results in the ESG dimensions (environmental, social and Governance/Economic) Ecopetrol ranks first in the social dimension and is positioned as a benchmark in the O&G industry in this dimension, thanks to the different initiatives and actions being developed in areas such as human talent development, human rights, labor practices and social impact on communities.

IV. Presentation of Results

On Friday, March 1, 2024, Ecopetrol's senior management will host a sole conference call to present the Company's results, which will be offered simultaneously in Spanish and English. Please find below the time and links to access the webcast:

Conference Call
09:00 a.m. Colombia time (GMT -5)
09:00 a.m. New York time (EST or GMT -4)

The conference call via webcast will be accessible via the following link:

<https://xegmenta.co/ecopetrol/conferencia-de-resultados-4t-2023/>

Your invitation includes separate links for the Spanish and English webcasts.

Participants can submit questions through the webcast platform once the transmission of the conference call begins.

The earnings release, slide presentation, live webcast, and conference call recording will be available on Ecopetrol's website at www.ecopetrol.com.co.

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Ecopetrol Group Appendices

Table 1: Income Statement - Ecopetrol Group

Billion (COP)	4Q 2023	4Q 2022	Δ (%)	12M 2023	12M 2022	Δ (%)
Revenue						
Local	16,544	22,689	(27.1%)	71,745	83,652	(14.2%)
Export	18,250	16,989	7.4%	71,334	75,822	(5.9%)
Total revenue	34,794	39,678	(12.3%)	143,079	159,474	(10.3%)
Cost of sales						
Depreciation, amortization and depletion	3,540	3,049	16.1%	13,205	11,410	15.7%
Variable depreciation, amortization and depletion	2,254	1,789	26.0%	8,126	6,774	20.0%
Fixed cost depreciation	1,286	1,260	2.1%	5,079	4,636	9.6%
Variable costs	14,224	16,015	(11.2%)	55,906	61,406	(9.0%)
Imported products	5,010	7,987	(37.3%)	24,204	31,230	(22.5%)
Local purchases	6,233	7,166	(13.0%)	23,110	26,688	(13.4%)
Hydrocarbon transportation services	432	350	23.4%	1,587	1,220	30.1%
Inventories and others	2,549	512	397.9%	7,005	2,268	208.9%
Fixed costs	5,543	4,943	12.1%	19,067	16,642	14.6%
Contracted services	1,543	1,343	14.9%	4,991	4,437	12.5%
Construction services	669	914	(26.8%)	2,600	2,802	(7.2%)
Maintenance	1,494	1,118	33.6%	4,643	3,771	23.1%
Labor costs	1,038	998	4.0%	3,976	3,436	15.7%
Other	799	570	40.2%	2,857	2,196	30.1%
Total cost of sales	23,307	24,007	(2.9%)	88,178	89,458	(1.4%)
Gross income	11,487	15,671	(26.7%)	54,901	70,016	(21.6%)
Operating expenses	3,787	3,655	3.6%	11,155	9,635	15.8%
Administration expenses	3,001	2,780	7.9%	9,066	8,123	11.6%
Exploration and projects expenses	786	875	(10.2%)	2,089	1,512	38.2%
(Recovery) expense for impairment long-term assets	0	0	-	0	0	-
Operating income	7,700	12,016	(35.9%)	43,746	60,381	(27.6%)
Finance result, net	(1,486)	(1,469)	1.2%	(5,665)	(6,835)	(17.1%)
Foreign exchange, net	592	253	134.0%	2,398	(125)	(2,018.4%)
Interest, net	(1,266)	(1,278)	(0.9%)	(5,039)	(4,551)	10.7%
Financial income/loss	(812)	(444)	82.9%	(3,024)	(2,159)	40.1%
Share of profit of companies	199	112	77.7%	805	768	4.8%
Income before income tax	6,413	10,659	(39.8%)	38,886	54,314	(28.4%)
Income tax	(454)	(2,945)	(84.6%)	(14,692)	(17,254)	(14.8%)
Net income consolidated	5,959	7,714	(22.8%)	24,194	37,060	(34.7%)
Non-controlling interest	(851)	(844)	0.8%	(4,243)	(3,630)	16.9%
Net income attributable to owners of Ecopetrol before impairment	5,108	6,870	(25.6%)	19,951	33,430	(40.3%)
(Expense) recovery for impairment long-term assets	(2,087)	(282)	640.1%	(2,098)	(288)	628.5%
Deferred tax of impairment	1,207	263	358.9%	1,209	264	358.0%
Net income attributable to owners of Ecopetrol	4,228	6,851	(38.3%)	19,062	33,406	(42.9%)
EBITDA	12,251	15,996	(23.4%)	60,718	75,244	(19.3%)
EBITDA margin	35.2%	40.3%	(5.1%)	42.4%	47.2%	(4.8%)

