Canal de Panamá

Sustainability Report 2025

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Message from the Chairman of the Board of Directors and Minister for Canal Affairs

The Panama Canal is much more than an interoceanic waterway: it is an engine of national development and a pillar of global logistics connectivity. Since its inauguration, it has offered the international community a safe, efficient, and competitive trade route between continents, generating economic opportunities for Panama and contributing to the well-being of millions of people who depend on stable and resilient supply chains. Today, in an era marked by climate challenges, technological advances, and growing environmental demands, we reaffirm our commitment to the responsible management of this strategic asset, aware of its essential role for the country and the planet.

This Sustainability Report reflects our long-term vision: to strengthen the operation of the Canal through actions that integrate climate resilience, efficient water management, energy innovation, and decarbonization. Our objective is clear: to ensure that this route continues to serve global trade while boosting the country's economic growth and creating shared value for present and future generations. With transparency and responsibility, we present the progress, challenges, and commitments that will guide the sustainable evolution of the Panama Canal.

José Ramón Icaza Clément
Chairman of the Board of Directors and Minister for Canal Affairs

CANAL DE PANAMÁ

Message from the Administrator of the Panama Canal

The effects of climate change are a reality that directly impacts the Panama Canal. The greater frequency and intensity of droughts, alterations in precipitation patterns, and the sustained increase in global temperature show the vulnerability of logistics systems and natural resources. For Panama, whose development is closely linked to this interoceanic route, these challenges represent both a shared responsibility and an opportunity to strengthen our resilience.

For this reason, adaptation to climate change has been consolidated as a strategic axis that guides fundamental projects, including the development of the new Río Indio Lake, designed to guarantee the availability of water for operations and human consumption. In addition, we promote decarbonization initiatives that reduce emissions in the maritime sector, reaffirming our commitment to mitigating climate change and building a cleaner, more efficient, and competitive route for global trade.

This effort requires a strong and responsible relationship with all our stakeholders. We have promoted a safe and skill-oriented work environment for our employees; we have strengthened, with transparency and innovation, the interaction with suppliers and customers; we have worked together with watershed communities to protect water resources and generate shared well-being; and we have honored the trust of the Panamanian State by contributing in a sustainable way to national development.

These actions reflect a conviction that guides our decisions: sustainability is not only an aspiration, but the strategic pillar that ensures that this interoceanic route continues to be a vital asset for Panama and for world trade, today and in the future.

Ricaurte (Catín) Vásquez Morales
Administrator of The Panama Canal

CANAL DE PANAMÁ

Message from the Deputy Administrator of the Panama Canal and Chief Sustainability Officer (CSO)

The Panama Canal is consolidating itself as a strategic ally, accompanying its customers and global partners in advancing towards their decarbonization and climate adaptation goals. Recent experiences show us that environmental challenges require more than operational efficiency: they demand active cooperation, permanent dialogue and a shared vision of sustainability.

The responsibility to ensure efficient and resilient management extends far beyond the waterway; it encompasses our ongoing work in the watershed, where adaptation and protection of water resources are key to addressing changes in rainfall patterns and climate variability. Together with organizations, governments, and local communities, we promote innovation and capacity building to anticipate risks, conserve ecosystems and ensure water availability for the Canal and for Panama.

The evolution of our operations reflects our commitment to working in partnership, while we deliver solutions that integrate energy efficiency, emission reduction, and sustainable water management. This is reflected in our collective effort, focused on creating value for those who place their trust in us while extending the benefits to future generations.

Ilya R. Espino de Marotta
Deputy Administrator of The Panama Canal and Chief Sustainability Officer (CSO)

CANAL DE PANAMÁ

Executive Summary

The Panama Canal Authority (ACP), as an autonomous public entity of strategic relevance for global trade and global maritime connectivity, reaffirms its commitment to sustainability, responsible management of natural resources, and institutional transparency.

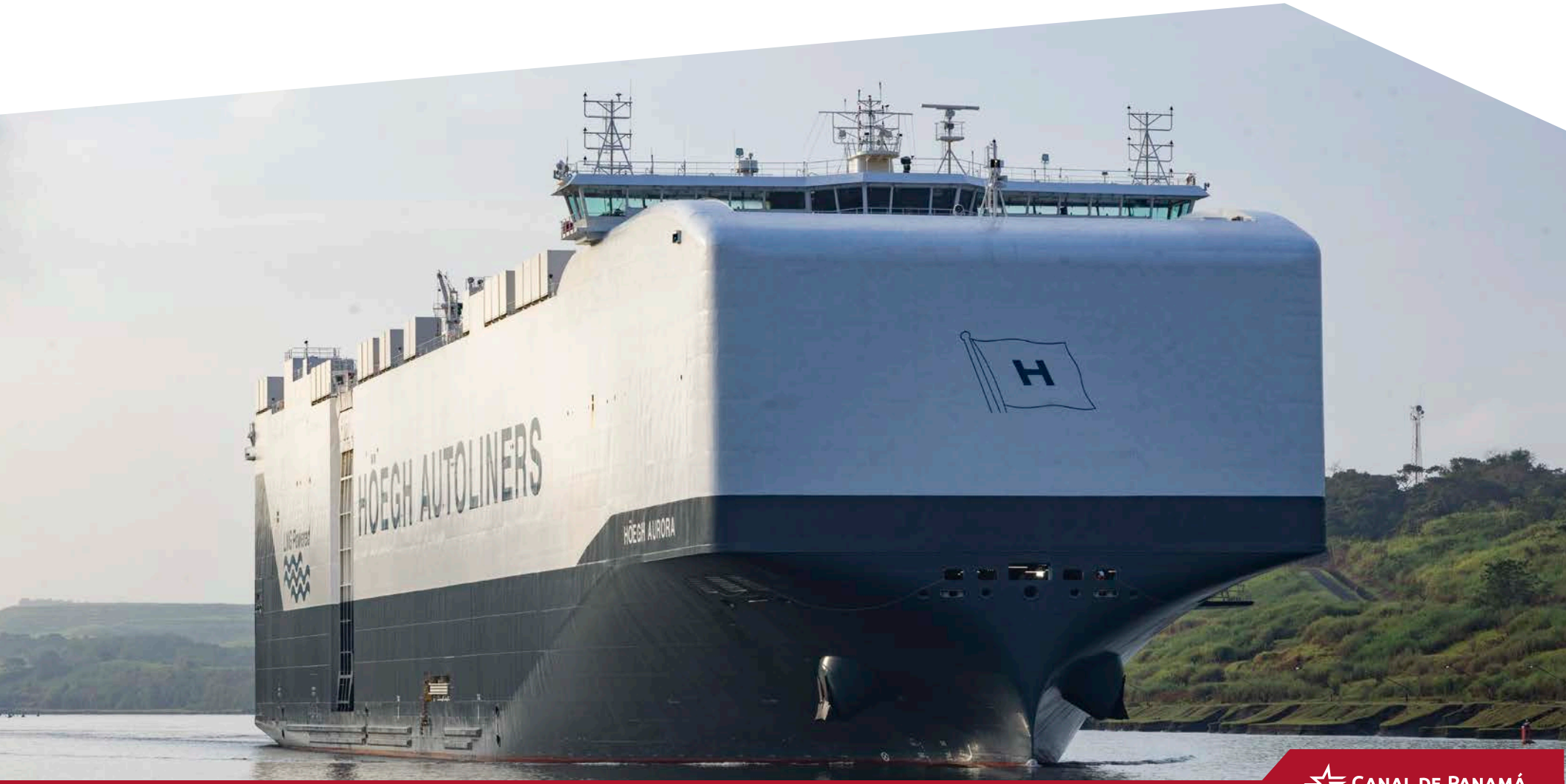
During scal years 2024 and 2025, the Panama Canal advanced in de ning strategic guidelines to mitigate and adapt to the impacts of climate variability, while also strengthening the foundations for integrating climate risk assessment into its sustainability management.

This report presents a comprehensive analysis of sustainability, governance, risks, opportunities, financial aspects, and environmental goals. Key developments during this period include:

1. **Strengthening institutional governance and integrating sustainability into strategic decision-making.**
2. **Identification and assessment of risks associated with climate change.**
3. **Development of initiatives aimed at the future implementation of projects and programs for the reduction of greenhouse gas emissions, responsible water management, and energy efficiency.**
4. **Consolidation of the dual materiality approach through active engagement with key stakeholders, local communities, and strategic partners.**

The Panama Canal recognizes the challenges it faces due to water variability in the Canal Watershed, and the need to strengthen its institutional and operational resilience. In response, the Canal is developing a management framework that will integrate scenario assessment, prioritization of material risks, and mitigation and adaptation actions planning, based on the results of specialized technical studies developed during the 2023–2025 period.

This report incorporates quantitative and qualitative information derived from greenhouse gas inventories for scal years 2023 and 2024, as well as insights from consultancy reports on climate management. The report addresses various topics and scopes, covering operations carried out during scal years 2024 and 2025, speci cally between October 1, 2023, and September 30, 2025.



About the Panama Canal Authority

180
Maritime Routes

170
User Countries

13,404
Transits

1,920
Connected Ports

The Panama Canal Authority (ACP) is the autonomous state entity responsible for the administration, operation, maintenance, and modernization of the interoceanic waterway, in accordance with Title XIV of the Political Constitution and Law 19 of June 11, 1997 (the Organic Law of the Panama Canal). The Canal is entrusted with the responsibility to manage, maintain, use, and conserve the water resources of the Panama Canal Watershed.

To safeguard this resource, the Canal coordinates with governmental and non-governmental organizations with expertise responsibilities and interests in the Watershed, collaborating on the management and use of its natural resources. Law 19 grants it the authority to approve strategies, policies, programs, and public or private projects that may impact it. Since the year 2000, following the complete transfer of administrative control to Panama, the Panama Canal Authority has managed the Canal as an efficient and transparent public enterprise focused on operational excellence, ensuring the safe and uninterrupted transit of 3% of global maritime trade.

The Canal links 180 routes and connects 170 countries through 1920 ports worldwide. The main trade routes of the Panama Canal (by tonnage) are:

- U.S. East Coast - Asia
- U.S. East Coast - South America's West Coast
- South America's East Coast - Asia
- South America's West Coast - Europe
- South America's Intercostal Route

Institutional Mission and Vision

Mission: To promote Panama's progress and prosperity by guaranteeing the efficient and sustainable transit of goods through the Isthmus, promoting high global connectivity and regional relevance.

Vision: To consolidate Panama as a world-class logistics center and a multimodal exchange point between oceans and regions that operates in an efficient and adaptable manner, for the benefit of all Panamanians.

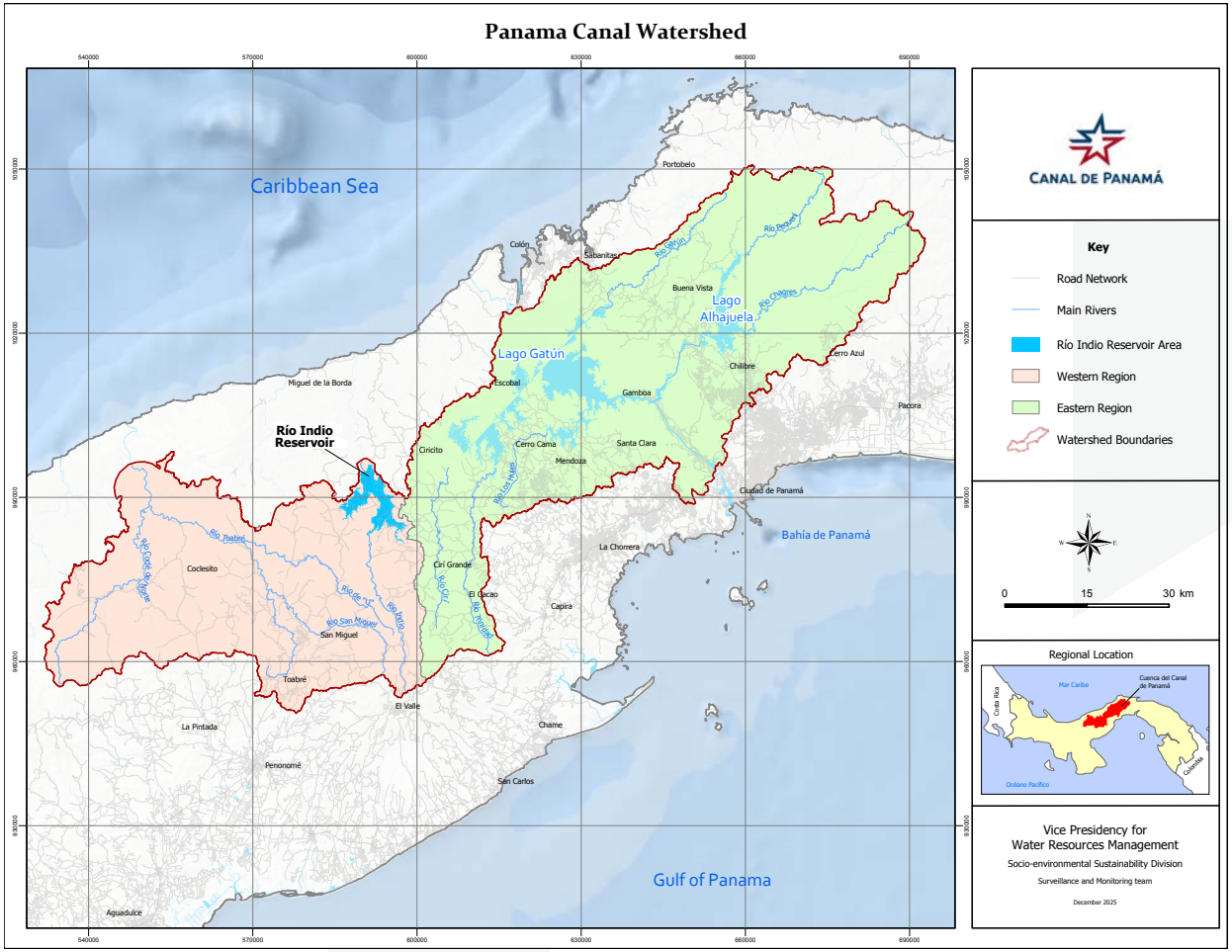
The Panama Canal is projected as a global connectivity leader and a driver of national progress, with its mission supporting Panama's prosperity through the consolidation of the country as a premier logistics hub and international trade platform. Its 2025–2035 vision reaffirms its role as a global trade and sustainable development powerhouse, leading strategic innovation, digitalization, and sustainability, always aimed at strengthening Panama's competitiveness and the continental logistics system.

Principles

1. Institutionality and neutrality
2. Multidimensional sustainability
3. Adaptability
4. Innovation
5. Technology update
6. Focus on value

Panama Canal Watershed

The Panama Canal Watershed is composed of two main regions: the Eastern Region and the Western Region, encompassing the provinces of Panama, West Panama, Colón, and Coclé. On June 17, 2024, the Panama's Supreme Court of Justice declared Law No. 20 of 2006 unconstitutional, thereby restoring the validity of Law No. 44 of 1999, which defines the original boundaries of the Panama Canal Watershed. This unanimous ruling reincorporated 213,112 hectares in the western region into the Canal's management area, increasing the total watershed to 552,761 hectares. This expansion strengthens the legal and institutional framework for water management, facilitating the advancement of strategic projects such as Agua del Futuro (Water for the Future), which aimed to ensure the watershed's sustainability and resilience in the face of climate challenges and future demand.



Strategic Plan 2025-2035

Our Value Proposition

Business Model

Design a business model that maximizes the use of available capacity, while providing the **certainty, predictability, and flexibility** required to deliver the greatest value to Canal customers.

Competitiveness

Ensure that customers always receive value **greater than the price paid**, so the Canal remains the best alternative in its target market.

Water reliability

Provide the Canal with sufficient water to **operate at maximum capacity**, without significant draft restrictions.

Diversification

Leverage opportunities to transship cargo through the isthmus using **multiple transportation modes**, enhancing connectivity and offering **value-added** services.

Strategic Pillars of the Plan

Agua del Futuro (Water for the Future) Project	Interoceanic Energy Corridor	Port terminals	Multimodal Logistics Corridor
It aims to ensure water security under climate stress scenarios by constructing a multipurpose reservoir in the Indio River Watershed, providing water for over 2 million people and maintaining the continuity of Canal operations, even during periods of extreme drought.	A 76-kilometer pipeline and two maritime terminals will be built to transport liquefied petroleum gas (LPG) and other gases, connecting the Atlantic with the Pacific.	The modernization of port infrastructure through the development of an intermodal container operations center will be integrated with a logistics hub that includes the gas pipeline project. This will optimize connectivity, streamline the flow of goods, and enhance the dynamism of international trade.	The goal of this project is to improve the efficiency of the Canal's core business through operational optimization and greatly improved logistics connectivity across the Isthmus.

These four strategic projects represent the Panama Canal's infrastructure vision. Each initiative is designed to deliver long-term value, promote regional development, and create opportunities for global collaboration. Together, they reflect the Canal's commitment to innovation, sustainability, and high-impact execution.

Objectives and Expected Results

Ensure water and energy resilience: Guarantee water resources for consumption and operation, as well as developing an energy corridor for gas transportation.

Strengthen logistics connectivity: Position Panama as a cutting-edge intermodal logistics hub for global trade.

Ensure sustainable economic growth: Increase revenue to contribute to Panama's development and promote the prosperity and well-being of its citizens.

Maintain leadership and competitiveness: Continue to be a key player in international trade, adapting to changes in the global market.

