Climate Transition Plan

TGI
GrupoEnergíaBogotá

At TGI, we have developed a **Climate Transition Plan** aimed at advancing the progressive decarbonization of our operations while strengthening the resilience and adaptation of our business model in response to the ongoing transformation of the energy sector. This plan reflects our commitment to climate action, Colombia's energy security, and the creation of sustainable value for our stakeholders.

Our approach recognizes that the energy transition requires action on two complementary fronts. On the one hand, we must reduce emissions associated with our current operations, particularly those related to energy consumption, venting, flaring, and fugitive emissions. On the other hand, we must prepare the Company to assess opportunities in emerging markets and energy solutions that are compatible with a low-carbon economy.

From this perspective, our Climate Transition Plan is built around two strategic pillars:

- **Operational decarbonization,** focused on reducing Scope 1 and Scope 2 greenhouse gas (GHG) emissions through energy efficiency, operational optimization, monitoring and control of fugitive emissions, reduction of venting and flaring, electrification, and energy recovery initiatives.
- **Business model decarbonization,** aimed at sustainably diversifying our portfolio through efficient infrastructure projects, new applications for natural gas, and the evaluation of renewable gases such as biomethane.

Alignment with Global and National Climate Goals

Our Climate Transition Plan is aligned with Colombia's commitment to achieve carbon neutrality by 2050 and with the objectives of the Paris Agreement to limit global warming to **1.5°C**. Within this framework, we have established an emissions reduction pathway that guides our operational, financial, and strategic decision-making toward an orderly, secure, and progressive transition.

As part of this roadmap, we have defined the following interim absolute greenhouse gas emissions reduction targets:

- **36% reduction by 2030.**
- **56% reduction by 2035.**
- **Progressive advancement toward carbon neutrality by 2050**, consistent with Colombia's national climate commitments.

This decarbonization pathway is updated annually to incorporate new operational information, actual emissions performance, changes in market demand, the commissioning of new infrastructure, fugitive emissions performance, economic variables, and new mitigation opportunities. This periodic review enables us to maintain a dynamic, transparent, and data-driven climate management approach that is closely aligned with our corporate capital allocation strategy.

Operational Decarbonization

The first dimension of our Climate Transition Plan focuses on reducing emissions generated by our operations. To achieve this objective, we have defined a portfolio of initiatives primarily targeting **Scope 1 and Scope 2 emissions**, organized into decarbonization levers that reflect the characteristics of our business and address our most significant emission sources.

These decarbonization levers include:

- **Energy efficiency,** through initiatives that optimize energy consumption across operational assets.
- **Operational optimization,** leveraging digital tools and best practices to reduce energy consumption, losses, and greenhouse gas emissions.
- **Venting and flaring control,** through procedures and technologies designed to reduce emissions associated with Temporary Emission Authorizations (TEAs) and operational events.
- **Fugitive emissions monitoring and control,** through leak detection, repair, and maintenance programs.
- **Infrastructure electrification,** including the development of new electrically driven compression stations.
- **Energy generation and recovery,** through solutions such as turboexpanders, waste heat recovery systems, and solar energy projects.
- **Deployment of new operational technologies, aimed at improving system monitoring, operational efficiency, and reliability.**

