

GHG Emissions					
	Unit	2019	2020	2021	2022
Gross Emissions by GHG ⁽¹⁾					
GHG Gross Emissions	tCO₂e	15.172.311	14.171.473	13.839.020	13.659.049
CO ₂ Gross Emissions	tCO ₂ e	12.093.142	11.238.045	11.004.545	10.929.510
CH ₄ Gross Emissions ⁽²⁾	tCO ₂ e	3.043.511	2.898.548	2.799.663	2.694.595
N ₂ O Gross Emissions ⁽²⁾	tCO ₂ e	35.660	34.881	34.812	34.945
Gross Emissions by Scope					
Scope 1	tCO₂e	14.501.952	13.305.437	13.255.657	13.159.479
Combustion		9.057.430	8.493.897	8.407.135	8.324.921
Fugitives		600.938	455.021	350.803	304.869
Mobile combustion		54	265	278	238
Flaring		1.203.840	952.610	942.908	940.206
Venting		3.639.691	3.403.645	3.554.534	3.589.245
Scope 2	tCO₂e	670.359	866.036	583.362	499.570
Purchased Electricity		670.359	866.036	583.362	499.570
Scope 3	tCO₂e	144.496.704	139.701.853	137.794.467	146.725.875
Category 11 - Use of sold products		137.252.585	133.319.835	129.923.056	138.387.015
Category 1 - Purchased good and services		5.538.479	4.929.103	6.517.895	6.949.035
Category 15 - Investments		1.417.148	1.013.961	928.126	852.845
Other categories		288.492	438.954	425.391	536.980
Gross GHG Emissions by Segment					
Upstream Gross Emissions	tCO₂e	9.452.384	9.303.728	8.715.728	8.442.175
Scope 1		8.783.034	8.438.118	8.132.969	7.943.445
Scope 2		669.350	865.610	582.759	498.730
Carbon Intensity	kgCO ₂ e/BOE ⁽³⁾	41,23	43,40	42,96	41,74
Downstream Gross Emissions	tCO₂e	5.719.928	4.867.746	5.123.292	5.216.874
Scope 1		5.718.918	4.867.319	5.122.688	5.216.034
Scope 2		1.009	426	604	840
Carbon Intensity	kgCO ₂ e/BOE ⁽³⁾	41,95	41,59	39,68	39,98

Notas

General note:

Ecopetrol's GHG emissions inventory, for Scopes 1, 2 and 3, is structured under the operational control approach including the operation of Cartagena Refinery. For the 2022 period, the historical series 2019 - 2022 is recalculated, considering the following:

- Methane emissions, specifically for the "Fugitive" and "Venting" categories, were updated using Ecopetrol's own emission factors, which were developed based on direct measurements made in 2021.
- The reversal of Nare assets of upstream.

(1). Total GHG emissions for scopes 1 and 2.

(2). The global warming potentials used in the inventory are those reported in the Fifth Assessment Report of the Intergovernmental Panel on Climate Change (IPCC - AR5, 2014).

(3). Upstream carbon intensity is estimated by dividing Scope 1 and 2 emissions generated in upstream by net production, which includes crude oil, gas, and white products, expressed in terms of barrels of oil equivalent -BOE-. Downstream carbon intensity is estimated by dividing Scope 1 and 2 emissions generated in refining and petrochemicals segments by the annual inflows (load) to the Barrancabermeja and Cartagena Refineries, expressed in terms of barrels of oil equivalent -BOE-. Both the intensities are calculated under the organizational limit of operational control.