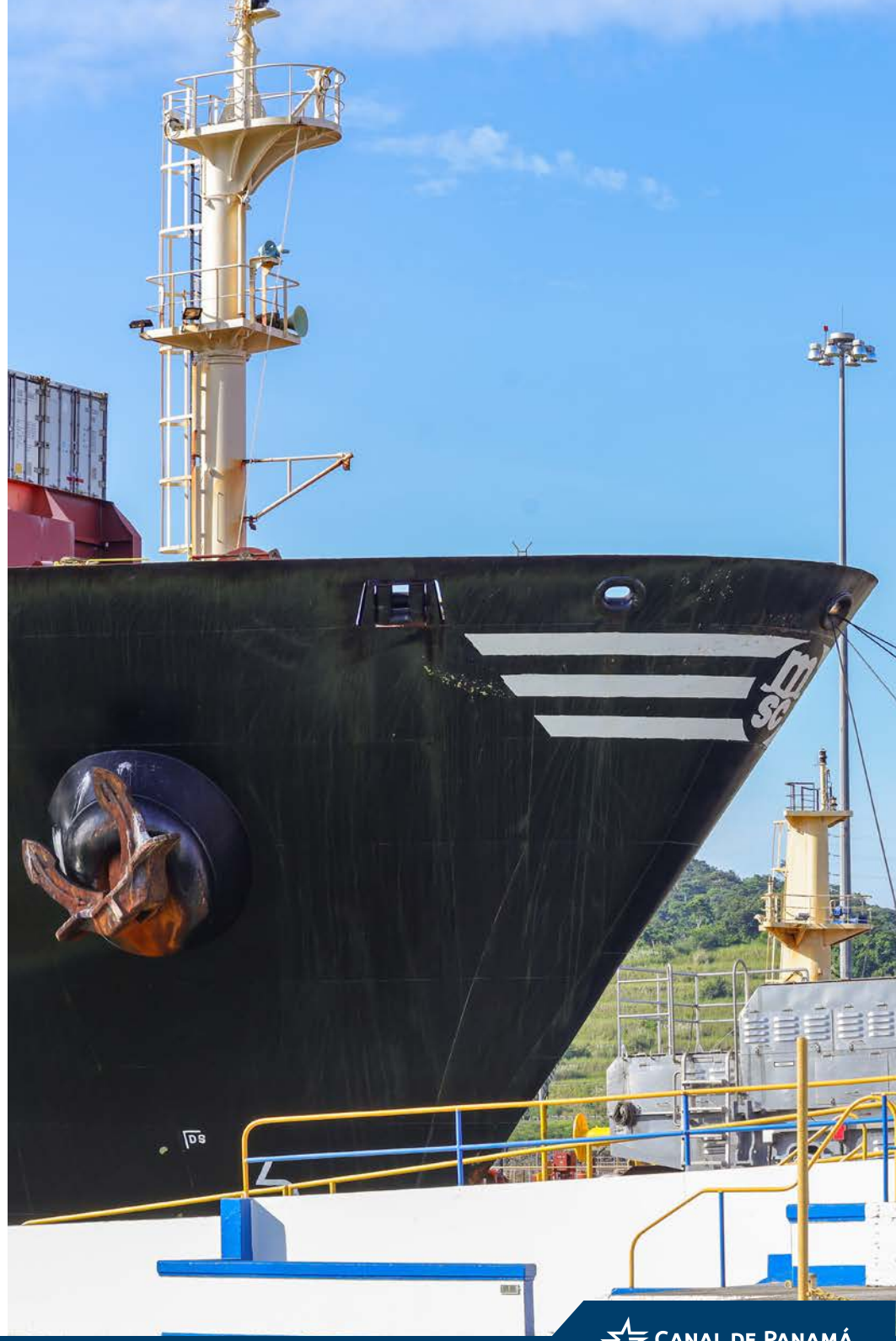
Governance

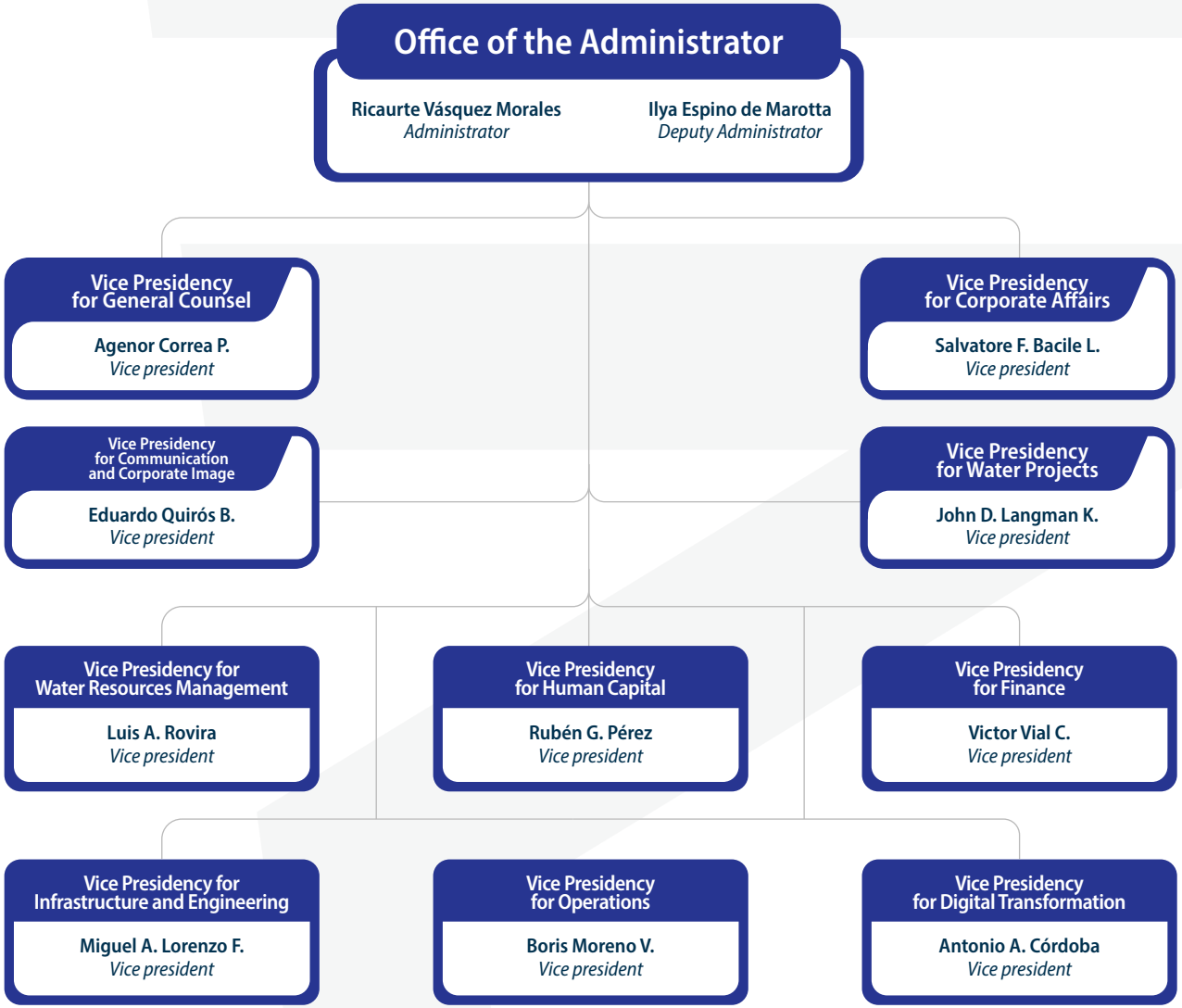
Governance provides the framework of processes, controls, and procedures to oversee, manage, and monitor risks and opportunities related to sustainability and climate change throughout the organization. This framework establishes a clear structure for direction and decision-making, ensuring transparency, accountability, and integrity in the development and application of organizational policies and practices, while maintaining the trust of all internal and external stakeholders.

The organizational structure of the Panama Canal is formed in accordance with established guidelines to promote effective coordination, transparency, and the fulfillment of its institutional mission. At the highest level is the Board of Directors, with multisectoral representation, which provides oversight and strategic guidance for the organization.

The structure has evolved to respond to current challenges, including the creation of new vice-presidencies and units specialized in sustainability, innovation, water management, and stakeholder relations.

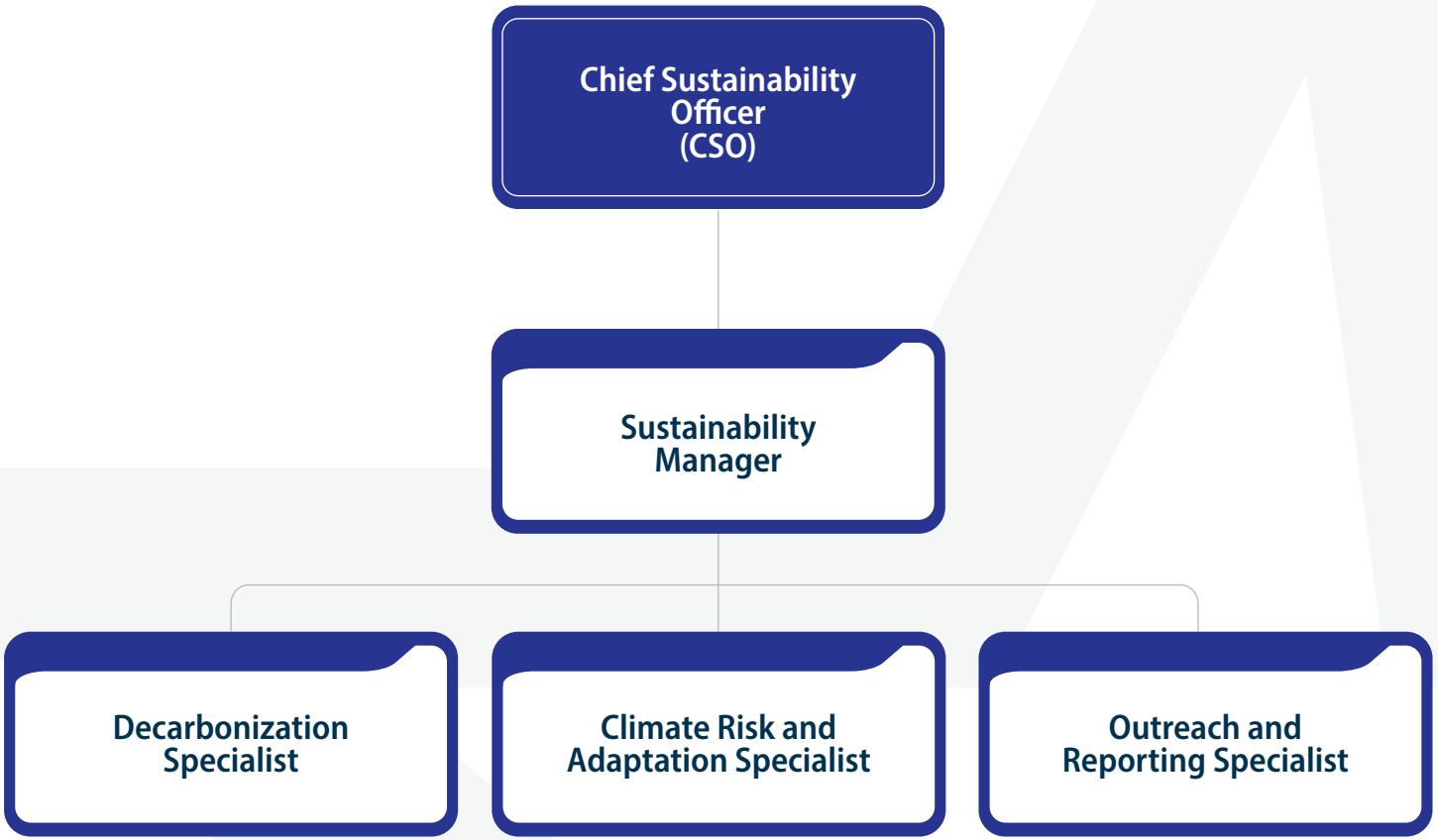
Below this instance is the Office of the Administrator, which leads a high-performance management team, various main offices report to this team, including: General Counsel, Communication and Corporate Image, Corporate Affairs, Water Projects, and Sustainability. Likewise, the organization has several functional vice-presidencies: Water Resources Administration, Infrastructure and Engineering, Human Capital, Operations, Finance, and Digital Transformation, responsible for the efficient management of technical and administrative activities and supporting the achievement of the organization's objectives.





The Panama Canal demonstrates a robust and multidisciplinary governance structure that integrates sustainability at the strategic and operational levels. Since the consolidation of the Sustainability Unit (SA-S) in May 2024, under the leadership of Deputy Administrator Ilya Espino de Marotta in her role as the Canal's Sustainability Officer, the organization has committed to institutionalizing climate management at all hierarchical levels.

Organizational Chart of the Sustainability Unit (SA-S)



The organization has integrated new functions related to decarbonization and climate risk management into each vice presidency, enabling the execution of associated actions and supporting data collection. This ensures support and information alignment between corporate decisions and sustainability metrics and objectives. This structure seeks to facilitate a constant flow of information between the technical, administrative, and executive areas, promoting comprehensive management and coherence with corporate goals.

The cross-cutting integration of sustainability across all areas fosters effective collaboration and leverages sustainable innovations to address current and future challenges.

Climate management and sustainability are cross-cutting priorities in institutional policies, with a significant financial and reputational impact. Proper integration allows the organization to anticipate risks, identify value opportunities, maintain stakeholders and markets, and ensure business continuity amid changing scenarios. For the Panama Canal, it is of utmost importance to integrate these priorities, as they reinforce governance, strengthen operational resilience, and position the organization as an international benchmark in sustainability and the responsible management of strategic resources.

Human Capital

The Panama Canal acknowledges that extraordinary operational performance is driven by the commitment and capacity of its workforce. Each member contributes knowledge, experience, and professionalism, actively contributing to the efficient and sustainable management of the interoceanic waterway. It makes great efforts to promote growth, training, and teamwork, convinced that collective effort is paramount to meeting the high standards and historical challenges that distinguish this company. In accordance with Organic Law No. 19 of June 11, 1997, the Panama Canal Authority operates under a special labor regime —based on a merit system— and adopts a General Employment Plan. The Canal ensures equal opportunities and has zero tolerance for discrimination and sexual harassment, supported by robust regulations, strict monitoring, and continuous staff training to protect these practices.

Distribution by age group

Age range	Employee	Permanent	Project-based contract exceeding one year	Replacement position exceeding one year	Project temporary role	Replacement temporary role	Total
<= 25		28	2	1	56	385	472
26 to 30			14		132	346	737
31 to 35		448	16	2	141	216	823
36 to 40		840	19	4	104	158	1125
41 to 45		1007	16	5	64	71	1163
46 to 50		1061	11	3	56	44	1175
51 to 56	7	1751	5		15	16	1794
57 to 60	3	1133	5		6	3	1150
61 to 62		319	1		1		321
63 to 65	3	88	1		6	5	103
>65	1	148			1	1	151
Total	**14**	**7068**	**90**	**15**	**582**	**1245**	**9014**

Total workforce at the end of fiscal year 2025

9,014

Workforce by province of birth

Province	Permanent	Temporary	Total	%
Bocas del Toro	52	16	68	0.75%
Chiriquí	352	112	464	5.15%
Coclé	154	67	221	2.45%
Colón	2001	567	2568	28.49%
Comarca Kuna Yala	9	3	12	0.13%
Comarca Ngobe-Buglé	2	0	2	0.02%
Darién	47	8	55	0.61%
Foreigner	8	0	8	0.09%
Herrera	108	35	143	1.59%
Los Santos	73	18	91	1.01%
Naturalized citizen	16	2	18	0.20%
Panamanian citizen born abroad	81	9	90	1.00%
Panamá	3996	1035	5031	55.81%
Veraguas	183	60	243	2.70%
Total	**7,082**	**1,932**	**9,014**	

Workforce by type of appointment

Employees by appointment type	Women	Men	Total
Employee	3	11	14
Permanent	810	6258	7068
Project-based contract exceeding one year	35	55	90
Replacement position exceeding one year	5	10	15
Project temporary role	72	510	582
Replacement temporary role	197	1048	1245
Total	**1122**	**7892**	**9014**

Permanent employee count

Employee	14
Permanent	7068
Permanent Total	**7082**

Temporary employee count

Project-based contract exceeding one year	90
Replacement position exceeding one year	15
Project temporary role	582
Replacement temporary role	1245
Temporary Total	**1932**

At the end of fiscal year 2025, the organization was made up of 9,014 people, distributed in various contractual modalities and age ranges. The majority are permanent employees, which represent more than 78% of the total workforce (7,068 people), while temporary roles associated with projects, replacements, and other modalities add up to 1,932 employees, providing operational flexibility and capacity to respond to specific needs during the period assessed.

The age distribution shows a higher concentration among employees between 31 and 56 years old, a range that groups about 72% of the people registered. The segments of 46 to 50 years old (1,175 people), 51 to 56 years old (1,794 people) and 41 to 45 years old (1,163 people) are prominent, reflecting a workforce with extensive experience and professional trajectory. At the same time, representation across nearly all age groups contributes to a balanced combination of younger talent and more professionally mature profiles.

From the territorial perspective, the highest proportion of employees comes from the province of Panama, with approximately 55.8% of the total, followed by Colón with about 28.5%, and Chiriquí with 5.2%. All the provinces of the country are represented, including indigenous reservations such as Guna Yala and Ngöbe-Buglé, in addition to a small fraction of foreign-born and naturalized individuals. This distribution reflects the national scope of the organization and the presence of both local and international components.

In terms of gender and appointment status, there is still a greater participation of men than women in all recruitment categories. Likewise, permanent appointments account for most positions of a functional and longer-term nature, while temporary hires are mainly linked to specific project activities and specific requirements or operational support.

Overall, it shows an organization with generational diversity, a wide territorial presence, and high levels of stability in the labor relationship, complemented by flexible mechanisms that allow the staff to adjust to the changing demands of the environment. These attributes reinforce the institutional capacity to manage operations sustainably and address the challenges of the reporting period, in line with a vision oriented towards continuity, efficiency, and responsible management of the human capital.

Occupational Health and Safety

The Panama Canal promotes working conditions that prioritize the safety, health, and comprehensive well-being of its personnel, proactively addressing occupational risks to ensure continuity and quality in its operations. The implemented actions encompass a wide range of programs and services, including medical and nursing assistance, psychological support, physical strengthening activities, job simulation, crisis response, physical rehabilitation, and addiction counseling, as well as psychological evaluations and organizational climate assessments. The Canal also implements first aid initiatives, accident prevention campaigns, industrial hygiene and occupational health controls, audits, and safety training, along with recreational programs aimed at encouraging the well-being and integration of employees through exercise and sports. Systematic monitoring and regulatory compliance help reduce accidents, prevent illnesses, and maintain high productivity standards across the organization.

Corporate Policies

Regulations

The Ethics and Conduct Regulation of the Panama Canal Authority establishes the principles and standards that guide the behavior of all officials and employees, promoting integrity, impartiality, and professionalism in their actions. In addition, the organization has an Ethics Program that promotes high ethical standards and the corporate values of transparency, honesty, competitiveness, loyalty, responsibility, and reliability, integrating them into all operations and internal and external relationships. These guidelines — together with the program— seek to ensure that all stakeholders adopt and practice these principles, favoring ethical and sustainable management, and preventing conflicts of interest and conduct that may negatively affect the company's reputation.