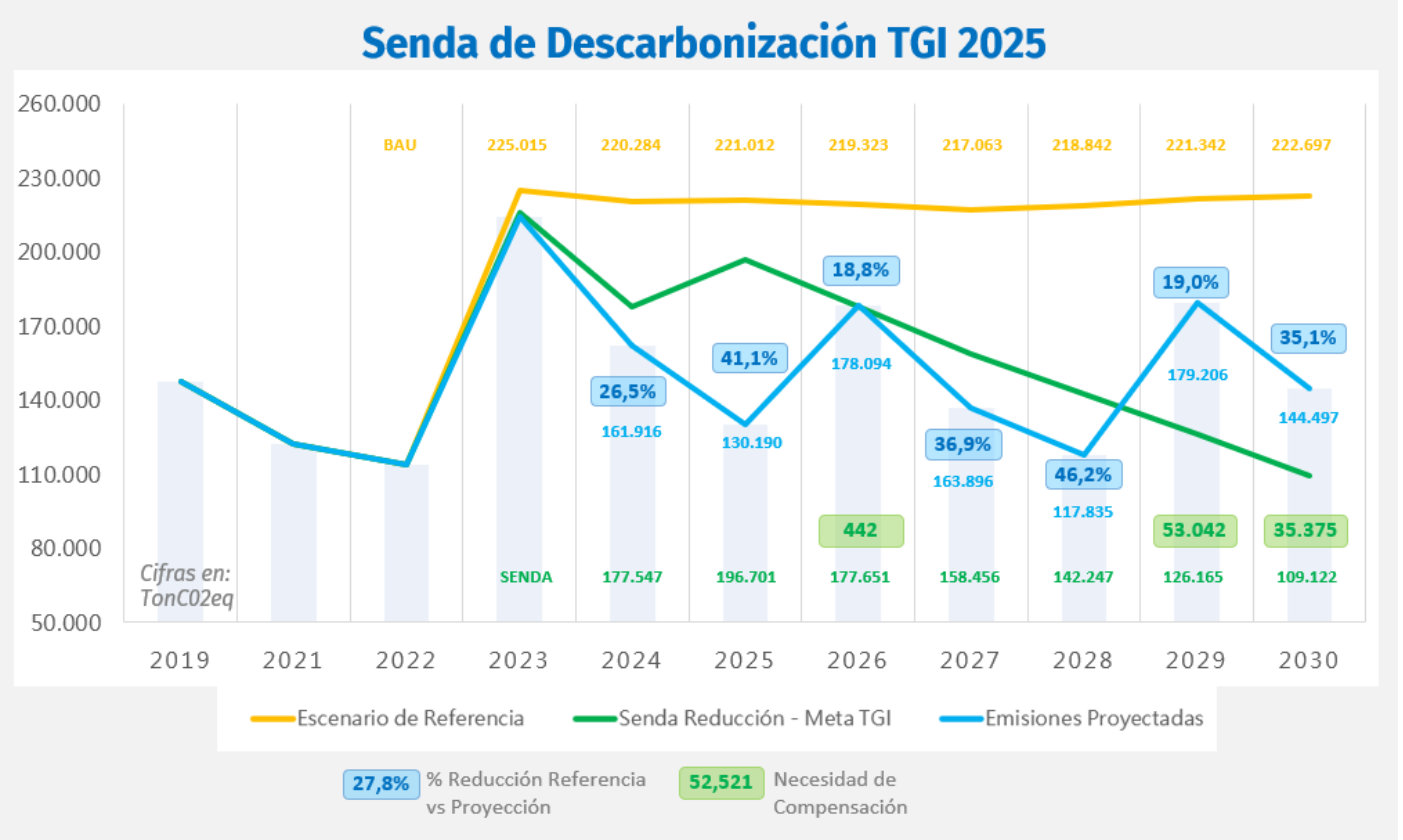
Key Operational Decarbonization Initiatives

To deliver this decarbonization pathway, we have identified **10 strategic projects** that contribute directly to greenhouse gas emissions reductions and constitute the operational foundation of our Climate Transition Plan.

Project	Status	Decarbonization Lever	Associated Scope
Venadillo CGS Solar Farm	Planning	Renewable energy generation and reduction of conventional electricity consumption	Scope 2
TEA Flaring Optimization	Under implementation	Reduction of flaring and venting	Scope 1
Hydraulic Optimization through a Digital Twin	Under implementation	Operational optimization and energy efficiency	Scope 1
Efficient Air Start-Up System	Under implementation	Reduction of natural gas consumption during operational start-ups	Scope 1
Fugitive Emissions Repair Program	Under implementation	Leak detection, repair, and maintenance	Scope 1
New Electric Compression Stations	Under implementation	Electrification of operational infrastructure	Scopes 1 and 2
TEA and Portable Compressor Project	TEA under implementation / Portable compressor in planning	Venting reduction and operational gas management	Scope 1

Project	Status	Decarbonization Lever	Associated Scope
Murphy Control System	Planning	Operational control and efficiency improvement	Scope 1
Turboexpander Power Generation	Under implementation	Energy recovery and generation	Scope 1

These initiatives are designed to reduce both direct and indirect greenhouse gas emissions, improve the efficiency of operational assets, minimize operational losses, and strengthen the reliability of the gas transportation system. Collectively, their implementation is expected to achieve a **projected emissions reduction of 35.1% by 2030**, as illustrated below:



Investment and Financing for Operational Decarbonization

To ensure the feasibility, financial robustness, and traceability of the Climate Transition Plan, we have developed a comprehensive investment assessment that integrates the expected benefits, as well as the **capital expenditures (CAPEX)** and **operating expenditures (OPEX)** associated with each initiative.

This assessment enables us to prioritize projects, evaluate their **marginal abatement cost**, assess their contribution to our emissions reduction pathway, and align climate transition initiatives with our corporate financial planning and capital allocation processes.

Figures are presented in millions of Colombian pesos (COP).