Table 2: Statement of Financial Position - Ecopetrol Group

Billion (COP)	December 31, 2023	December 31, 2022	Δ (%)
Current assets			
Cash and cash equivalents	12,336	15,401	(19.9%)
Trade and other receivables	33,311	39,225	(15.1%)
Inventories	10,202	11,880	(14.1%)
Current tax assets	8,111	6,784	19.6%
Other financial assets	1,861	1,162	60.2%
Other assets	2,770	2,779	(0.3%)
Total current assets	68,591	77,231	(11.2%)
Non-current assets held for sale	24	46	(47.8%)
Total non-current assets	24	46	(47.8%)
Total assets	282,280	306,370	(7.9%)
Non-current assets			
Investments in associates and joint ventures	8,419	9,497	(11.4%)
Trade and other receivables	29,781	32,155	(7.4%)
Property, plant and equipment	95,171	100,997	(5.8%)
Natural and environmental resources	45,216	42,324	6.8%
Assets by right of use	842	628	34.1%
Intangibles	14,715	18,147	(18.9%)
Deferred tax assets	12,910	17,219	(25.0%)
Other financial assets	372	1,564	(76.2%)
Goodwill and Other assets	6,239	6,562	(4.9%)
Total non-current assets	213,665	229,093	(6.7%)
Total assets	282,280	306,370	(7.9%)
Current liabilities			
Loans and borrowings	15,550	22,199	(30.0%)
Trade and other payables	18,890	19,938	(5.3%)
Provision for employees benefits	3,059	2,754	11.1%
Current tax liabilities	2,869	7,631	(62.4%)
Accrued liabilities and provisions	1,595	1,533	4.0%
Other liabilities	1,600	2,727	(41.3%)
Liabilities related to non-current assets held for sale	0	0	-
Total current liabilities	43,563	56,782	(23.3%)
Non-current liabilities			
Loans and borrowings	90,266	92,936	(2.9%)
Trade and other payables	27	57	(52.6%)
Provision for employees benefits	15,214	10,212	49.0%
Non-current taxes	12,862	13,669	(5.9%)
Accrued liabilities and provisions	14,547	11,223	29.6%
Other liabilities	2,703	2,404	12.4%
Total non-current liabilities	135,619	130,501	3.9%
Total liabilities	179,182	187,283	(4.3%)
Equity			
Equity attributable to owners of the company	78,392	91,035	(13.9%)
Non-controlling interests	24,706	28,052	(11.9%)
Total equity	103,098	119,087	(13.4%)
Total liabilities and equity	282,280	306,370	(7.9%)