In addition, the Panama Canal Authority has fundamental regulations that guide internal management: the Personnel Administration Regulation, established by Agreement No. 21 of July 15, 1999, of the Board of Directors, establishes the principles, processes, and conditions for managing human resources. Meanwhile, the General Procedural Regulation of the Labor Relations Board, created by Agreement No. 18 of June 1, 1999 of the Board of Directors, regulates the processes and rules for resolving labor matters between employees, unions, and the Administration, ensuring transparency, equity, and compliance in the professional and labor management of the organization.

Institutional Performance

In the Panama Canal, there is a performance bonus system for employees, based on two main mechanisms: the Individual Performance Assessment (EVD), which considers personal contribution; and the Corporate Performance Index (IDC), which measures the collective achievement of the entire organization. The company's approach is to assess both individual and institutional performance, integrating this evaluation into its incentive framework to foster productivity and the achievement of corporate objectives

Training and Development Programs

The sustainability of the Panama Canal depends, to a great extent, on the ability to have qualified personnel and leaders prepared to face present and future challenges.

There are five training course categories available to employees: Values, Ethics, and Conduct; Emergency Response; Leadership and Teamwork; Safety; and Personal Safety.

The most outstanding courses in each of the five categories, which generated the greatest contribution to the IDC during FY 2025, were:

CATEGORY	COURSES	TRAINED EMPLOYEE BY CATEGORY
Values, Ethics and Conduct	2025 Annual Ethics and Values Review	2,579
	2024 Annual Ethics and Values Review	1,840
	Canal Identity: At the Heart of the Canal	378
Emergency Response	First Aid, CPR, and AED	3,356
	Building Evacuation – Employees	852
	Alert and Protection	176
Leadership and Teamwork	Process Management and Operational Excellence	466
	Personal Leadership V2	457
	The Best of Teamwork	353
Safety	Personal Safety and Social Responsibilities	1,280
	Authorization to Work at Heights	753
	Insured from the First Day: Onboarding for New Employees	283
Personal Safety	Prevention of Slips, Trips, and Falls	2,339

The following programs are highlighted as key strategic advances to ensure the continuity of personal development:

Leadership Program: The Leadership Program continues, whose primary objective transform Canal leaders at all levels to ensure successful execution of the organizational strategy and reinforce the sustainability of the business. This program —designed across 3 levels— is structured in four thematic axes: leadership, management, business and legal framework, providing comprehensive training aligned with the strategic challenges of the organization.

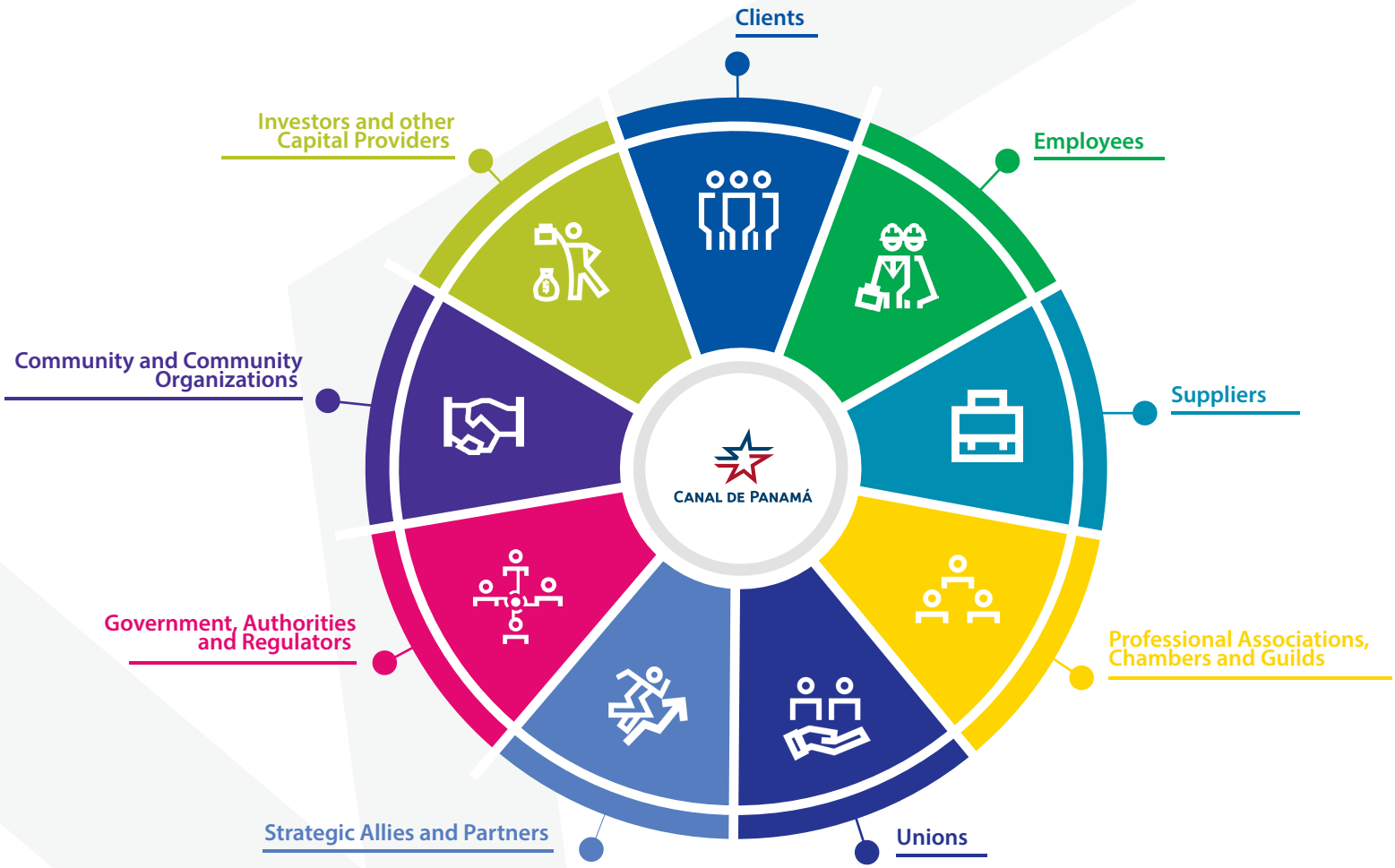
Diploma in Logistics: Participation of 5 employees in a Diploma in Logistics, strengthening key competencies for efficient logistics chain management. This training supports the optimization of critical processes for Canal operations, contributing directly to competitiveness and the ability to respond to global trade demands, which represents an essential element for business sustainability.

Executive Master's Degree in Business Administration (EMBA-INCAE): Participation of 15 employees in the Executive Master's Degree in Business Administration, which will continue in 2026. This initiative strengthens strategic leadership by preparing leaders for decision-making in complex global environments. It reinforces the ability to anticipate challenges, promote innovation and maintain the competitiveness of the Canal, another fundamental pillar.

Development programs: During the period, approximately 650 employees received training for positions essential to Canal operations, covering technical, administrative, and maritime programs. The roles covered linehandlers, electricians, industrial equipment mechanics, water treatment plant operators, transit booking coordinators, clerical training officers, pilot bonus and rotation technicians, locomotive operators, tug officers and captains, divers, firefighters, electromechanics, crane operators, welders, among others. This initiative is key to the sustainability of the business because it ensures the availability of highly qualified staff in critical roles, mitigating risks associated with retirements and shortage of specialized talent, as well as supporting operational continuity in an increasingly demanding global environment.

Stakeholders

Panama Canal stakeholders include customers, employees, suppliers, communities and their organizations, national authorities, unions, guilds, chambers and associations, strategic allies and partners, and entities of the Panamanian State. Each stakeholder is incorporated into the institutional strategy according to the role it plays in different areas of the Canal, recognizing its relevance for the sustainability and efficient management of the interoceanic waterway. Thus, the Canal adapts its management and communication approach to meet the specific needs, expectations, and contributions of each key actor, ensuring an effective integration that strengthens the Canal's mission and its impact on national development.

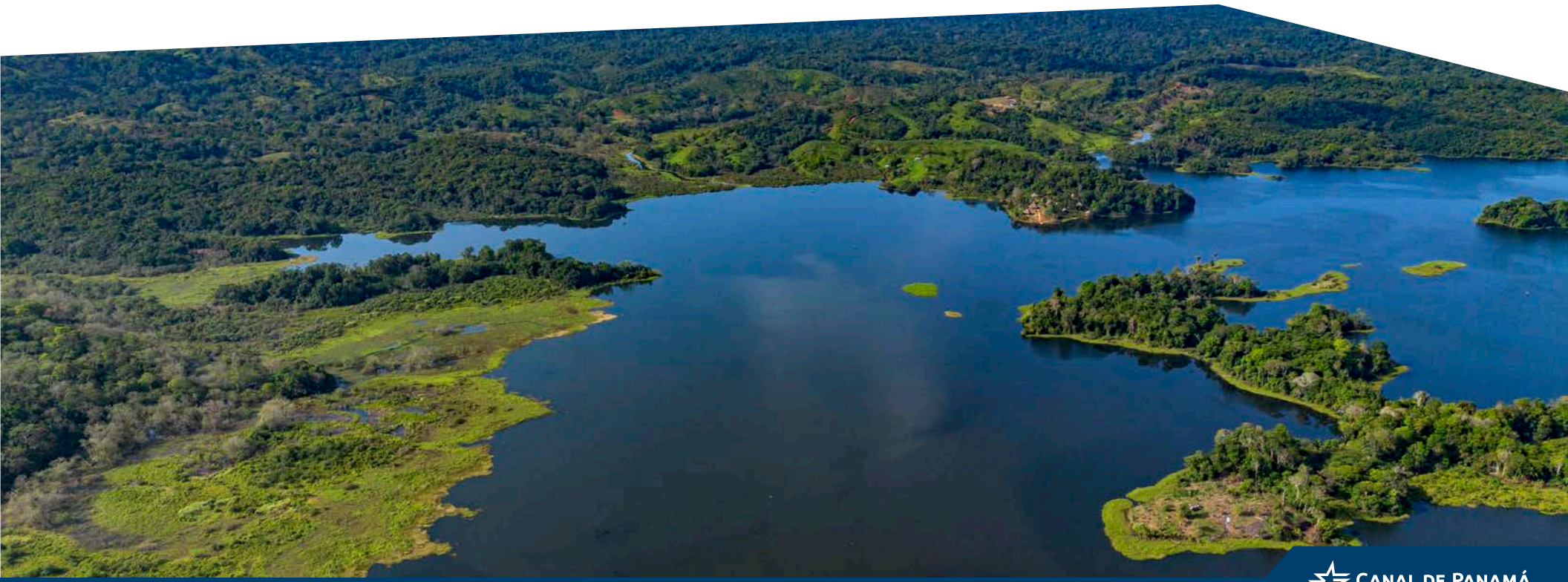


Sustainability

Since 2002, the Panama Canal has consolidated a strategic agenda aligned with the 10 United Nations (UN) Global Compact Principles and, since 2015, with the Sustainable Development Goals (SDGs). Key sectoral commitments include achieving decarbonization by 2050, integrating and securing water resource management (notably through the Water for the Future project, the Río Indio Lake), and operational transformation through digitalization, automation, and the expanded green logistics services. All these initiatives strengthen the country's competitiveness and its contribution to global climate action. The Canal continues to invest in both technology and sustainable infrastructure to ensure competitiveness, climate resilience, and a positive impact for Panama and the region.

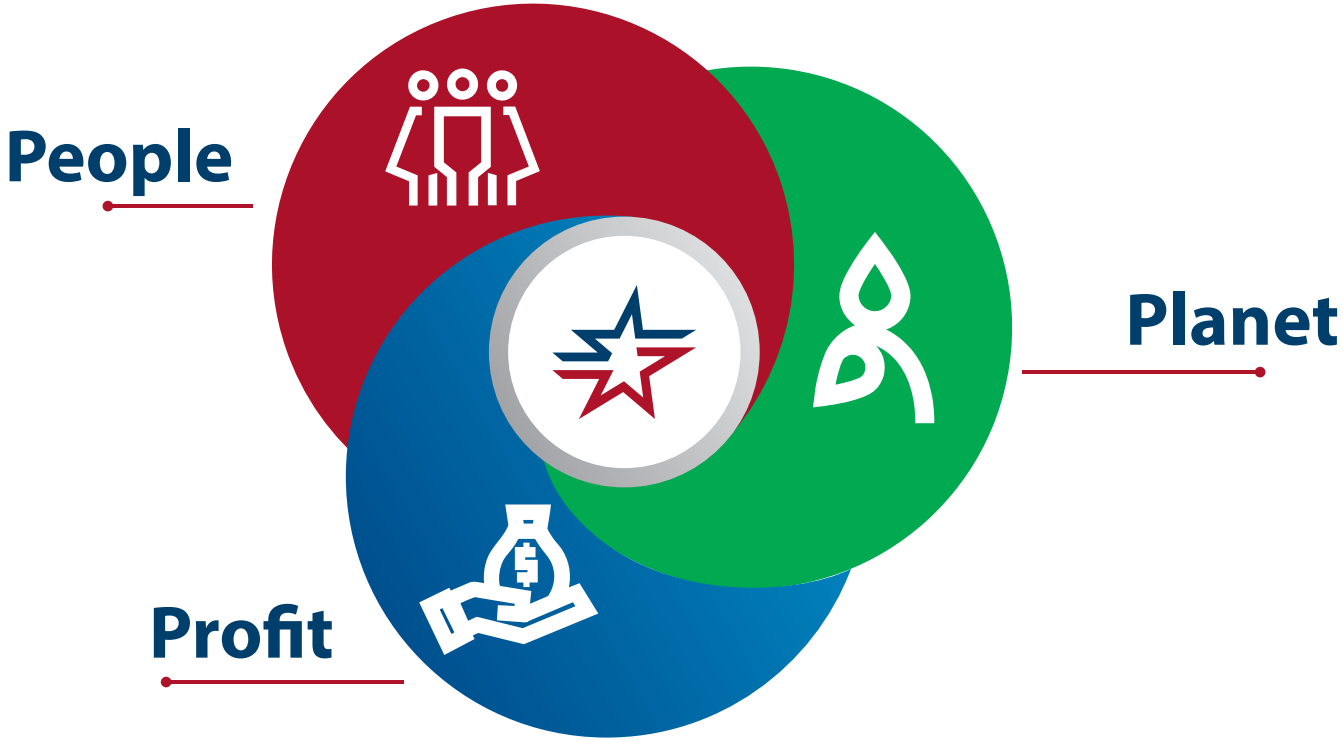
The Canal contributes to more than 5% of Panama's gross domestic product (GDP), and its revenues, surpluses, and derived services play a crucial role in the national economy, social development, and the country's international standing. The Canal is internationally recognized for its efficiency, transparency, technological adaptation, and leadership in biodiversity conservation, carbon footprint reduction, sustainable water use, and the promotion of projects that foster the prosperity of surrounding communities and the country.

The Panama Canal prioritizes water security, ensuring a reliable supply of drinking water for over two million people and the uninterrupted operation of the Canal. The Canal also develops flagship projects such as Agua del Futuro (Water for the Future) —with the Río Indio Lake— to increase storage capacity and national water resilience. These efforts further enhance the wellbeing of the population and the Panamanian economy, by mitigating the risks associated with droughts and climate variability



Sustainability Strategy

The Panama Canal leads the implementation and monitoring of a comprehensive sustainability strategy centered on decarbonization and strengthening climate resilience through adaptation measures, with the purpose of transforming the management and operations of the Canal, within a framework of technological innovation, operational efficiency, and international collaboration.



The strategy promotes sustainable development through a comprehensive triple bottom-line approach: People (Social Equity), Planet (Environmental Stewardship), and Profit (Economic Viability), generating for Panama and the region. Sustainable and climate-resilient development largely depend on global progress in mitigating climate change. As the pace and intensity of warming increase, so does the risk of exceeding adaptation limits. For this reason, the Panama Canal's climate action focuses its efforts on two key fronts: mitigation and adaptation.

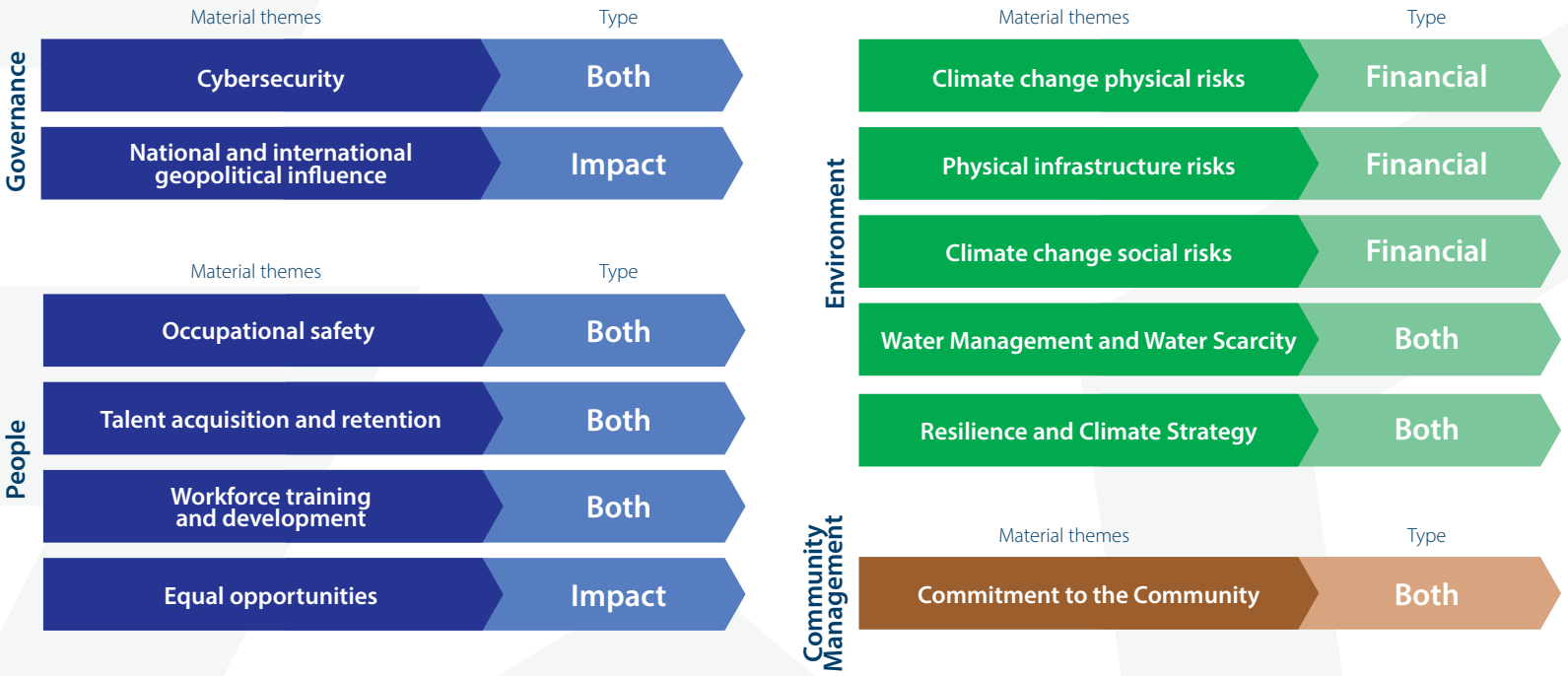
This strategy is based on the responsible management of water resources, the decarbonization of maritime transport, the strengthening of climate resilience, and the creation of prosperity for the Panamanian people and State.