Project	Expected Benefit (COP millions)	ICAPEX Investment (COP millions)	OPEX Investment (COP millions)
Venadillo CGS Solar Farm	$5.123,74	$0,00	$0,00
TEA Flaring Optimization	$76.098,76	$1.165,77	$0,00
Hydraulic Optimization through a Digital Twin	$301.596,97	$8.880,07	$4.872,96
Efficient Air Start-Up System	$3.762,97	$0,00	$67,76
Fugitive Emissions Repair Program	$65.554,11	$0,00	$18.734,43
New Electric Compression Stations	$542,92	$0,00	$0,00
TEA and Portable Compressor Project	$4.151,97	$5.228,90	$756,83
Murphy Control System	$4.497,91	$4.341,05	$0,00
Turboexpander Power Generation	$31.663,04	$16.949,50	$9.257,74
Total	**$ 492,992.40**	**$ 36,565.29**	**$ 33,689.73**

The updated decarbonization pathway shows that, even with the implementation of the identified operational projects, complementary carbon offsetting may be required to close the gap toward the 2030 emissions reduction target. Under the updated scenario, this requirement is estimated at approximately **88,859 tCO_2e**, equivalent to around **COP 2.155 billion**.

Our Climate Transition Plan combines **direct emissions reductions** with **complementary carbon offset mechanisms**, while always prioritizing real operational emissions reductions. However, future developments in carbon credit prices and the potential application of carbon taxes will also be key factors in determining the implementation and financial viability of these projects.

Emissions Management by Scope

Scope 1

Scope 1 emissions are the primary focus of our decarbonization pathway, given the significance of emissions associated with fuel combustion, venting, flaring, and fugitive emissions.

Key initiatives under Scope 1 include:

- TEA flaring optimization.
- Efficient air start-up system.
- Fugitive emissions detection and repair.
- Hydraulic optimization through a digital twin.
- TEA and portable compressor project.
- Murphy Control System.
- Turboexpander power generation.
- Waste heat recovery for power generation.
- Progressive electrification of compression stations.

Fugitive emissions represent a particularly significant component of our emissions profile. Accordingly, we continue strengthening our measurement methodologies, updating emissions inventories, and implementing corrective actions to improve the accuracy of our projections and the effectiveness of mitigation measures.

Scope 2

For Scope 2 emissions, associated with purchased electricity consumption, we are advancing renewable energy generation, energy efficiency initiatives, and the electrification of operational assets.

Key initiatives include:

- Venadillo CGS Solar Farm.
- New electric compression stations.
- Turboexpander power generation.
- Waste heat recovery.
- Energy optimization of operational infrastructure.

These initiatives aim to reduce the emissions intensity associated with electricity consumption while preparing our infrastructure for a more efficient, modern, and increasingly low-carbon energy system.

Scope 3

For Scope 3 emissions, our approach focuses on collaboration across the value chain and on evolving our business model toward solutions that enable emissions reductions in other sectors of the economy.

Key initiatives include:

- Promoting natural gas as an alternative fuel for freight transportation to replace higher-carbon fuels.
- Developing infrastructure that enables reliable and efficient energy supply.
- Exploring renewable gases, such as biomethane.
- Collaborating with strategic partners to accelerate lower-carbon energy solutions.
- Identifying opportunities for circular economy initiatives and waste valorization.
- Incorporating sustainability criteria into procurement processes to promote efficient resource use and emissions management among suppliers and contractors.

Although TGI's greatest potential for direct emissions reductions lies within Scopes 1 and 2, we recognize that transforming our value chain and expanding low-carbon end uses of natural gas will be essential to strengthening the Company's long-term contribution to climate action.

Decarbonization Through Our Business Model

The second dimension of our Climate Transition Plan focuses on the evolution of our business model. At TGI, we recognize that the energy transition requires not only reducing emissions from

our operations but also diversifying our portfolio toward products, services, and infrastructure that support the development of a low-carbon economy.

To achieve this, we are advancing the development of a **Sustainable Products Portfolio**, consisting of projects, products, and services that enable us to:

- Strengthen the reliability and capacity of Colombia's National Natural Gas Transmission System.
- Promote new uses of natural gas in strategic sectors, particularly freight transportation.
- Explore opportunities related to renewable gases, such as biomethane.
- Diversify the Company's revenue streams.
- Contribute to an orderly, secure, and financially sustainable energy transition.

This portfolio is built around three complementary dimensions of value creation:

- **Stability,** through regulated infrastructure projects that generate predictable long-term revenues.
- **Diversification,** by expanding new applications for natural gas, particularly in freight transportation.
- **Sustainable innovation**, through the development of renewable gases such as biomethane.