Table 3: Cash Flow Statement - Ecopetrol Group

Billion (COP)	4Q 2023	4Q 2022	12M 2023	12M 2022
Cash flow provided by operating activities				
Net income attributable to owners of Ecopetrol S.A.	4,228	6,851	19,062	33,406
Adjustments to reconcile net income to cash provided by operating activities				
Non-controlling interests	851	844	4,243	3,630
Income tax	(753)	2,682	13,483	16,990
Depreciation, depletion and amortization	3,749	3,379	13,813	12,129
Foreign exchange (gain) loss	(592)	(253)	(2,398)	125
Finance costs recognized in profit or loss	2,312	2,076	9,121	7,521
Dry wells	496	595	1,472	1,032
Loss (gain) on disposal of non-current assets	112	81	(143)	380
Impairment of current and non-current assets	2,124	338	2,194	390
Fair value (gain) on financial assets valuation	(80)	102	(245)	(77)
Gain on financial derivatives	0	(33)	2	(1)
Gain on assets for sale	6	(13)	20	(280)
(Gain) loss on share of profit of associates and joint ventures	(199)	(112)	(805)	(768)
Exchange difference on export hedges and ineffectiveness	0	601	587	1,280
Provisions and contingencies	450	369	853	716
Others minor items	6	8	25	7
Net changes in operating assets and liabilities	949	(4,401)	(28,651)	(31,485)
Income tax paid	(3,259)	(1,755)	(12,832)	(8,760)
Cash provided by operating activities	10,400	11,359	19,801	36,235
Cash flows from investing activities				
Investment in joint ventures	0	(120)	0	(329)
Investment in property, plant and equipment	(3,258)	(3,508)	(9,350)	(8,768)
Investment in natural and environmental resources	(3,666)	(4,490)	(13,964)	(11,963)
Payments for intangibles	(300)	(446)	(777)	(1,148)
(Purchases) sales of other financial assets	(27)	909	976	1,301
Interest received	506	354	1,884	967
Dividends received	206	292	482	1,471
Proceeds from sales of assets	(22)	(29)	729	374
Net cash used in investing activities	(6,551)	(7,038)	20,020	(18,095)
Cash flows from financing activities				
Proceeds (repayment of) from borrowings	1,709	1,590	12,375	435
Interest paid	(1,853)	(1,844)	(6,581)	(5,492)
Lease Payments	(153)	(122)	(534)	(435)
Return of capital	(21)	(70)	(45)	(85)
Dividends paid	(1,711)	(2,170)	(5,571)	(13,357)
Net cash used in financing activities	(2,029)	(2,616)	(356)	(18,934)
Exchange difference in cash and cash equivalents	(1,545)	778	(2,490)	1,645
Net (decrease) increase in cash and cash equivalents	265	2,483	(3,065)	851
Cash and cash equivalents at the beginning of the period	12,071	12,918	15,401	14,550
Cash and cash equivalents at the end of the period	12,336	15,401	12,336	15,401

Table 4: EBITDA Reconciliation - Ecopetrol Group

Billion (COP)	4Q 2023	4Q 2022	12M 2023	12M 2022
Net income attributable to the owners of Ecopetrol	4,228	6,851	19,062	33,406
(+) Depreciation, amortization and depletion	3,749	3,379	13,813	12,129
(+/-) Impairment of long-term assets	2,087	282	2,098	288
(+/-) Financial result, net	1,486	1,469	5,665	6,835
(+) Income tax	(753)	2,682	13,483	16,990
(+) Taxes and others	603	489	2,354	1,966
(+/-) Non-controlling interest	851	844	4,243	3,630
Consolidated EBITDA	12,251	15,996	60,718	75,244

Table 5: Reconciliation of EBITDA by Segment (4Q23)

Billion (COP)	Upstream	Downstream	Midstream	Energy	Eliminations	Consolidated
Net income attributable to the owners of Ecopetrol	2,542	1,133	558	(2)	(3)	4,228
(+) Depreciation, amortization and depletion	2,468	524	382	375	0	3,749
(+/-) Impairment of long-term assets	2,741	(1,492)	630	208	0	2,087
(+/-) Financial result, net	448	224	136	679	(1)	1,486
(+) Income tax	(1,033)	(435)	508	207	0	(753)
(+) Other taxes	265	215	50	75	(2)	603
(+/-) Non-controlling interest	(17)	50	279	539	0	851
Consolidated EBITDA	7,414	219	2,543	2,081	(6)	12,251

Table 6. Investment by Segment Ecopetrol Group (2023)

Million (USD)	Ecopetrol S.A.	Affiliates and Subsidiaries	Total 12M 2023	% Share
Hydrocarbons	2,886	2,317	5,203	82.7%
Production	2,120	1,604	3,724	59.2%
Downstream	270	166	435	6.9%
Exploration	351	146	497	7.9%
Midstream*	0	395	395	6.3%
Corporate**	145	7	152	2.4%
Energy Transmission and Toll Roads	0	1,086	1,086	17.3%
Energy Transmission	0	877	877	13.9%
Toll Roads	0	180	180	2.9%
Telecommunications	0	29	29	0.5%
Total	2,886	3,403	6,288	100.0%

* Includes total amount of investments in each of the subsidiaries and affiliates of Ecopetrol Group (both controlling and non-controlling interests).