Double Materiality Analysis: Identification of Priority Areas

A Double Materiality Analysis was conducted, identifying 12 material themes that encompass both impact materiality, i.e., the effects of the Canal on the environmental, social, and economic context; and financial materiality, which considers the influence of external factors on the organization's management and performance. Among the most strategically significant issues are water management and climate resilience; socioeconomic development and engagement with the communities of the watershed; technological innovation; occupational safety; and the training and development programs for employees. These topics represent key areas of action to advance the Panama Canal's comprehensive sustainability efforts.

An area not classified as material does not mean it is irrelevant to the management of the Panama Canal; rather, it reflects its relative priority compared with other issues that have greater significance or likelihood of impact.

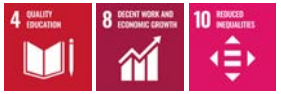
In addition to these double materiality issues, the analysis identifies emerging issues, which are areas that do not currently meet the materiality threshold, but show clear signs of increasing relevance due to regulatory, technological, social, or environmental trends. Examples include the risks associated with energy transition, innovation and the use of advanced technologies, and climate justice and participatory governance, all of which are becoming increasingly important.



Note: "Both" refers to the issue in question was identified as material in both relevant materiality matrices: the impact materiality matrix and the financial materiality matrix.

This study identifies the impact materiality themes, which are presented in the diagram below. The graph also illustrates their alignment with the United Nations Sustainable Development Goals (SDGs) and their contribution to the 2030 Agenda, based on their relationship between the organization and its external environment.

SDG 17 remains as a cross-sectional component throughout all material topics.

MATERIAL THEME	SDG	MATERIAL THEME	SDG	MATERIAL THEME	SDG
National and international geopolitical influence		Energy Efficiency Management		Workforce training and development	
Financial performance		Innovation and technology use		Employment relations	
Cybersecurity		Human rights due diligence		Occupational safety	
Energy transition risks		Talent acquisition and retention		Commitment to the Community	
Resilience and Climate Strategy		Equal opportunities		Socio-environmental investment in the watershed	
Water Management and Water Scarcity					

In addition, non-proactive management issues were identified. These are topics that are not prioritized by stakeholders because they are generally already managed by the organization in a structured, anticipatory, and transparent manner. Examples include ethics and transparency, corporate governance, the stability and compliance of the legal framework, supplier management, and certain aspects of the labor and human talent agenda, all of which are already embedded in established policies, processes, and controls.

Together, these issues make up a broad sustainability agenda in which material topics define the immediate focus of action. The emerging issues guide monitoring and preparation for the future, and non-proactive management areas require maintaining and refining existing practices to ensure their sustained effectiveness over time.

Milestones for 2024 - 2025 Period

Decarbonization and Operational Sustainability

The Panama Canal promotes decarbonization as a strategic process aimed at the progressive and sustainable reduction of greenhouse gas emissions associated with its operations and services. This approach seeks to transform the energy and operational models of the interoceanic waterway through the adoption of clean technologies, greater resource efficiency, and the integration of sustainability criteria into decision-making processes.

Setting Decarbonization Targets for by 2050

The Panama Canal reaffirmed its commitment to reach net zero emissions by 2050, integrating this goal into its institutional strategy, with intermediate targets in 2030 and 2040. Measures include electrifying the vehicle fleet, incorporating renewable energies, incentivizing low-carbon ships, and developing maritime and digital green corridors. A comprehensive strategic transformation of the business model is planned to fully integrate sustainability into the institutional strategy and all management processes.

Scopes 1 & 2

Goals	2030	2035	2050
Percentage Reduction	45%	60%	100%
Reduction in KtCO2(e):	177.0	236.0	393.3

Scope 3

Goals	2030	2035	2040	2050
Percentage Reduction	20%	30%	70%	100%
Reduction in KtCO2(e):	5,892.6	8,838.9	22,097.3	29,463.0

Scope 1: Direct emissions from sources controlled by the organization (vehicles, auxiliary vessels, power plants, fuels).

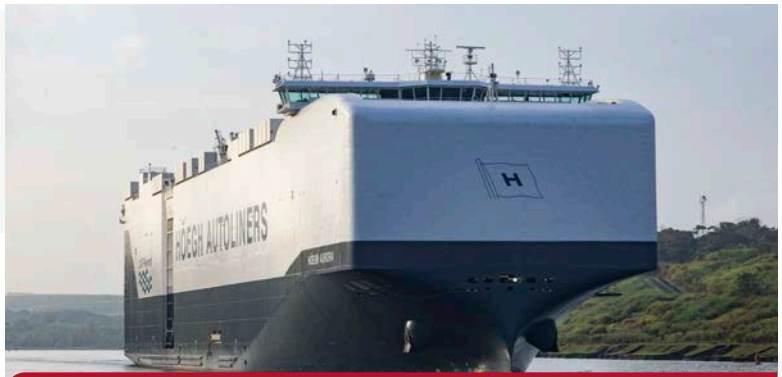
Scope 2: Indirect emissions from the acquisition and consumption of electricity.

Scope 3: Other indirect emissions associated with value chain activities (suppliers, maritime transport, business travel, waste disposal).

Development of the Greenhouse Gas (GHG) Inventory FY-2024

The Panama Canal completed its greenhouse gas (GHG) inventory for fiscal year 2024, following the guidelines of the Greenhouse Gas Protocol (GHG Protocol) and covering scopes 1, 2 and 3. The report reflects a total of 28,412,242 tCO2e, distributed in 383,752 tCOe for scope 1, 11,129 tCOe for scope 2, and 28,017,361 tCOe for scope 3. This represents a 5% reduction in total emissions compared to the previous period, driven by a revised calculation methodology and variations in maritime traffic between 2023 and 2024.

Main Decarbonization Initiatives



NetZero Slot

In October 2025, the Panama Canal launched the "NetZero Slot" reservation system, a pioneering initiative in the maritime industry aimed to promoting decarbonization of maritime shipping. This special weekly quota for Neopanamax vessels equipped with low-carbon technologies, is available to dual-fuel vessels whose full cycle carbon intensity is equal to or less than 75 gCO,e/MJ, such as green methanol, green ammonia, or bio-LNG, among others.

The initiative recognizes early investments in energy efficiency andalternative fuels, even before they are fully available in the region, reaffirming the Canal's commitment to progressive emissions reductions and the institutional goal of net zero emissions by 2050.

Acquisition of hybrid tugboats

The Panama Canal advanced the acquisition of ten hybrid tugboats, with an option to purchase an additional ten, and received the first in June 2025. This equipment, which combines electric propulsion and diesel engines, improves the operational efficiency of the fleet, aligning with decarbonization objectives and the goal of achieving net zero emissions by 2050.

Development of biofuel testing

In 2024, the Panama Canal conducted renewable diesel trials on the Cerro Pando tugboat as part of its decarbonization roadmap. The objective was to evaluate operational performance and emission reduction by using blends of renewable diesel and conventional diesel at different proportions: 25%, 50%, 75%, and 100% renewable diesel. These trials provided valuable insights on the technical and environmental feasibility of integrating renewable fuels into the Canal's maritime operations.

Electric vehicle procurement

In 2025, the Panama Canal advanced its transition to a more sustainable land fleet by incorporating 20 new electric vehicles, bringing the total number of electric vehicles in operation to 51. This milestone reinforces a process that began years earlier with the acquisition of its first fully electric vehicle for internal operational use. These units are integrated across administrative and ground support operations, in alignment with the decarbonization strategy and with the Canal's commitment to reduce its emissions.

Contract award for the construction of a photovoltaic plant

The Panama Canal awarded the construction of a photovoltaic plant in Cocolí as part of its energy diversification and operational emissions reduction strategy, with operations projected to start operations in January 2027. This facility is expected to generate approximately 26 GWh per year, covering about 15% of the Canal's total energy consumption.

Collaborations and Strategic Partnerships

The Panama Canal acknowledges that decarbonization requires global collaboration and joint efforts. Through strategic partnerships, multilateral agreements, and technical studies, the groundwork is being laid for a transition to more sustainable and efficient maritime operations. These initiatives, which include technological innovation, clean energy supply, digitalization, and the development of green corridors, are progressing through planning and pilot phases, reinforcing the Canal's commitment to reducing emissions and optimizing maritime transport.

The Panama Canal has strengthened strategic partnerships and collaborations that focus on fuel savings models, energy efficiency and reduction of greenhouse gas emissions. Among the main initiatives are:

Blue Visby Solutions:
In August 2024, a Memorandum of Understanding (MoU) was signed with Blue Visby Solutions to collaborate on the technological initiative based on the development of a digital twin that uses advanced algorithms allowing simulations to optimize ship navigation from the port of origin to the Canal and seeks to reduce fuel consumption and greenhouse gas emissions. The project consists of the following phases:

Phase 1: Simulations with historical data.

Phase 2: Simulations with real-time data.

Phase 3 (ongoing): Studies for the implementation of a pilot.

Currently, the first two phases have been completed with significant potential results in reducing emissions, and studies are being carried out for the third phase, corresponding to the implementation of a pilot.

Stillstrom:
In December 2024, the Canal signed an MoU with Stillstrom to develop studies on the supply of electrical power to anchored ships using buoys. This initiative aims to reduce ships' fuel consumption, reduce GHG emissions, and facilitate access to clean energy for vessels at anchor.

Green Maritime Corridors

Green corridors are routes that drive the decarbonization of shipping through the availability of green and low-carbon fuels. This contributes to strengthening sustainability in maritime operations while promoting digitalization to optimize processes, and reduce fuel consumption and greenhouse gas (GHG) emissions. The Panama Canal participates in various green corridor initiatives, including:

Green Maritime Corridor with the Port Authority of the Bay of Algeciras:

In June 2025, an MoU was signed to carry out studies to assess the potential demand for low-carbon fuels on the routes connecting both ports, the stakeholders involved, the technical and economic feasibility for the adoption of these fuels, and the necessary infrastructure for their storage and supply. The studies also address the digitization of processes, the strengthening of technical capacities, and the use of sustainable practices. The roadmap defining the next steps was completed in September 2025.

Mærsk Mc-Kinney Møller Center (MMMC) for Zero Carbon Shipping:

In October 2024, the Panama Canal became a Mission Ambassador of the Fonden Maersk Mc-Kinney Møller Center for Zero Carbon Shipping, with the purpose of contributing to the research, innovation, and development of technologies and solutions to accelerate decarbonization of the maritime industry.

In addition, in October 2025, the Green Maritime Corridors Incubation Workshop was held in Panama jointly with MMMC, during which the Pre-Feasibility Study of Green Corridors in Panama was presented. The workshop brought together public and private stakeholders in an open and collaborative dialogue to assess and prioritize the corridors identified. This participatory process ensures that only corridors with firm stakeholder commitment advance to the next phase, optimizing resources and strengthening the project's viability. Currently, working groups are being established to focus on maritime green corridors that promote the use of low-carbon fuels such as biofuels and methanol.

Academic Partnerships

In September 2024, an MoU was signed with the Georgia Tech Panama Foundation, Norwegian School of Economics (NHH), Liverpool John Moores University (LJMU), Maritime Technology Cooperation Centre Latin America (MTCC Latin America), International Maritime University of Panama (UMIP), Technological University of Panama (UTP), and the United Nations Department of Social Affairs. The objectives are capacity building, knowledge sharing and publication of various scientific research.

Then, in February 2025, two workshops on maritime analytics and technical solutions for decarbonization were held, in collaboration with the Norwegian School of Economics, Liverpool John Moores University, MTCC Latin America, and Panamanian universities (UMIP and UTP). These training courses strengthened the skills of technical staff in ship emissions modelling and data analysis.

Sustainability and Climate-related Risks and Opportunities

The region faces a complex landscape of climate-related physical and transition risks. Physical risks include extreme events such as increasingly frequent and severe droughts, historic floods, sea level rise, and greater temperature variability. In addition, transition risks are intensified by regulatory, technological, and market changes associated with global decarbonization efforts and evolving international standards.

During the 2023 drought, the Panama Canal implemented a dynamic transit and revenue management system to optimize the use of water resources while maintaining the waterway's profitability. As lake levels declined, daily transits were progressively reduced, and a transit booking system and slot auction were implemented to enable reservations in advance and priority passage auctions, favoring vessels with higher economic contributions. This enhanced the revenue management system implemented by the Canal, mitigating the financial impact of reduced transit volumes by improving operational and financial efficiency, despite the adverse water context.

In 2024 and 2025, the Panama Canal reinforced its sustainable territorial development approach in the Panama Canal Watershed, prioritizing water resilience and improving the well-being of communities. Progress has been made in expanding the Environmental Economic Incentives Program (PIEA), which currently includes land titling initiatives, agricultural technical support, constant training in agroforestry practices, and direct support for restoration and conservation projects, carried out jointly with local stakeholders. These efforts strengthen capacity building and promote an effective integration between economic development and social responsibility. The Canal's approach fosters inter-institutional partnerships and promotes innovative solutions to address climate change challenges, ensure the sustainability of water resources, and generate lasting economic and social benefits throughout its watershed.

In this context of innovation and institutional strengthening, it is essential to identify and leverage future areas of growth. Opportunities include consolidating leadership in reducing maritime emissions, access to climate funding, and expanding renewable energy projects and nature-based solutions, all in close collaboration with maritime stakeholders and local communities.

Resilience and Risk Management

Climate Resilience

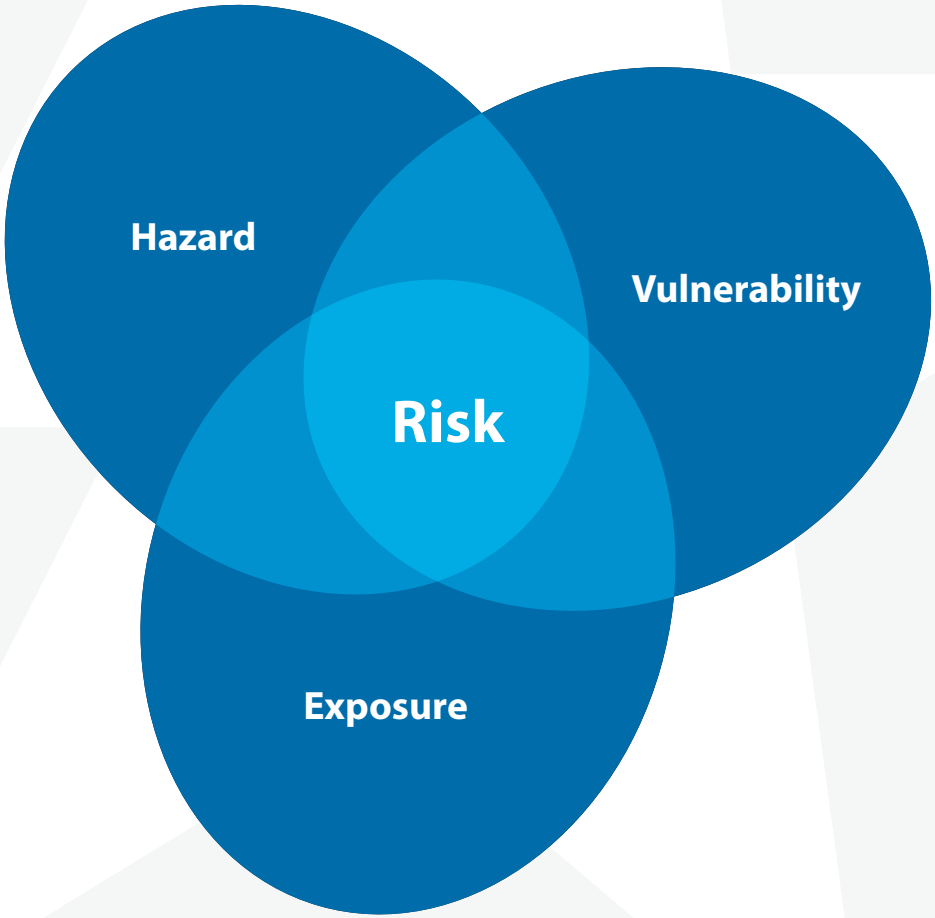
The Panama Canal enhances climate resilience by strengthening the capacity of people, communities, ecosystems, and waterway operations. Its actions focus on anticipating, absorbing, adapting to (or recovering from) the effects of adverse events in a timely and efficient manner, while maintaining and improving essential structures and functions. Additionally, the Canal promotes learning, reorganization, and transformation processes that support long-term sustainable resilience.

Climate Risk Assessment

The Panama Canal developed a Climate Risk Assessment (CRA), providing a comprehensive analysis of both physical and transition climate risks, to assess potential impacts on operations, local populations, and ecosystems in the Eastern Watershed. Key physical risks identified include alterations in the hydrological cycle and prolonged droughts, variability in the rainfall patterns caused by phenomena such as intensified El Niño and La Niña (ENSO), sea level rise, rising average temperature, xtreme weather events, increased lightning activity, and compounded risk from the simultaneous occurrence of multiple climate hazards. Among these, drought represents the most imminent threat to the Canal. The 2023-2024 drought was approximately a 1-in-10-year event, but under future climate scenarios, such events are expected to occur every 1 to 6 years. The frequency of similar droughts is expected to increase by 2.5 times in the worst-case climate scenario.

Transition risks are associated with international regulatory changes, growing market pressures for decarbonization, and reputational risks with customers and stakeholders. These risks highlight the need to adapt processes and strategies to maintain competitiveness and meet global sustainability standards.