Promoting Natural Gas for Freight Transportation

Together with Ecopetrol, Promigas, Vanti, and Gases de Occidente, we participate in an industry initiative to establish a financing fund for heavy-duty vehicles powered exclusively by natural gas.

Through this initiative, we aim to stimulate natural gas demand across different regions of the country, strengthen the Natural Gas Vehicle (NGV) market, and contribute to reducing emissions from the heavy-duty transport sector. This initiative supports the replacement of higher-carbon fuels in one of the country's most strategically important economic sectors.

The project is expected to become a source of future revenue for the Company through increased volumes of natural gas transported and consumed by the growing fleet of natural gas-powered vehicles. Although still at an early stage of development, it represents a significant opportunity to expand natural gas demand while reinforcing TGI's role as an enabler of lower-carbon energy solutions.

Indicator	Value
Heavy-duty natural gas vehicles in operation	67 vehicles
TGI investment to date	COP $4.811 millions
Third disbursement in progress	COP $3.207 millions
Funding source	Internal resources
Investment type	OPEX
Expected long-term natural gas demand	13 million cubic feet per day (MMscfd)

Infrastructure to Strengthen System Reliability and Capacity

We are also advancing strategic infrastructure projects that enhance the capacity of Colombia's National Natural Gas Transmission System and enable us to meet the demand identified in the expansion plans and projections developed by the Mining and Energy Planning Unit (UPME).

These projects support the climate transition from an energy security, system reliability, and operational efficiency perspective by ensuring that the country has modern infrastructure capable of transporting natural gas safely, reliably, and sustainably.

Jamundí Lateral Pipeline

This project includes the engineering, construction, and installation of the infrastructure required to supply the Popayán demand node, with a transportation capacity of **3 million cubic feet per day (MMscfd)**. Its scope includes the construction and installation of a **620-horsepower (HP) compression station** in Pradera, Valle del Cauca.

Mariquita – Gualanday Expansion

This project aims to increase transportation capacity to **20 million cubic feet per day (MMscfd)** along the Mariquita–Gualanday corridor. The project includes the installation of a new **1,138-horsepower (HP) compression station** in Venadillo, Tolima, as well as the upgrading of the existing compression units at the Mariquita Compression Station.

Project	Investment	Investment Type	Expected Average Annual Revenue	Revenue Start Date
Mariquita - Gualanday	COP $37.645 millions	CAPEX	COP $8.500 millions	December 2025
Jamundí Lateral Pipeline	COP $32.921 millions	CAPEX	COP $7.200 millions	December 2025
Total	**COP $70.566 millions**	**CAPEX**	**COP $15.700 millions**	**December 2025**

These projects represent a stable source of revenue for TGI, as they are supported by the regulatory framework governing Colombia's natural gas transmission service. Once they enter into operation, they generate fixed revenues for a **20-year period**, based on the investments approved by the national energy regulator.

Beyond expanding transportation capacity, these projects incorporate operational efficiency and technological modernization criteria. They have been designed and built using more advanced, automated, and energy-efficient technologies aimed at reducing CO_2 emissions, improving operation and maintenance activities, enhancing system reliability, and ensuring an estimated operational life of 20 years.

Biomethane and Renewable Gases

As part of the evolution of our business model, we are actively participating in emerging initiatives related to the production of renewable gases. In this context, we have promoted pre-feasibility

and feasibility studies for a demonstration biomethane production plant that would convert urban organic waste generated in Bogotá into renewable natural gas.

The project proposes the recovery of organic waste from food residues, fruits and vegetables from public markets, and grass clippings through anaerobic digestion processes. This process would generate two primary products:

- **Biomethane**, which could be injected into Bogotá's natural gas distribution network or used to supply compressed natural gas (CNG) fueling systems for public transportation.
- **Biofertilizer**, produced as a solid by-product of the anaerobic digestion process.

This initiative seeks to support the development of a biomethane value chain in Colombia, build operational experience with renewable gases, and accelerate their adoption in the country's public transportation sector. It also represents an opportunity to connect the energy transition with circular economy principles by transforming organic waste into valuable renewable energy products.

Item	Value
Pre-feasibility study cost	USD 702 thousand
Feasibility study cost	USD 776 thousand
Study sponsor	SWEDFUND
Executing firm	SWECO
Direct TGI CAPEX/OPEX investment	Not applicable at this stage
TGI's role	Mobilizing investors and financing vehicles for the project's implementation, execution, and scale-up

The project has the potential to become a new source of revenue through three complementary business streams:

- **Commercialization of biomethane** injected into the natural gas distribution network.
- **Service fees** associated with the collection and final treatment of organic waste.
- **Sale and commercialization of biofertilizers** produced as a by-product of the anaerobic digestion process.