** Includes investments in energy transition projects.

Ecopetrol S.A. Appendices

Following are the Income Statement and Statement of Financial Position of Ecopetrol S.A.

Table 7: Income Statement

Billion (COP)	4Q 2023	4Q 2022	Δ (%)	12M 2023	12M 2022	Δ (%)
Local	16,677	20,804	(19.8%)	71,316	77,985	(8.6%)
Exports	11,304	13,296	(15.0%)	47,140	56,664	(16.8%)
Total revenue	27,981	34,100	(17.9%)	118,456	134,649	(12.0%)
Variable costs	18,266	20,915	(12.7%)	75,128	76,344	(1.6%)
Fixed costs	4,241	3,886	9.1%	15,727	13,898	13.2%
Total cost of sales	22,507	24,801	(9.2%)	90,855	90,242	0.7%
Gross income	5,474	9,299	(41.1%)	27,601	44,407	(37.8%)
Operating expenses	1,807	1,867	(3.2%)	5,796	4,569	26.9%
Operating income	3,667	7,432	(50.7%)	21,805	39,838	(45.3%)
Financial income/loss	(833)	(955)	(12.8%)	(3,400)	(4,067)	(16.4%)
Share of profit of companies	2,205	2,643	(16.6%)	11,051	10,171	8.7%
Income before income tax	5,039	9,120	(44.7%)	29,456	45,942	(35.9%)
Income tax	259	(1,834)	(114.1%)	(9,324)	(12,101)	(22.9%)
Net income attributable to owners of Ecopetrol	5,298	7,286	(27.3%)	20,132	33,841	(40.5%)
Impairment	(2,384)	(669)	256.4%	(2,384)	(669)	256.4%
Deferred tax of impairment	1,314	234	461.5%	1,314	234	461.5%
Net income attributable to owners of Ecopetrol	4,228	6,851	(38.3%)	19,062	33,406	(42.9%)
EBITDA	5,709	9,354	(39.0%)	29,602	47,212	(37.3%)
EBITDA margin	20.4%	27.40%	(7.0%)	25.00%	35.10%	(10.1%)

Table 8: Statement of Financial Position / Balance Sheet

Billion (COP)	December 31, 2023	December 31, 2022	Δ (%)
Current assets			
Cash and cash equivalents	3,751	5,788	(35.2%)
Trade and other receivables	23,772	33,573	(29.2%)
Inventories	6,562	7,226	(9.2%)
Current tax assets	6,657	5,617	18.5%
Other financial assets	2,518	1,428	76.3%
Other assets	1,733	1,657	4.6%
Total current assets	44,993	55,289	(18.6%)
Non-current assets held for sale	16	34	(52.9%)
Total non-current assets	153,723	161,525	(4.8%)
Total assets	198,732	216,848	(8.4%)
Current liabilities			
Loans and borrowings	11,439	18,898	(39.5%)
Trade and other payables	14,990	16,323	(8.2%)
Provision for employees benefits	2,713	2,463	10.2%
Current tax liabilities	864	5,190	(83.4%)
Accrued liabilities and provisions	1,105	1,086	1.7%
Other liabilities	150	1,117	(86.6%)
Total current liabilities	31,261	45,077	(30.6%)
Non-current liabilities			
Loans and borrowings	62,110	61,717	0.6%
Provision for employees benefits	14,439	9,704	48.8%
Non-current tax liabilities	462	435	6.2%
Accrued liabilities and provisions	11,766	8,548	37.6%
Other liabilities	302	332	(9.0%)
Total non-current liabilities	89,079	80,736	10.3%
Total liabilities	120,340	125,813	(4.4%)
Equity			
Equity attributable to owners of the company	78,392	91,035	(13.9%)
Total equity	78,392	91,035	(13.9%)
Total liabilities and equity	198,732	216,848	(8.4%)