The interaction between hazards, the level of exposure and the degree of vulnerability was evaluated through the CRA process. In line with the recommendations of the Intergovernmental Panel on Climate Change (IPCC), climate risks are defined and prioritized based on the assessment of these three factors:
Hazard



1- **Hazard:** Potential occurrence of a natural or human-induced physical event that may cause loss of life, injury, or other health impacts, as well as damage and loss of property, infrastructure, livelihoods, service provision, ecosystems, and environmental resources.

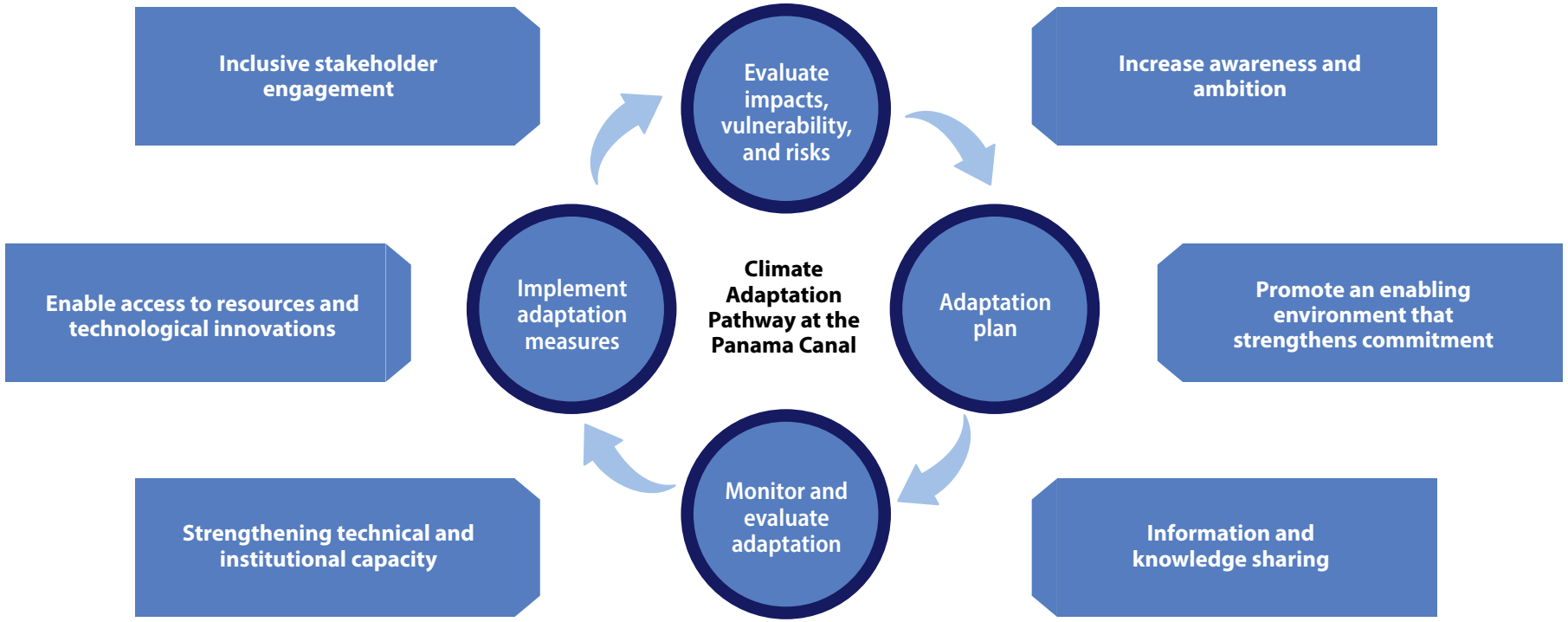
2- **Exposure:** The presence of people, species, ecosystems, and infrastructures; and the economic, social, or cultural assets that could be adversely affected.

3- **Vulnerability:** Propensity to be adversely affected. Susceptibility to harm or lack of ability to cope and recover briefly.

The assessment results are integrated into the evaluation and prioritization process for adaptation alternatives, ensuring informed decisions that enhance the Canal's climate resilience.

Adaptation Measures

As part of its commitment to climate action, the Panama Canal leads adaptation efforts designed to adjust ecological, social, and operational systems to withstand current and future climate impacts. These efforts involve changes in practices, procedures, and structures to reduce potential risks and leverage climate-related opportunities, strengthening the resilience of both the waterway and the communities that depend on it.



The unique design of the Panama Canal —composed of a system of lakes and locks that rely on freshwater— places it at the forefront of infrastructures challenged by climate change.

Rising temperatures and changes in hydrological patterns are key factors that are monitored to ensure the availability of volume and quality of drinking water, as well as the operation of the Canal.

The World Meteorological Organization (WMO) indicated that the years 2023 and 2024 have been the warmest on record since 1850, with a global temperature increase of 1.45 °C and 1.55 °C, respectively, compared to pre-industrial levels.

In 2023, the Panama Canal Watershed experienced its third-driest year since 1950, with total rainfall 30% below average.

In November 2022, the Canal's Hydrometeorology Division (HIM) forecasted a delayed start to the rainy season and below-average rainfall for April, May, and June 2023. This early warning allowed the Canal to take timely action during the severe drought, intensified by the 2023–2024 El Niño event, which required implementing water-saving measures.

Adaptation Measures supporting the Panama Canal's Resilience

1 Water-saving measures at the Panamax locks for greater efficiency

- Integrated cross-filling system (Panamax) and Water Saving Basins (Neopanamax) to conserve freshwater from Gatun Lake.
- Lockages using intermediate gates (short chambers) to preserve water.
- Operational efficiency with two vessels simultaneously.
- Minimization of direction changes between northbound and southbound traffic.

2 Financial innovations

The Canal implemented strategies to maintain revenues despite the reduced transits. Traditionally, ships could transit on a first-come, first-served basis or by booking in advance. However, in response to increased congestion and limited space availability during the drought:

- The Canal expanded the use of auctions, allowing customers to bid for available transit spaces.
- A long-term reservation system was introduced, providing greater predictability for both Canal operations and customers, optimizing slot allocation.

3 Decision-making based on hydrometeorological data

- Dashboard for daily monitoring and analysis of Atlantic and Pacific Ocean temperatures.
- Use of data for rainfall forecasting and guide operational decisions as an adaptation measure to climate change.
- Evaluation of climatic patterns (temperature, precipitation, evaporation, among others), flow management (water balance and reservoir regulation), demand and water quality for optimal use.
- Monitoring of saline intrusion variability (IAS) in the Gatun Reservoir. to ensure a quality water supply for human consumption and the operation of the Panama Canal.

4 Improve capacity to address socio-environmental risks

- State-of-the-art water laboratory with internal capacity to analyze and respond quickly to water-related incidents or emergencies.
- Assessment and improvement of rural aqueducts and sanitation systems.
- Land titling program that provides communities with opportunities to diversify their assets and agricultural practices.
- Socio-environmental sustainability programs: Environmental economic incentives; surveillance and monitoring; inter-institutional coordination; agribusiness and agrotourism; environmental education and culture; and strengthening of local actors.
- Surveillance to identify illegal activities such as logging, burning, or deforestation.
- Use of advanced GIS for analyzing and managing ecological restoration, vegetation recovery, biodiversity protection, and water sustainability.

The Panama Canal bases its adaptation initiatives on robust instruments such as the Climate Risk Assessment (CRA) and the Indicative Environmental Land Use Plan (PIOTA), which enables sustainable management and territorial planning in the Eastern Region of the Panama Canal Watershed. Emphasis is placed on the value of inter-institutional coordination and community participation platforms as essential pillars for sustainable water governance and biodiversity conservation, use of water resources, and conservation of biodiversity. These instruments outline strategies to promote orderly development of the territory, foster low-carbon economies, support climate change adaptation and mitigation, and protect key ecosystem services. In addition, they also recommend updating regulations, the formulation and implementation of comprehensive management plans for each sub-region of the watershed, and strengthening legal and financial mechanisms to ensure the environmental, social, and economic sustainability through 2050.

In 2024, the Annual Vegetation Cover Assessment Program came forth in coordination with the Ministry of Environment, and PIOTA's Communication Strategy was designed and implemented. On their part, the Inter-Institutional Commission of the Panama Canal Watershed (CICH) continued coordinating actions among governmental and non-governmental stakeholders, promoting initiatives that support the sustainable development and decarbonization of the Panama Canal Watershed. This work follows an integrated territorial management approach that prioritizes water conservation, climate resilience, and emission reduction through reforestation and sustainable land-use practices.

Socio-Environmental Management

Environmental Education and Culture

During fiscal year 2025, the Panama Canal Environmental Education and Culture (EyCA) team carried out a variety of activities targeting both Canal employees and schools within the Panama Canal Watershed (CHCP), reinforcing the institution's commitment to environmental education and the protection of water resources.

11
Regions in the Eastern and Western watersheds

184
Schools served

1,650
Students trained as *Guardianes de la Cuenca* (Guardians of the Watershed)

54,738
Students and teachers served (*Hechos del Canal* - Made of the Canal)

60
Teachers and delegates graduated from the EyCA course

58
Eco-educational tours

2,145
Educational community participating in eco-educational tours

933
Canal employees served through 11 internalevents

6,292
External services provided at 27 fairs

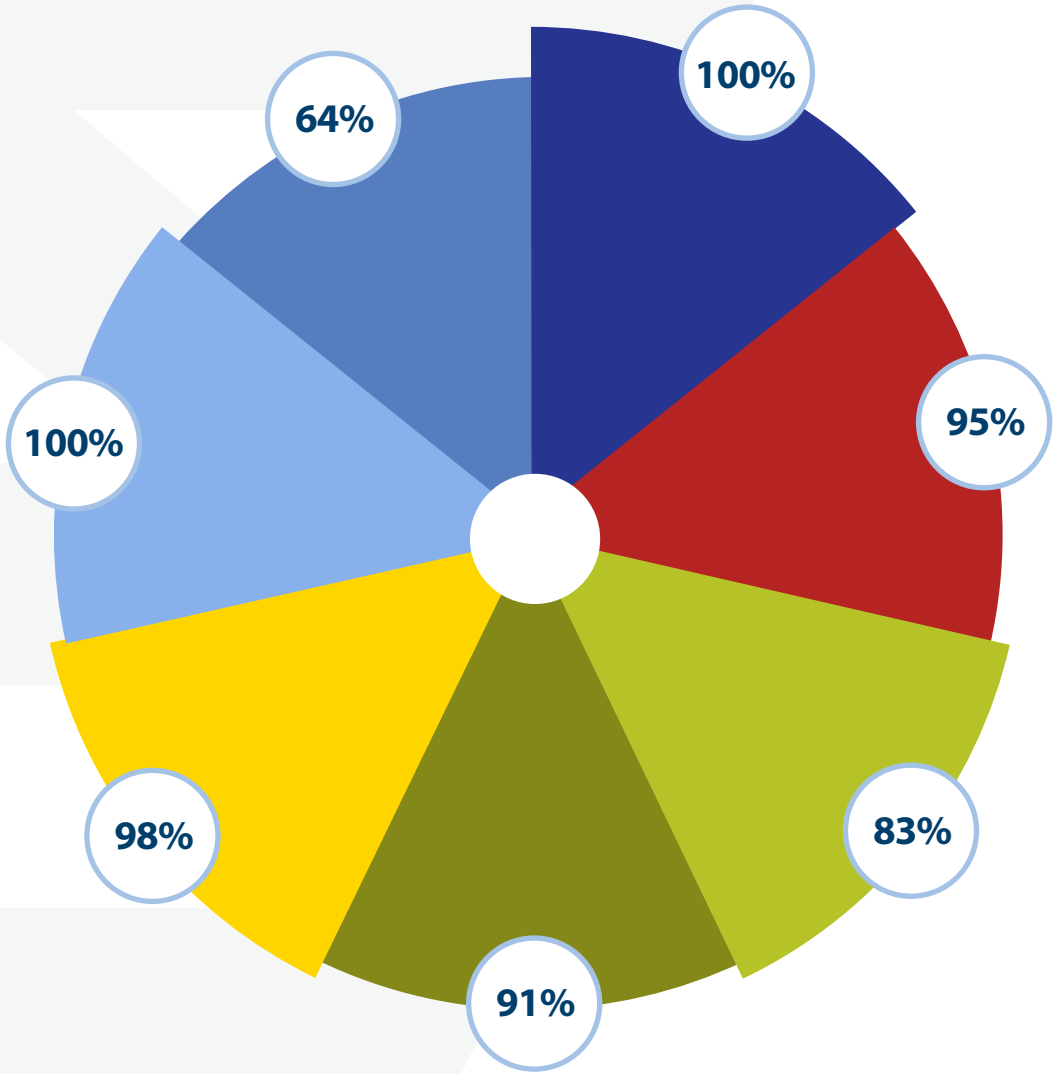
Guardians of the Watershed

In 2025, the Guardianes de la Cuenca (Guardians of the Watershed) Program reaffirmed its position as the leading environmental education initiative in the Panama Canal Watershed, having benefited more than 81,000 students and teachers over the past twenty years. The project promotes the development of environmental skills, youth leadership, and community engagement through training activities, water quality monitoring, reforestation, and collaborative projects.

Enviromentally-committed schools were certified, integrating new tools to evaluate educational actions and expanding the network of school groups in collaboration with the Ministry of Education, MiAmbiente, and international partners. The Program maintains a multidisciplinary approach, aligned with the Canal's Environmental Education and Culture strategy, promoting knowledge on water sustainability and student participation in environmental missions that transform their communities.

A total of 30 socio-environmental facilitators received specialized training and subsequently led workshops for 1,650 students from 29 educational centers within the Canal watershed. These students were grouped into 46 teams called Guardians of the Watershed, divided in three categories: Pioneers (4th to 6th grade), Leaders (middle school students) and Eagles (high school students). The Pioneer teams designed and carried out 28 environmental missions, while the Leaders developed 15 environmental projects. In addition, 46 Teacher Advisors organized 7 environmental festivals, one in each work region of the watershed, providing recreational spaces to share and socialize the experiences of the Guardians of the Watershed.

Cumulative Percentage of Schools Served during FY2025 Eastern Region of the Panama Canal Watershed (CHCP)



- Chilibre - Chilibrillo
- Transístmica Corridor - Colón
- Cirí - Trinidad
- 4S + Miraflores
- Chagres - Alhajuela
- Lacustrine Area of Gatún Lake
- Hules - Tinajones & Caño Quebrado

Youth Network for the Environment and the Panama Canal Watershed

La Red de Jóvenes por el Ambiente y la Cuenca del Canal de Panamá (Youth Network for the Environment and the Panama Canal Watershed) is an organization devoted to strengthening youth leadership in the protection and conservation of the region's water resources. The network has its roots in the Guardians of the Watershed Program, as many of its current members first participated in the initiative during childhood and now serve as an active, technologically dynamic voice within the Watershed Advisory Councils (CCs).

Currently, this youth network brings together around 120 young people between the ages of 15 and 30, distributed across the six water regions of the Eastern Watershed Region (ROR). Its strategic action plan includes training, recycling programs, solid waste management, educational activities in schools, and field days, all focused on water conservation. The Panama Canal continues to support this network through capacity-building activities, the development of five-year plans, the preparation of statutes, and the organization of environmental conferences, aligning its support with the specific mission and vision of each regional group.

The network has established itself as an essential and emerging actor in the socio-environmental governance of the Panama Canal Watershed, promoting youth participation and ensuring generational renewal in the sustainable management of water resources.

Hechos del Canal (Made of the Canal) Workshops

A total of 184 schools were served, with 144 of those in the Eastern Region (ROR) and 42 in the Western Region (ROCC), benefiting 54,738 participating students. They received the album "Hechos del Canal: 25 años en Manos Panameñas" (Made of the Canal: 25 Years in Panamanian Hands).

Eco-Educational Tours and Fairs

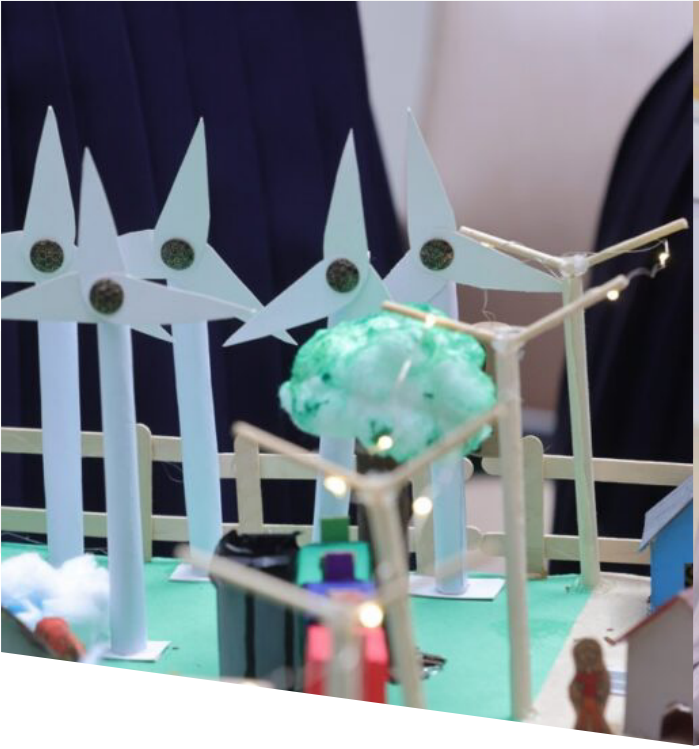
58 eco-didactic tours were carried out in the Miraflores, Agua Clara and Gatún visitor centers, as well as in the Museum of the Interoceanic Canal and the Santiago Interactive Center, reaching 2,145 students, teachers, and parents from the Eastern and Western Regions. Notably, 24 ROCC schools participated in visits to Miraflores and the Santiago Interactive Center. Furthermore, Canal staff participated in 27 fairs across the four provinces of the watershed, promoting sustainable socio-environmental management to 6,292 attendees, and in 11 internal activities such as communication meetings, line casting competitions, and health fairs, engaging 933 Canal employees.