Item	Projection
Biomethane selling price	12,8 USD / MBTU
Year 1 - Biomethane sales revenue	USD $215 thousand
Year 1 - Organic waste management revenue	USD $251 thousand
Year 5 - Biomethane sales revenue	USD $246 thousand
Year 5 - Organic waste management revenue	USD $321 thousand
Year 10 - Biomethane sales revenue	USD $280 thousand
Year 10 - Organic waste management revenue	USD $409 thousand
Year 15 - Biomethane sales revenue	USD $311 thousand
Year 15 - Organic waste management revenue	USD $497 thousand

Stakeholder Engagement for the Implementation of the Transition Plan

The successful implementation of our Climate Transition Plan depends on close collaboration with a broad range of stakeholders. We therefore promote ongoing engagement to gather insights, strengthen partnerships, and create the conditions necessary to advance both operational decarbonization and the sustainable diversification of our business portfolio.

Value Chain

We collaborate with value chain partners to promote solutions that strengthen natural gas demand, enable new energy applications, and support lower-carbon alternatives. In the case of natural gas-powered freight transportation, we participate in an industry-wide initiative alongside leading energy companies to finance dedicated natural gas trucks and accelerate their adoption across different regions of Colombia.

Similarly, through our biomethane initiative, we seek to engage stakeholders involved in organic waste management, biomethane production, natural gas distribution, public transportation, and the commercialization of biofertilizers.

Industry Peers, Associations, and Strategic Initiatives

We actively participate in industry initiatives alongside companies such as Ecopetrol, Promigas, Vanti, and Gases de Occidente to accelerate the development of sustainable energy solutions. These partnerships enable us to share expertise, mobilize resources, and create market signals that support the energy transition in strategic sectors.

We also participate in industry associations representing the energy and public utilities sectors, contributing to the development of public policy, technical and regulatory analysis, and initiatives that promote energy sources capable of maintaining Colombia's competitiveness throughout the climate transition.

Government, Public Sector, and Civil Society

The implementation of our Climate Transition Plan is closely coordinated with public institutions, regulators, and sector authorities. Our infrastructure projects respond to energy demand identified in Colombia's national energy planning, while emerging initiatives such as biomethane require collaboration with local governments, waste management authorities, sustainable mobility stakeholders, and organizations involved in the circular economy.

Social Implications of the Transition Plan

We recognize that the climate transition must be managed responsibly, taking into account its social implications and its contribution to the country's long-term development. Our objective is to advance decarbonization while preserving energy security, service reliability, and the competitiveness of sectors that depend on natural gas.

From an operational perspective, our emissions reduction projects contribute to infrastructure modernization, strengthen technical capabilities, and improve operational efficiency and safety. To support these initiatives, we provide training to operations and maintenance personnel whenever new competencies are required, as demonstrated during the commissioning of new compression infrastructure.

From a business model perspective, we promote initiatives capable of generating broader social and economic benefits, including:

- Greater reliability of natural gas supply for households, commercial users, and industry.
- Development of energy infrastructure in strategic regions.
- Emissions reductions in hard-to-abate sectors, particularly freight transportation.
- Strengthening of value chains associated with renewable gases.
- Recovery of organic waste and promotion of circular economy opportunities.
- Potential creation of specialized technical capabilities and employment associated with emerging energy solutions.

This integrated approach enables us to pursue a climate transition that not only reduces greenhouse gas emissions but also preserves energy reliability, strengthens the company's financial resilience, and contributes to Colombia's sustainable development.

Governance, Monitoring, and Continuous Improvement

Our Climate Transition Plan is managed as a dynamic roadmap. We periodically update the assumptions underlying our decarbonization pathway, review actual emissions performance, assess the incorporation of new projects, and revise projections in response to operational, regulatory, economic, and technological developments.

This governance framework enables us to:

- Prioritize initiatives with the greatest emissions reduction potential.
- Evaluate the cost-effectiveness of decarbonization projects.
- Integrate CAPEX and OPEX considerations into financial planning.
- Identify gaps relative to our climate targets.
- Determine complementary carbon offset requirements where necessary.
- Strengthen traceability and support data-driven decision-making.

Overall, our Climate Transition Plan reflects a comprehensive long-term vision. We are reducing emissions across our operations, improving the efficiency and reliability of our existing infrastructure, and advancing the sustainable diversification of our business portfolio to capture the opportunities presented by a low-carbon economy.

Through these efforts, TGI is building an orderly, responsible, and financially viable climate transition that is aligned with global climate objectives, Colombia's carbon neutrality targets, and our purpose of contributing to the country's sustainable energy development.