Table 9: Export Destinations - Ecopetrol Group

Crudes - mboed	4Q 2023	4Q 2022	% Share	12M 2023	12M 2022	% Share
U.S. Gulf Coast	180.3	168.4	40.9%	161.2	170.3	37.5%
Asia	247.9	178.0	56.2%	229.8	190.3	53.4%
Central America / Caribbean	0.0	0.0	0.0%	0.0	11.7	0.0%
Others	8.5	15.9	1.9%	16.9	10.6	3.9%
Europe	0.0	10.4	0.0%	18.9	14.0	4.4%
U.S. West Coast	4.3	0.0	1.0%	2.4	3.5	0.6%
South America	0.0	0.0	0.0%	0.9	0.0	0.2%
U.S. East Coast	0.0	0.0	0.0%	0.0	0.0	0.0%
Total	441.0	372.6	100.0%	430.0	400.3	100.0%

Products - mboed	4Q 2023	4Q 2022	% Share	12M 2023	12M 2022	% Share
Central America / Caribbean	37.3	28.5	32.8%	30.2	43.7	26.9%
U.S. Gulf Coast	42.1	23.8	37.1%	38.9	18.8	34.5%
Asia	14.1	9.6	12.4%	21.2	7.0	18.9%
South America	4.9	5.4	4.3%	6.5	6.0	5.7%
U.S. East Coast	0.0	0.0	0.0%	0.0	1.9	0.0%
Europe	4.7	8.5	4.1%	4.5	5.5	4.0%
U.S. West Coast	0.0	0.0	0.0%	0.0	0.0	0.0%
Others	10.4	0.5	9.2%	11.2	(0.0)	10.0%
Total	113.6	76.3	100.0%	112.5	82.9	100.0%

Note: The information is subject to change after the end of the quarter, as some destinations are reclassified according to the final result of exports.

Table 10: Local Purchases and Imports - Ecopetrol Group

Local Purchases - mboed	4Q 2023	4Q 2022	Δ (%)	12M 2023	12M 2022	Δ (%)
Crude Oil	209.3	207.3	1.0%	204.9	190.0	7.8%
Gas	4.7	4.0	17.5%	3.9	2.9	34.5%
Products	3.1	3.4	(8.8%)	3.2	3.3	(3.0%)
Diluent	0.0	0.0	-	0.0	0.0	-
Total	217.2	214.7	1.2%	212.1	196.2	8.1%

Imports - mboed	4Q 2023	4Q 2022	Δ (%)	12M 2023	12M 2022	Δ (%)
Crude Oil	49.9	22.3	123.8%	63.0	33.1	90.3%
Products	69.3	109.0	(36.4%)	78.1	107.0	(27.0%)
Diluent	28.0	42.5	(34.1%)	25.6	35.3	(27.5%)
Total	147.2	173.8	(15.3%)	166.7	175.4	(5.0%)

Total	364.4	388.5	(6.2%)	378.8	371.6	1.9%
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Table 11: Exploratory Wells Detail - Ecopetrol Group