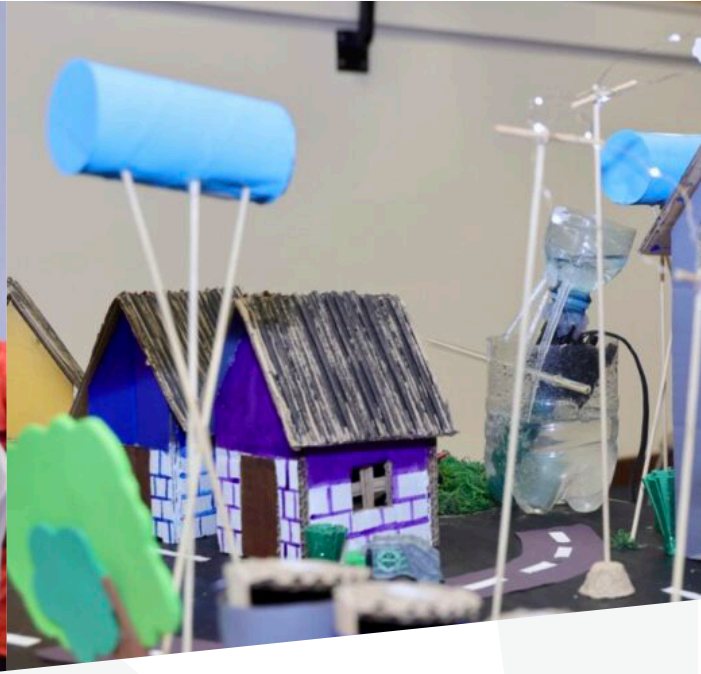
High-Level Course in Environmental Education and Culture

The course was successfully completed, with the graduation of 60 participants including teachers, members of the Youth Network and community delegates.

Rainwater Harvesting System at Bajo Bonito School

In 2025, the rainwater harvesting system project was inaugurated at the Bajo Bonito School, located in the Cirí Grande and Trinidad segment of the Panama Canal Watershed, through a partnership with Banistmo, Fundación Natura, and Panama RainWater. This initiative represents the first circular economy project established in a school in the country, integrating rainwater harvesting for kitchen and cleaning uses, electricity generation through solar panels, and the production of biogas and bio-fertilizer to support to food production in the school garden, benefiting more than 145 students. Additionally, a project with similar characteristics has been initiated at La Bonga School. Both schools are located in the Cirí and Trinidad working region.





EcoMaquetas (EcoModels)

EcoModels 2025 was the first model contest with recyclable materials organized by the Panama Canal, primarily targeting high school students from the Canal Watershed. The contest aims to promote creativity, ingenuity, and environmental awareness through sustainable projects related to the interoceanic waterway. The initiative seeks to engage students in environmental protection issues connected to Canal operations, promoting the responsible use of resources and sustainability among young people.

Integrated Urban Solid Waste Management (GIRSU)

13 community workshops on Integrated Urban Solid Waste Management were held in the regions of the Trans-Isthmian Corridor, Chilibre-Chilibrillo, and the lake area, engaging 580 people and achieving an overall attendance of 88.9%.

Reconstruction of Pedestrian Bridge using Recycled Plastic Materials

Through a partnership between the Panama Canal, the Latin American Bank for Foreign Trade (Bladex) and the Bottles of Love Foundation, an 81-meter pedestrian bridge built with more than 3 tons of recycled plastic was inaugurated. This is the second bridge that Bladex rebuilds with recycled plastic in communities in the Panama Canal Watershed, directly benefiting more than 300 people in the communities of La Peluca, San Juan de Pequení, Boquerón Arriba, and Boquerón Abajo.

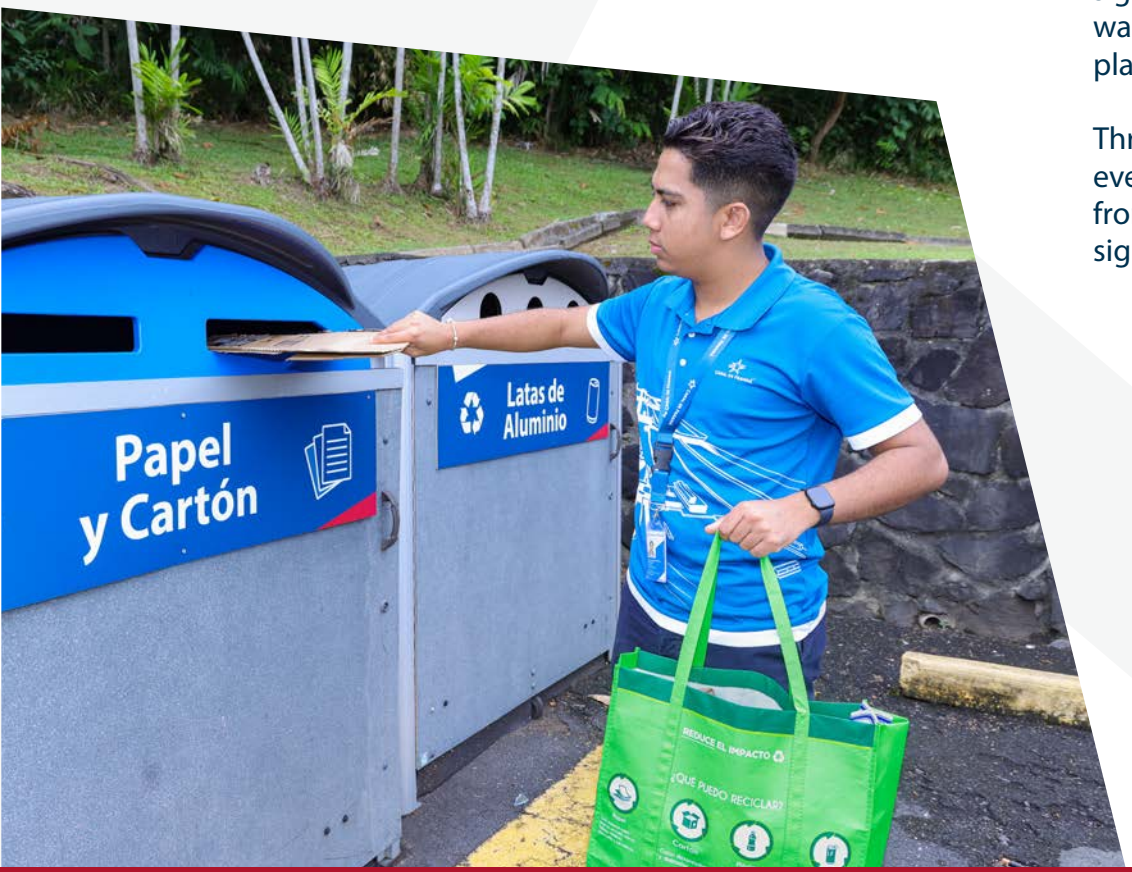
The project converts plastic waste into functional infrastructure that improves the mobility and safety of local residents, serving as a symbol of transformation, collaboration, and commitment to sustainability. The Bottles of Love Foundation played a key role in manufacturing the plastic profiles, while the Panama Canal contributed its logistical expertise to support implementation.

In addition, this initiative has been accompanied by awareness campaigns, plastic collection activities, and volunteer efforts involving employees from Bladex and the Panama Canal, demonstrating that sustainability is a shared responsibility.

Solid Waste Management Strategy and Corporate Environmental Culture

Corporate Recycling Program

The Panama Canal has a Corporate Recycling Program directed at its employees. Managed by the Environmental Education and Culture Team, this program promotes proper waste separation and disposal across work areas through 13 clean points equipped with containers for collecting aluminum cans, paper, cardboard, and plastics. During fiscal year 2025 (October 2024 – September 2025), the program collected a total of 35,151.72 kilograms of recyclable material through its regular monthly operations. This achievement reflects the organization's ongoing commitment to sustainable waste management and environmental protection, consolidating circular economy practices in corporate operations.



Analysis of the composition of collected materials reveals significant patterns in corporate waste generation. White paper was the most collected material, followed by cardboard, PET plastic, and aluminum cans.

Through a combination of regular monthly collections and special events, more than 35 tons of recyclable material were diverted from the Cerro Patacón Landfill during the fiscal year, making a significant contribution to the organization's sustainability goals.

Environmental Management System

Since its initial certification in 2003, the Panama Canal has maintained an Environmental Management System (EMS) certified under the ISO 14001 international standard. This system supports the identification and management of environmental risks and impacts, guiding Canal operations towards long-term resilience and sustainability. The areas of responsibility are classified into three pillars: the patrimonial and private administration areas, areas compatible with waterway operations, and the Eastern and Western Regions of the Panama Canal Watershed.

In 2024, the EMS reached a new milestone with its expansion to the Agua Clara and Cocoli Locks, two key operational areas that are now part of the certified system.

The Panama Canal's Environmental Management System (EMS) incorporates, in addition to ISO 14001:2015 requirements, detailed operational procedures and instructions for executing environmental monitoring and inspection programs across its responsibility areas, including operational zones, protected heritage locations, and other areas compatible with the Canal's operation and watershed. It also covers environmental monitoring programs and the systematic integration of the environmental criteria into the formulation, design, and management of investment projects, among other key initiatives.

The Panama Canal implements a rigorous and systematic program of environmental inspections and audits to ensure compliance with applicable regulations and the proper application of Environmental Management Plans (EMP) in all operational areas and related projects.

Environmental Monitoring Programs

The Panama Canal maintains a comprehensive set of corporate environmental monitoring programs designed to supervise and manage various critical components. The program covers environmental noise and gas emissions from fixed and mobile sources, air quality, and domestic and industrial wastewater generated by floating craft and water-oil separators. It also includes effluents from treatment systems located in Canal operational areas, as well as monitoring of surface water and sediments in the watersheds of the Indio, Coclé del Norte, and Miguel de la Borda Rivers.

Air Quality Management

Since 2007, the Panama Canal has conducted annual monitoring of emissions and air quality to ensure compliance with internal environmental regulations. This effort also generates systematic data to help define mitigation measures that protect public health and nearby ecosystems around Canal facilities.

Air Quality and Emissions Monitoring Program

The Emissions Surveillance and Monitoring Program for point sources in Canal Operational Areas tracks emissions from chimneys and other stationary sources, including the Miraflores Thermoelectric Plant.

This ensures compliance with Standard 2610HIP-110 and Executive Decree No. 5 of 2009, which set Panama's environmental limits for such emissions. Air quality monitoring stations operate monthly at key sites like the Miraflores Locks and Paraíso, plus the Agua Clara Locks and Ancón.

The program analyzes parameters such as carbon monoxide (CO), carbon dioxide (CO_2), nitrogen oxides (NO_x), sulfur dioxide (SO_2,) and particulate matter less than 10 micrometers in diameter (PM_{10}).

The Emission Surveillance and Monitoring Program for the Canal Vehicle Fleet tracks emissions from land equipment in operational areas, including cars and trucks. This ensures compliance with Environmental Standard 2610-HIP-112 for land vehicles and Executive Decree No. 38 of 3 of June 2009, which establishes emission standards.

This program analyzes parameters such as carbon monoxide (CO), carbon dioxide (CO2), and unburned hydrocarbons (HC) for gasoline and alternative fuel vehicles, and opacity for diesel vehicles.

The Emissions Surveillance and Monitoring Program for Canal Floating Crafts (tugboats, launches, boats, and dredges) ensures compliance with the maximum limits under MARPOL 73-78, Annex VI ("Regulations for the Prevention of Air Pollution from Ships"), the NOx Technical Code, and MEPC.103(49). It analyzes parameters such as oxygen (O2), carbon monoxide (CO), nitrogen oxide (NOx) (including NO + NO2 separately), and sulfur dioxide (SO2).

Environmental Noise Monitoring

Environmental noise monitoring occurs at four key operational sites, split between the Pacific and Atlantic regions, including the new Cocolí and Agua Clara Locks, to meet requirements from the environmental impact study approval resolution, Executive Decree No. 1 of 2004 (which sets noise levels for residential and industrial areas), and Executive Decree No. 306 of 2002 (which regulates noise control in public spaces, residential areas, and workplaces)

Wastewater Management

The Panama Canal runs a monitoring program for wastewater treatment systems, covering both onboard ship plants and those in onshore operational areas.

Meanwhile, the Effluent Quality Monitoring and Surveillance Program for Canal Wastewater Treatment Plants tracks effluents from these facilities to meet the HIP 2610-HIP-111 Standard for effluent discharge and verification methods, as well as the DGNTI-COPANIT Technical Regulation 35-2019.

In addition to air quality, emissions and effluent controls, the Panama Canal conducts specialized activities to prevent and mitigate other environmental and sociocultural impacts, such as recovering and managing metal waste responsibly, using chemical dispersants, lubricating oils, hydrocarbon derivatives and solvents, and properly handling sludge from operations in line with internal guidelines and national standards.

Wastewater Monitoring Program

The Surveillance and Monitoring Program for Wastewater Treatment Plants (WWTPs) on board Canal floating crafts tracks and controls effluent quality to ensure compliance with the maximum limits set by the MARPOL 73/78 agreement, resolution MEPC.284(70).

Lastly, the Panama Canal implements measures to protect biodiversity as well as cultural and paleontological resources within its area of influence. Conservation criteria are integrated into the planning and execution of projects, works, and maintenance activities. These complementary actions reinforce the Environmental Management System and highlight the institution's commitment to safe, sustainable operations that honor natural and cultural heritage.

Environmental Quality

The Panama Canal runs a comprehensive Water Quality Monitoring Program across its watershed, featuring systematic sampling of raw water, purification processes, effluents, and permanent stations that track physical, chemical, and biological parameters. This includes lab analyses (both in-house and external), vertical profiles in key reservoirs like Alhajuela and Gatún, and rainwater characterizations in strategic watershed areas, all to ensure regulatory compliance and safeguard vital resources for operations and communities.

Programs like the Water Quality Surveillance and Monitoring (PVSCA) detect spatial and temporal variations, spot early risks, and inform decisions on public health, conservation, and sustainability, with thousands of annual analyses rating water quality as mostly good to excellent.

The initiative bolsters the Canal's operations by verifying the performance of water treatment and desalination plants, while producing scientific data to support environmental management plans and ongoing watershed improvements.

First Water Quality Laboratory

In 2024, the Panama Canal opened its ÿrst water quality laboratory, a key facility rigorously monitoring and analyzing the region's water resources. Equipped with advanced technology that meets Technical Regulation DGNTI-COPANIT 21-2019, it evaluates physical, chemical, and microbiological parameters to ensure precise and timely environmental controls and the sustainability of the Canal's water supply from several sub-watersheds. This center strengthens the Canal's capacity to manage water responsibly, supporting ecosystem conservation and compliance with national and international regulations.

Surface Water and Sediment Monitoring Program in the Watersheds of Indio, Coclé del Norte, and Miguel de la Borda Rivers

In response to the Supreme Court of Justice ruling dated June 17, 2024, which reestablished the official boundaries of the Panama Canal Watershed, this program operates within the Western Region of the Panama Canal Watershed. This region encompasses the sub-watersheds of the Indio, Coclé del Norte, and Miguel de la Borda Rivers.

Surface water sampling and analysis —encompassing physical-chemical, microbiological, and pesticide parameters — are conducted at 35 designated stations

Surveillance Program for the 100-foot Mark of Gatun Lake and 260-foot Mark of Alhajuela Lake

The Panama Canal exclusively manages the water surface at the elevations of 100 feet in Gatun Lake and 260 feet in Alhajuela Lake, including its islands, floodplains, and areas downstream of the Madden Dam spillway. These are inalienable national assets essential to Canal operations.

This surveillance program conducts land, aquatic, and aerial inspections to protect these critical watershed areas, preventing misuse and preserving their integrity for the Canal's water supply and operations.

Community Development

Participatory Platform

The Panama Canal uses participatory platforms to consult with watershed communities, fostering coordination among local stakeholders, institutions and organizations for integrated water resource management. These platforms facilitate the exchange of perceptions, recommendations and concerns regarding socio-environmental programs, in alignment with the ISO 14001 certified Environmental Management System, and have built strategic alliances over more than 20 years.

Environmental and Social Safeguards

The Panama Canal implements a system of environmental and social safeguards to ensure sustainable development in the watershed. This framework protects water resources and communities during projects and operations, addressing socio-environmental impacts while ensuring regulatory compliance, community participation, and balance among conservation, water supply, and human activities.

Productive Associations

The Panama Canal forges productive associations and cooperation agreements with organizations like the Private Sector Council for Educational Assistance (CoSPAE), as part of its community development efforts. These collaborations focus on education, culture, well-being, and environmental protection in key watershed areas, advancing projects aligned with the Sustainable Development Goals (SDGs). They build local capacities and encourage volunteering for broader, more inclusive impact.

Surveillance and Monitoring

The Panama Canal involves local communities in monitoring and conserving water and natural resources across the watershed. It blends community efforts with systematic inspections, through workshops, joint actions, and technologies like satellite imagery, drones, and field trips, to identify risks and safeguard water quality and quantity for Canal operations and human needs.

This year, the surveillance and monitoring team continued projects like forest protection payments, measuring and georeferencing thousands of hectares in the Eastern and Western Watersheds, and supporting over 580 families with economic incentives for conservation. Monitoring remains ongoing, backed by an alert system based on satellite images, drone flights, and road patrols to address complaints —primarily slash-and-burn activities— in coordination with the Ministry of Environment. This initiative fosters environmental awareness and integrated watershed management through active community involvement and institutional expertise, ensuring the sustainability of water resources and ecosystems.

Environmental Restoration and Sustainable Production

The Panama Canal's Environmental Economic Incentives Program (PIEA) protects the watershed's water and natural resources through forest conservation and sustainable management. It improves rural livelihoods by providing direct payments to landowners who preserve forests on their properties, along with training, technical assistance, and best practices in agriculture and forestry. This approach goes beyond cash incentives, offering specialized knowledge, practical skills, inputs, and technologies.

PIEA emphasizes reforestation, agroforestry, and conservation efforts, leveraging existing community organizations while respecting local cultural practices. It includes environmental service payments, such as B/.130.00 per protected hectare on an annual basis, for overall forest protection and sustainable management, farm environmental improvements, and ongoing technical support.

Launched in 2009, the program has benefited thousands of people in the watershed, planting over 6 million seedlings to secure water quality and quantity for Canal operations, while fostering sustainable socioeconomic development in rural communities. The Panama Canal oversees the program closely, integrating conservation with opportunities like ecotourism and sustainable agriculture to build voluntary, committed partnerships with locals for lasting environmental and social sustainability.

In the Panama Canal Watershed (CHCP), projects with producers focus on revitalizing coffee farming through farm renovations using robusta coffee clones. This year saw advances in delivering solar coffee dryers and establishing yam and banana crops in several communities, benefiting dozens of farmers.

Beekeeping efforts provide hive cores and boxes to associations, while livestock initiatives advance silvopastoral systems across large areas of Colón, preparing land, planting improved pastures, and adding riverbank trees for erosion control to support local farmers.

Restoration work recovers riverbanks with native seedlings and vetiver in key sub-watersheds, benefiting about twenty farmers. Educational programs promote sustainable family farming in schools with vegetables, grain, root and poultry modules (under advanced construction), enhancing community food security.

Organizational support includes meetings with coffee associations to assess needs and plan technical assistance, plus participation in agroclimatic forums and watershed management discussions that empower rural women and sustainable practices.

In the Western Region (ROCC), the Sustainable Family Farming Project (PAFS) delivers agricultural training through school gardens at seven schools between La Pintada and Coclesito, engaging students, teachers and families, with the support from the Ministry of Education (MEDUCA). It has launched production modules for vegetables, grains and tubers, with poultry modules progressing for eggs and chickens, effectively bolstering local food security.

The project also holds meetings with coffee producer associations to evaluate needs and design technical and commercial support, joins agroclimatic tables for climate-informed planning, and promotes watershed and agroforestry initiatives in community dialogues, highlighting rural women as leaders to build sustainability and resilience in agricultural communities

Strengthening Local Actors

The Panama Canal strengthens local actors in its watershed through Watershed Advisory Committees (CCCs), Local Committees (CLs), youth networks, community-based organizations, associations, and co-ops. This involves participatory platforms, training in territorial and project management, and decentralized actions, all facilitated in coordination with other institutions. These efforts build responsible, shared governance structures and enhance environmental resilience in the Panama Canal Watershed.

Socio-Environmental Sustainability and Entrepreneurship

The Panama Canal supports initiatives to upgrade rural aqueducts through inspections and rehabilitation in communities, partnering with the Ministry of Health's Directorate of Drinking Water and Sewerage (DISAPAS) to improve access to drinking water and basic sanitation. The Canal also bolsters Rural Aqueduct Administrative Boards (JAAR) with ongoing assistance.

The Panama Canal conducts commercial diagnostics and technical tours with farmer associations to pinpoint opportunities for improving agricultural product marketing. It also collaborates on advertising campaigns, packaging design, and value chain enhancements to diversify the rural economy and encourage entrepreneurship in areas like nurseries and ecotourism. These efforts align with institutional partnerships to create joint roadmaps that blend agribusiness with environmental management, delivering lasting socioeconomic benefits to communities in the Canal's area of influence. The Canal builds technical and administrative capacity for agrotourism initiatives in the Panama Canal Watershed through targeted training in organic agriculture, sustainable resource management, and certifications. It adapts facilities to meet safety and accessibility standards, provides intensive instruction in customer service, sanitary protocols, and tourism promotion, as well as facilitating permits with entities like the Ministry of Agricultural Development (MIDA) and the Panama Tourism Authority (ATP). These public-private partnerships evaluate environmental impacts and develop annual operational plans to ensure sustainable development and economic gains for rural communities.

Educational Programs

1. Laboratorio Latinoamericano de Acción Ciudadana (Latin American Citizen Action Laboratory) – LLAC

In 2025, the Panama Canal hosted the sixth edition of the Latin American Citizen Action Laboratory in partnership with Young People United for Education, training 150 young agents of change from every province and region of the country. Participants received hybrid training —both in-person and virtual— covering leadership, active citizenship, social project development, and public speaking, with special lessons led by the Canal's Administrator and Executive Team.

This LLAC edition emphasized values like institutionality, competitiveness, and sustainability to foster Panamanian youth development and social commitment. New features included full scholarships covering all program costs for graduates, the inaugural Medal for Commitment to History and the Future to honor the participants' dedication, visionary impact, and cultural and artistic activities that reinforced the Canal's role in driving education, innovation, and national identity.

2. Pilando Ando (Hitting the Books) Program

In 2025, the Panama Canal and Ayudinga Foundation's Pilando Ando (Hitting the Books) Program expanded nationwide, with a university edition marking 25 years of Panamanian administration of the Canal. This initiative provides free, open tutoring for high school and college students in key subjects like mathematics, physics, chemistry, and biology, plus prep for entrance exams to the University of Panama (UP) and Technological University of Panama (UTP).

The latest edition introduced in-person conferences across provinces and regions, with support from Canal staff, university faculty, and Ayudinga volunteers. Hitting the Books 2025 honed competencies, analytical skills, and academic excellence through new scholarships and awards for student dedication, while boosting digital reach and achieving over 90% university admission rates among participants.

Corporate Volunteering (CSR)

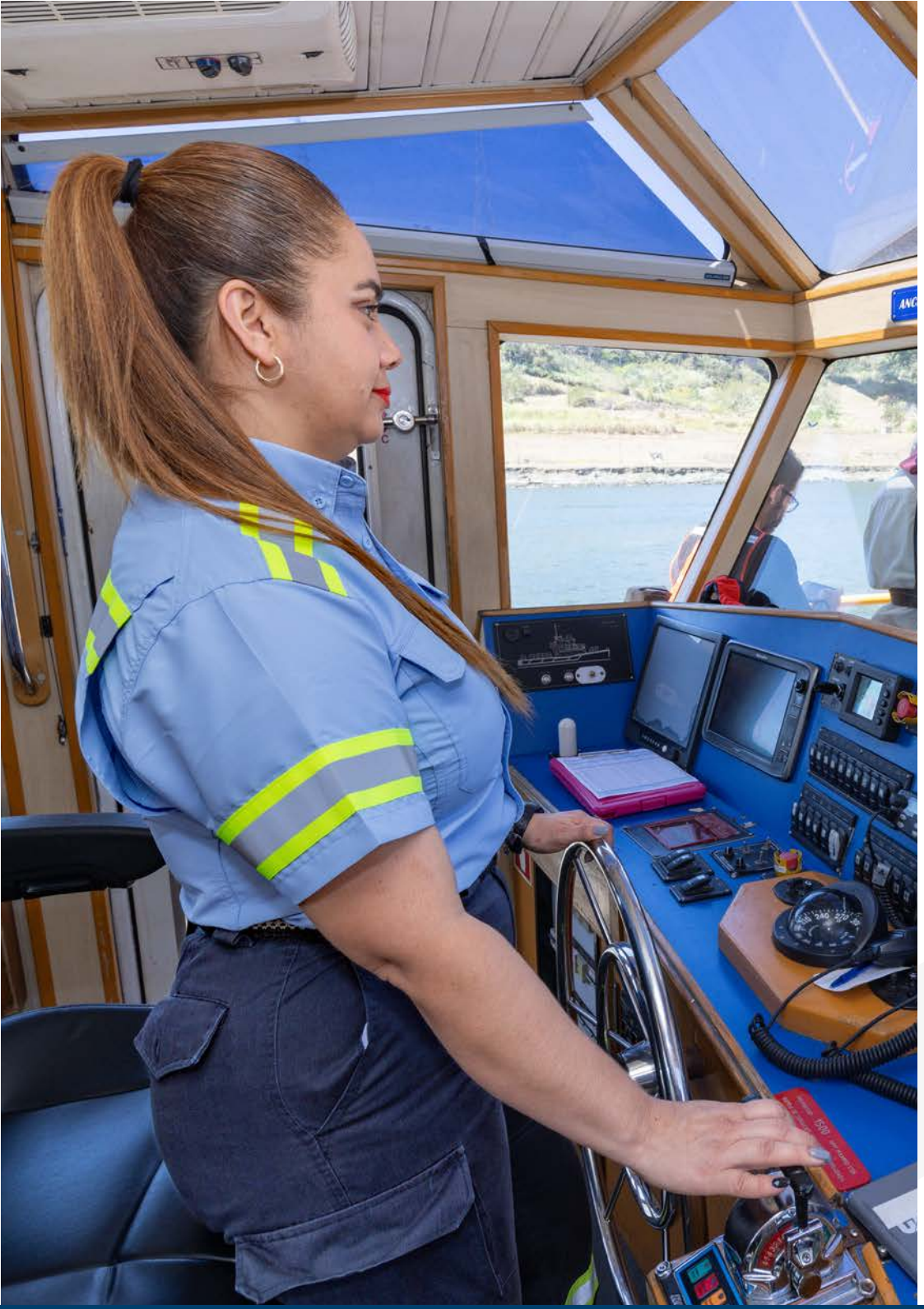
The Panama Canal's Corporate Social Responsibility (CSR) Program engages more than 35% of the workforce to create positive social and environmental impact. It encourages participation from employees, retirees, and dependents in initiatives aligned with the Sustainable Development Goals, such as reforestation, beach cleanups, environmental education, and community support. Structured around principles of solidarity, commitment, and sustainability, the program provides initial and specialized volunteer training, plus recognition based on service hours (Bronze, Silver, and Gold categories), while fostering ties with strategic partners and projects that build community resilience. The Canal also maintains an Interdepartmental Committee on Corporate Social Responsibility (CIRSE), comprising representatives from various areas, to oversee program compliance and recommend partnerships that advance CSR.

Business Model and Value Chain

The Panama Canal Authority manages, operates, maintains, and modernizes the Panama Canal, a vital link between the Atlantic and Pacific that handles about 3% of global maritime trade. Its business model revolves around the following components:

1. Operation and maintenance of the interoceanic waterway, ensuring efficiency and safety, with reliable water availability.
2. Sustainable watershed management, ensuring water supply for Canal transits and for more than 2.5 million Panamanians.
3. Generation of economic, social, and environmental value for Panama and the Canal's international users.

Sustainability initiatives position Panama as a logistics, energy and technology hub, boosting exports, investments, and jobs. The Canal accounts for roughly 8% of the Gross Domestic Product (GDP), 16% of exports, and over 2,700 million balboas in annual contributions to the State, funding public projects, innovation, and services. Technological upgrades, digitalization, and clean energy systems deliver more efficient operations with less reliance on traditional resources, enhancing macroeconomic resilience.



The Panama Canal's business model operates amid climate, regulatory, and market risks that directly affect its capacity and strategic choices. Sustainability and climate resilience thus form core pillars of its institutional management. This approach crafts a model that optimizes available capacity while delivering certainty, predictability, and flexibility to maximize customer value. Water reliability takes priority, ensuring sufficient supply for maximum operations without major draft restrictions. Competitiveness means customers always receive more value than they pay, cementing the Canal's position as the top choice in its market. Diversification unlocks new opportunities through multimodal transport, enhanced connectivity, and value-added services that amplify Panama's logistics potential.

Interoceanic Transit and Related Activities

1

Service Request & Scheduling

-Shipping agents and customers request the crossing and additional services.
-The Canal assigns shifts, classifies ship types and defines itineraries.

2

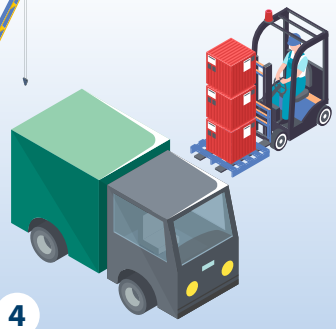
Reception and Preparation of Ships

-Inspection, documentation and advance payment.
-Supply of previous services (water, fuel, others).

3

Transit Through the Canal

-Assignment of pilots and tugboats.
-Navigation through locks (Miraflores, Pedro Miguel, Gatún, Agua Clara and Cocolí).
-Traffic management and operational safety.



4

Logistics and Support Services

-Maritime supply (water, fuel).
-Crew transfer, waste management.
-Connection with internal logistics corridors (ports, railways, roads).

5

Departure and Post-transit Reporting

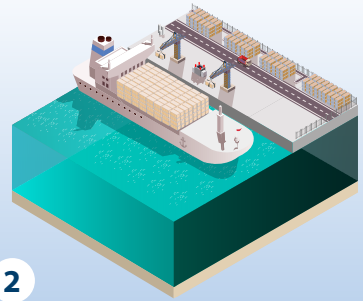
-Issuance of reports, closing of operations, complementary invoicing.

Support & Management

1

Planning and Operations

-Daily/weekly transit scheduling.
-Monitoring and management of water resources for operations and supply.



2

Infrastructure and Asset Management

-Preventive and corrective maintenance of locks, fleets and dredgers.
-Warehouse management and distribution of key inputs.

3

Employees and Training

-Continuous training (Technicians, Operators, and Pilots).
-Emergency care and critical operations teams.

Upstream value chain

Contracting and management of service and material suppliers.

Acquisition of capital goods (infrastructures, machinery).

Reception and handling of supplies (fuel, water, tools).

Internal logistics that supply the operations of the Canal before the ship makes its transit.

Key Features of the Panama Canal Model

24/7 Service: The Canal provides continuous service, ensuring reliability and operational safety.

Multi-regional connectivity: It links over 170 countries and 1,900 ports, facilitating about 3% of global maritime trade.

Sustainability: Efficient water management, emissions reduction, and corporate social responsibility (CSR) integrated across the operational chain.

Added value and new business: Commitment to logistics integration through free zones, adjacent services, and connections to national logistics corridors.

Risks and Opportunities in the Value Chain

The main critical points of the value chain are concentrated in:

Geographical areas:
Canal Watershed, Gatún and Alhajuela Lakes, and port operations and logistics areas.

Facilities:
Locks, pumping stations, control centers, treatment plants and service terminals.

Types of assets:
Hydraulic infrastructure, electromechanical equipment, support fleet, and digital control and monitoring systems.

In the expanded value chain, strategic suppliers and contractors must follow the sustainability guidelines in the Ethics and Conduct Regulation, including efficient resource use and respect for labor and community rights.

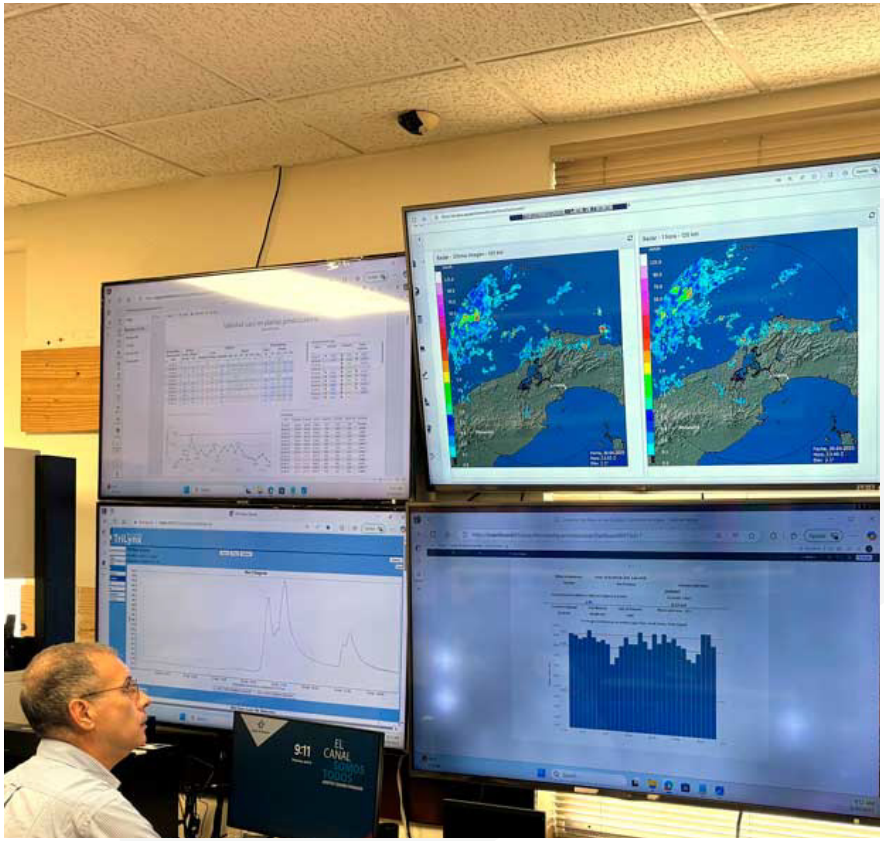
Strategy and Decision-Making

The Panama Canal pursues an integrated strategic management approach that aligns financial, operational, and environmental decisions around sustainability and climate adaptation principles. This manifests through programs and projects that build institutional capacity to anticipate, mitigate, and respond to climate impacts, while capitalizing on new opportunities.

The Canal's response blends reactive measures —like water management protocols, traffic reductions, tariff adjustments, and energy optimization— with proactive ones —such as investing in new technologies, developing reservoirs, electrifying fleets, and enhancing data use and environmental monitoring. The 2023–2024 period demonstrated strong anticipation, absorption, and recovery from climate extremes: during the 2023 drought, the Canal introduced record-high quota auctions and reorganized service allocations.

Predictive Technology: Water Security for the Canal

The Panama Canal has revolutionized water management with advanced technology, shifting from manual measurements to automated sensor systems that deliver real-time data on lake levels, salinity, and rainfall via the Cloud. This minimizes errors and risks, enabling swift and precise decisions. Predictive and prescriptive models forecast water scarcity, simulate scenarios, and optimize balances, crucial for ship transits, supplying drinking water, and preserving ecosystems. Enhanced monitoring includes ultrasound, radar, conductivity, and meteorological data for detailed watershed and rainfall control, plus project modeling toll costs versus alternative routes, to sharpen operational choices. These efforts foster a data-driven culture through governance, engineering training, and agile methods, driving a more efficient, sustainable water management amid escalating challenges.



Economic Performance in the Face of Climate Challenges

In fiscal year 2025, the Panama Canal recorded 13,404 transits, 489 million tons in CP/UMS, and net revenues of B/. 4,134 million, surpassing projections despite droughts and global climate challenges.

The Canal is advancing integration of sustainability risks and opportunities into its financial projections, operating budgets, and investment decisions for a comprehensive view of current and future economic impacts.

Investments in climate adaptation, energy efficiency, and water management directly bolster economic stability, revenue generation, and competitiveness. Financial planning now incorporates short-, medium-, and long-term climate and economic scenarios to anticipate effects on assets, liabilities, and cash flows.

Contribution to the Growth and Development of the Country

The Panama Canal's mission is to generate prosperity for Panama through efficient administration that drives national development and improves quality of life. Its operations leverage the country's strategic location, guided by a vision of sustainability and shared progress that shapes its objectives and principles.

Over the past 25 years of Panamanian administration, the Canal has transferred more than 27 billion balboas in direct contributions to the National Treasury, from operating surpluses, per-ton transit fees, and state service payments. These have grown from 201 million in the year 2000 to over 2 billion annually in recent years, including 2,470 million in 2024, despite water challenges.

About 54% of contributions funded key public investments, and 6% went to the Panama Savings Fund (FAP), totaling 59% for long-term priorities. Between 2008 and 2024, ten major institutions received 90% of these funds for infrastructure investments in roads, social services, and basics; the rest covered current expenses, debt, and national budget needs.