#	Quarter	Name	Initial Well Classification (Lahee)	Block	Name	Operator/Partner	Status	TD Date
1	First	Cupiagua XD 45	A2C	SDLA	Piedemonte	Ecopetrol 100% (Operator)	Dry	Jan 18/2023
2	First	Picabuey-1	A3	LLA-87	Llanos Orientales	Hocol 50% Geopark 50% (Operator)	Dry	Jan 18/2023
3	First	Magnus-1	A2a	CPO-09	Llanos Orientales	ECP 55% (Operator) Repsol (45%)	Successful	Jan 21/2023
4	First	Turupe-1 ST	A3	LLA-9	Llanos Orientales	Ecopetrol 100% (Operator)	Dry	Feb 10/2023
5	First	Zorzal-1	A3	LLA-87	Llanos Orientales	Hocol 50% Geopark 50% (Operator)	Successful	Feb 11/2023
6	First	Koala-1	A3	LLA-87	Llanos Orientales	Hocol 50% Geopark 50% (Operator)	Dry	Mar 13/2023
7	First	Leyenda-1	A3	CPO-09	Llanos Orientales	ECP 55% (Operator) Repsol (45%)	Under Evaluation	Mar 14/2023
8	First	Cusiana V 31	A3	SDLA	Piedemonte	Ecopetrol 100% (Operator)	Dry	Mar 28/2023
9	Second	Kimera-1	A3	CPO-9	Llanos Orientales	ECP 55% (Operator) Repsol 45%	Successful	Apr 11/2023
10	Second	Pollera N	A3	SSJN-1	Cinturón Plegado de San Jacinto	Lewis 50% (Operator) Hocol 50%	Under Evaluation	May 2/2023
11	Third	Saltador-1	A3	LLA 123	Llanos	Geopark 50% (Operator) Hocol 50%	Successful	Jul 1/2023
12	Third	Cucarachero-1	A3	LLA 124	Llanos Central	Geopark 50% (Operator) Hocol 50%	Dry	Aug 20/2023
13	Third	Glaucus-1	A3	COL 5	Colombia Deep	Shell 50% (Operator) Ecopetrol 50%	Successful	Aug 10/2023
14	Third	Toritos-1	A3	LLA 123	Llanos	Geopark 50% (Operator) Hocol 50%	Successful	Sep 12/2023
15	Third	Sabanales-1	A3	SN 18	SSJN	Hocol 100% (Operator)	Under Evaluation	Sep 16/2023
16	Fourth	Aguila-1	A2b	Apiay	Llanos Sur	Ecopetrol 100% (Operator)	Under Evaluation	Oct 2/2023
17	Fourth	Arauca-15-ST2	A0	Campo Arauca	Llanos Norte	Parex 50% (Operator) - Ecopetrol 50%	Under Evaluation	Oct 25/2023
18	Fourth	Infantas Oriente Norte-1	A2C	Cira Infantas	VMM	Ecopetrol 48% (Operator), Sierracol 52%	Dry	Oct 12/2023
19	Fourth	Zorzal Este-1	A1	LLA 87	Llanos central	Geopark 50% (Operator) - Hocol 50%	Successful	Nov 3/2023
20	Fourth	Bisbita Centro - 1	A3	LLA 123	Llanos central	Geopark 50% (Operator) - Hocol 50%	Successful	Nov 15/2023
21	Fourth	Arauca-8	A0	Campo Arauca	Llanos Norte	Parex 50% (Operator) - Ecopetrol 50%	Under Evaluation	Nov 28/2023
22	Fourth	Zorzal Este-2	A1	LLA 87	Llanos central	Geopark 50% (Operator) - Hocol 50%	Under Evaluation	Dec 24/2023
23	Fourth	Orca Norte-1	A1	Tayrona-Orca	Caribe Offshore	Ecopetrol 100% (Operator)	Under Evaluation	Dec 28/2023

Wells drilled by partners at sole risks basis								
25	Second	San Benedicto-1A	C3	Las monas	Middle Magdalena Valley	Petrosantander 100% (Operator)	Failure	Apr 20/2023
26	Second	San Benedicto-1A-ST	C3	Las monas	Middle Magdalena Valley	Petrosantander 100% (Operator)	Failure	May 18/2023
27	Fourth	Rex NE N01	A1	Cosecha	Llanos	Sierracol 100%	Under Evaluation	Dec 29/2023

Table 12: HSE Performance (Health, Safety and Environment)

HSE Indicators*	4Q 2023	4Q 2022	12M 2023	12M 2022
Frequency of total registrable injuries (No. Recordable cases / Million man hours)	0.22	0.38	0.26	0.33
Environmental incidents**	1	0	2	6

* The results of the indicators are subject to change after the end of the quarter due to the fact that some of the accidents and incidents are reclassified according to the final result of the investigations. ** Environmental incidents are those hydrocarbon spills greater than 1 barrel, with environmental impact.