These resources supported landmark projects like bridges, the subway, and highways; social programs for pensions and welfare; housing subsidies; school infrastructure and feeding; hospitals and health equipment; scholarships; and water/sanitation systems, distributed across provinces to boost connectivity, services, and living standards in areas like Colón, Chiriquí, Panama, and Darién.

Domestic spending, such as employee net salaries, local goods/services from Panamanian suppliers, and investment contract components, totaled about $828 million in 2023 ($510 million in salaries, $318 million in procurement). This creates a multiplier effect, spurring activity in ports, the Colón Free Zone, and logistics, while boosting tax revenues, ITBMS (equivalent to VAT), and imports

Climate-Related Metrics

The Panama Canal uses quantitative and qualitative metrics to track its performance in sustainability, climate change and operational efficiency. These metrics help evaluate progress, spot improvement opportunities, and ensure accountability to national and international stakeholders.

This report details the Panama Canal's greenhouse gas inventory.

Greenhouse Gas Inventory

Starting in fiscal year 2023, the Panama Canal has developed its annual greenhouse gas (GHG) emissions inventory, covering all three scopes in line with the GHG Protocol, ISO 14064 and ISO 14083:

1

Scope 1

Direct emissions from sources the organization controls, such as vehicles, auxiliary vessels, power plants, and fuels.

2

Scope 2

Indirect emissions from purchased electricity consumption.

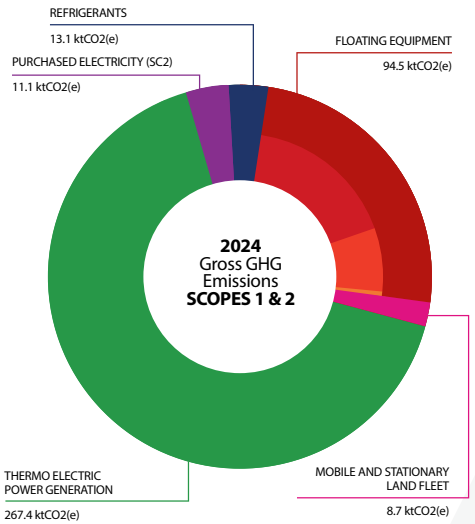
3

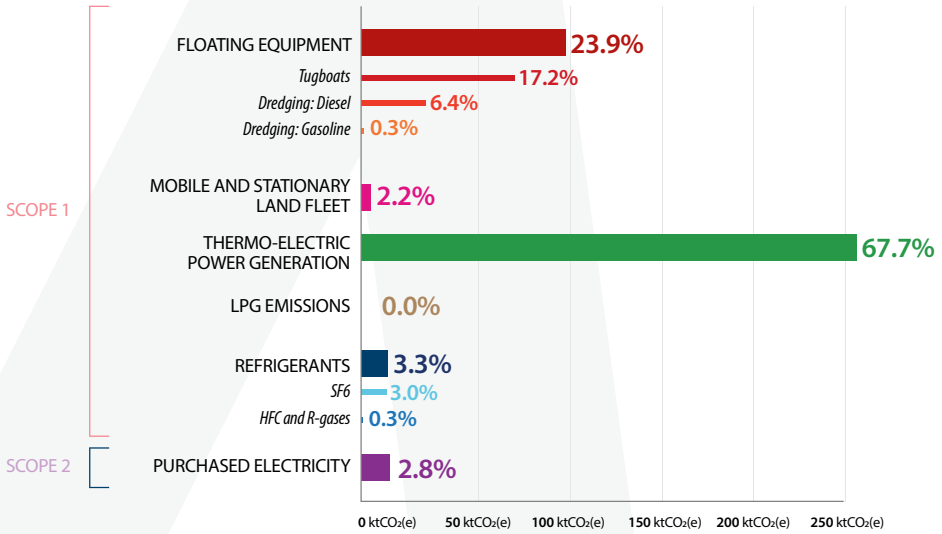
Scope 3

Indirect emissions from value chain activities, including suppliers, maritime transport, business travel, and waste disposal.

For the inventory, advanced calculation methods were used, integrating physical and financial data along with conversion factors. The goal is to introduce predictive models and adjustable targets that align with regional and global regulatory and technological advances.

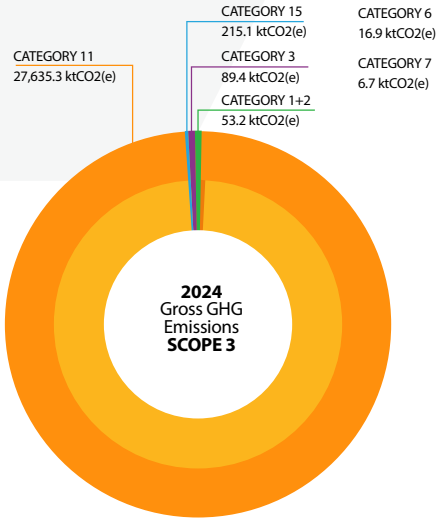
The FY2024 Greenhouse Gas Inventory Recorded Total Emissions of 28,412,241 Metric Tons CO_2(e)

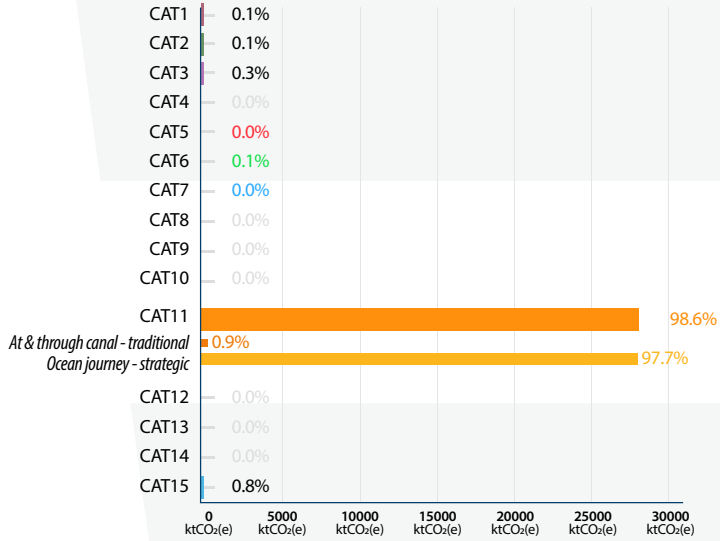




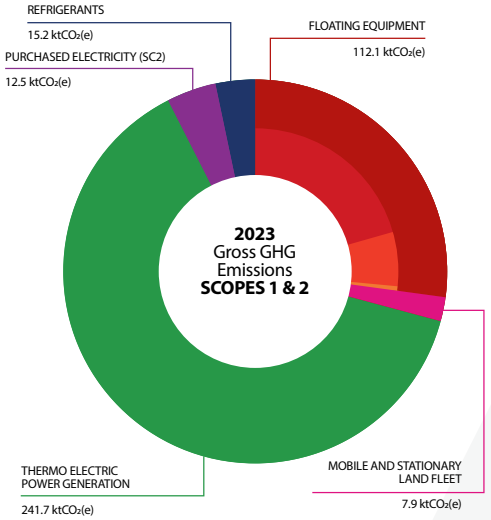
Breakdown by Scope:

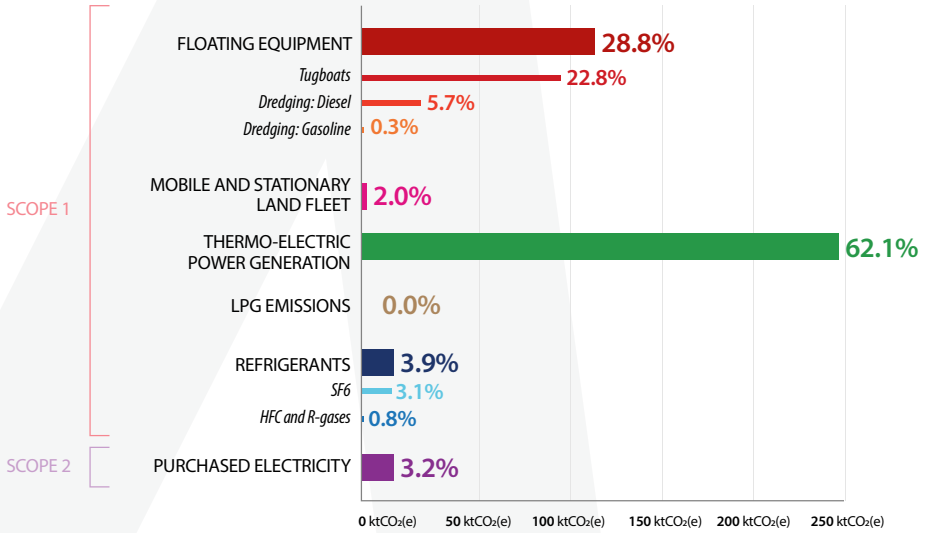
- **Scope 1:** 383,752 tons CO_2(e)
- **Scope 2:** 11,129 tons CO_2(e)
- **Scope 3:** 28,017,360 tons CO_2(e)





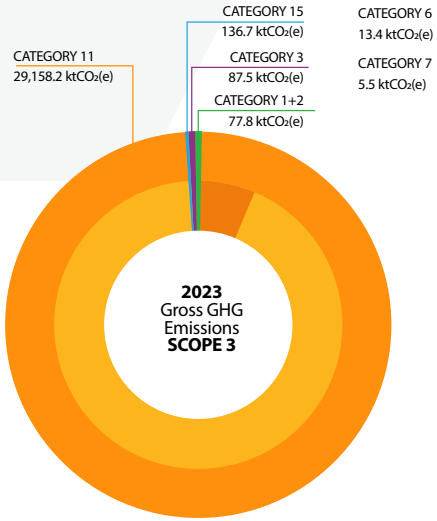
The FY2023 Greenhouse Gas Inventory Recorded Total Emissions of 29,868,919 Metric Tons $CO_2(e)$

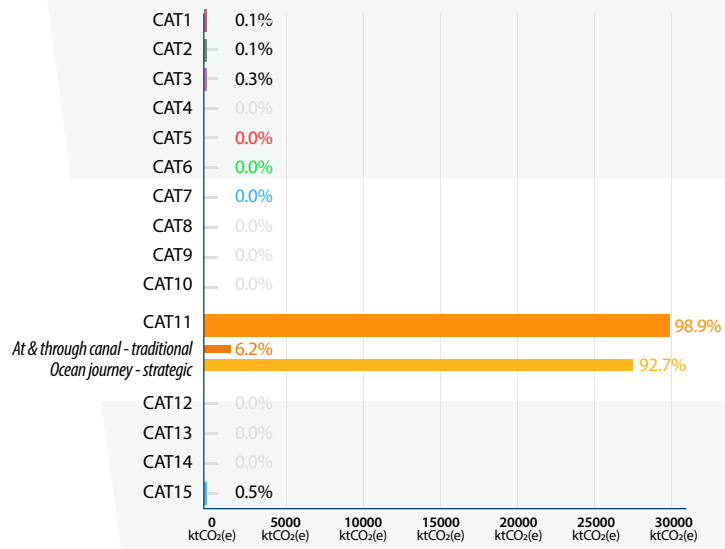




Breakdown by Scope:

- **Scope 1:** 376,957 tons $CO_2(e)$
- **Scope 2:** 12,530 tons $CO_2(e)$
- **Scope 3:** 29,479,432 tons $CO_2(e)$





Comparison and Trends:

Emissions from the use of sold products —such as those from ships transiting the Canal— account for 7% of Scope 3 emissions and the majority of the total GHG inventory.

Conservation and reforestation offset an estimated **3,740** tonnes of **CO2** equivalent (**2,610 tCO2e from conserving 1,000 ha and 1,130 tCO2e** from reforesting **177 ha**).

Overall emissions dropped by 5% compared to the previous fiscal year (base year), mainly due to lower ship transit emissions caused by the drought.

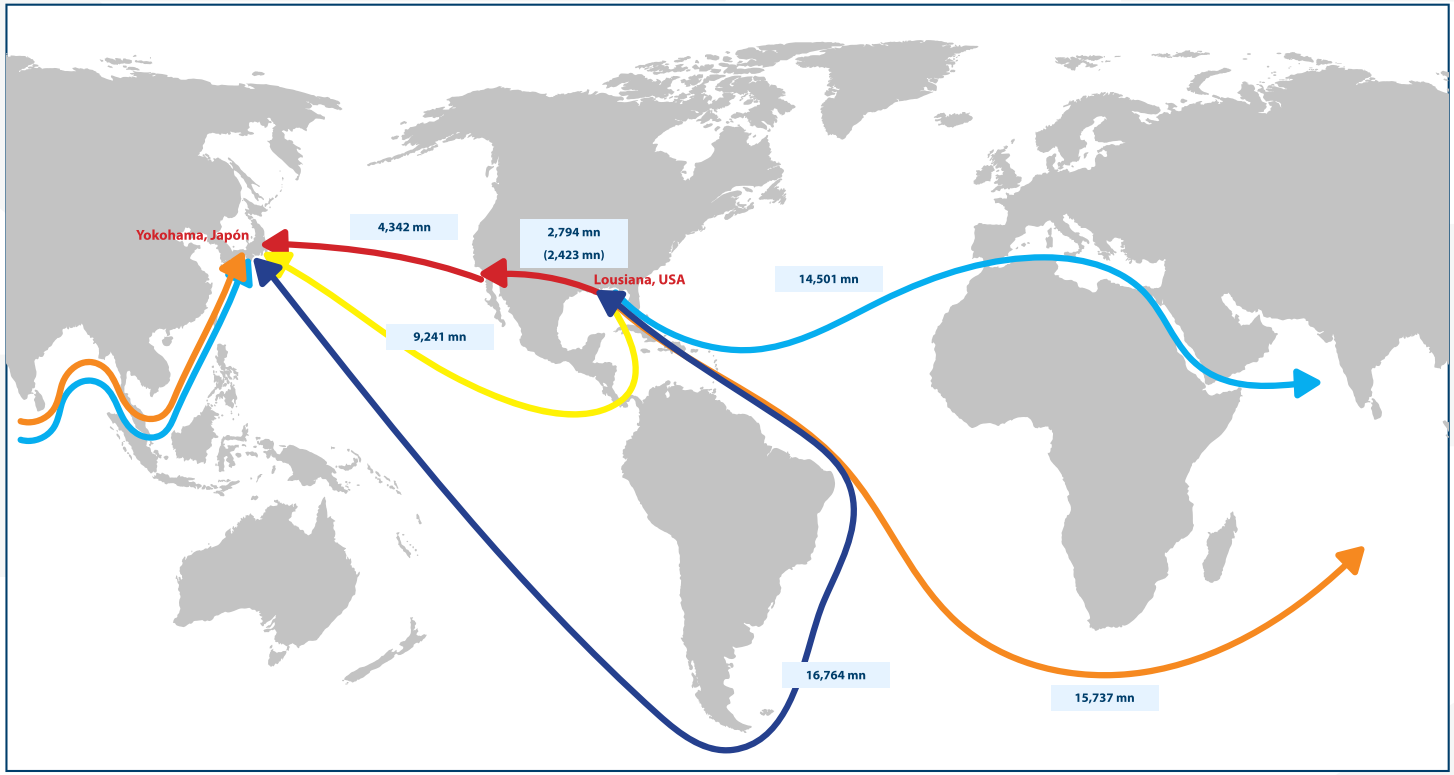
Emissions from electricity generation in Scope 1 rose by 10%, while tugboat emissions fell by 24%.

Emissions from electricity consumption (Scope 2) decreased due to an improved emission factor for the national grid.

The Panama Canal updated its primary data sources and refined its methodologies, prioritizing activity-based calculations over expenditure-based ones.

Avoided Emissions

Comparison of Distances Using the Panama Canal



Bulk Carrier on the Louisiana,
USA - Yokohama, Japan Route
Comparison of the Landbridge Route
USA, Cape Horn,
Cape of Good Hope, Suez Canal, Panama Canal
Distance in nautical miles (nm)

Panama Canal
Landbridge
Cape Horn
Cape of Good Hope
Suez Canal

The Panama Canal's strategic location continues to play a key role in cutting global greenhouse gas emissions by providing a much shorter maritime route than alternatives, which reduces fuel demand for vessels. In fiscal year 2023, this benefit was clear: the Canal helped avoid about 12 million tons of CO2 by shortening distances traveled compared to the next most likely route.

Green Connection Environmental Recognition Program

This program promotes a reduction of greenhouse gas emissions by recognizing ships that meet the highest environmental performance standards. Launched in July 2016, it rewards customers for excellent environmental stewardship and encourages others to adopt technologies and standards that cut emissions.

"Reduce your Corporate Footprint" Program

In 2025, the Panama Canal reaffirmed its participation in Panama's "Reduce your Corporate Footprint" Program (Programa Reduce tu Huella Corporativa), an initiative led by the Ministry of Environment to bolster environmental management and combat climate change impacts in public and business sectors. Through this program, the Canal reported progress in measuring and reducing its institutional carbon footprint.

This commitment positions the Canal as a national leader in strategies aligned with the Sustainable Development Goals and Panama's climate policy, fostering transparency, institutional leadership in environmental matters, regional improvements, and effective compliance with international standards in line with national goals.

Trend Analysis

Current trends show steady progress in reducing emissions and boosting operational efficiency, while water management efforts are ramping up amid climate variability and ENSO events. Strengthening institutional capacities and investing in climate-resilient infrastructure remain critical to hitting short-, medium-, and long-term goals.

Perspectives and Projections

Looking ahead, sustainability will guide efforts to build a just and resilient future. The Panama Canal remains committed to a comprehensive management model that advances human well-being, environmental conservation, and sustainable economic development.

As a key driver of national economic growth and a reliable revenue source for the state, the Canal is tackling global maritime trade challenges through service diversification, innovation, and operational efficiency—all grounded in strong governance, ethics, and responsibility across its value chain.

Building trust relationships with stakeholders is a top priority to drive inclusive social development and lasting value. Investments in human capital, equity, and social well-being are vital for a strong, competitive institution.

The Canal will continue advancing an efficient, sustainable management of water and energy resources, plus responsible waste management. True to its climate pledge, it will adopt clean technologies, renewable energy, and adaptation strategies to ensure resilience against future climate risks.

Protecting and conserving the Panama Canal Watershed stays an absolute priority, underscoring its long-lasting dedication to biodiversity, ecological balance, and territorial sustainability for the planet and future generations.

CANAL DE PANAMÁ