Georgia Tech Panama
Logistics Innovation & Research Center

Regional Hub for Energy

Powering global logistics:
Strategic Advantages and Comparative Analysis of Panama as a Regional Energy Hub

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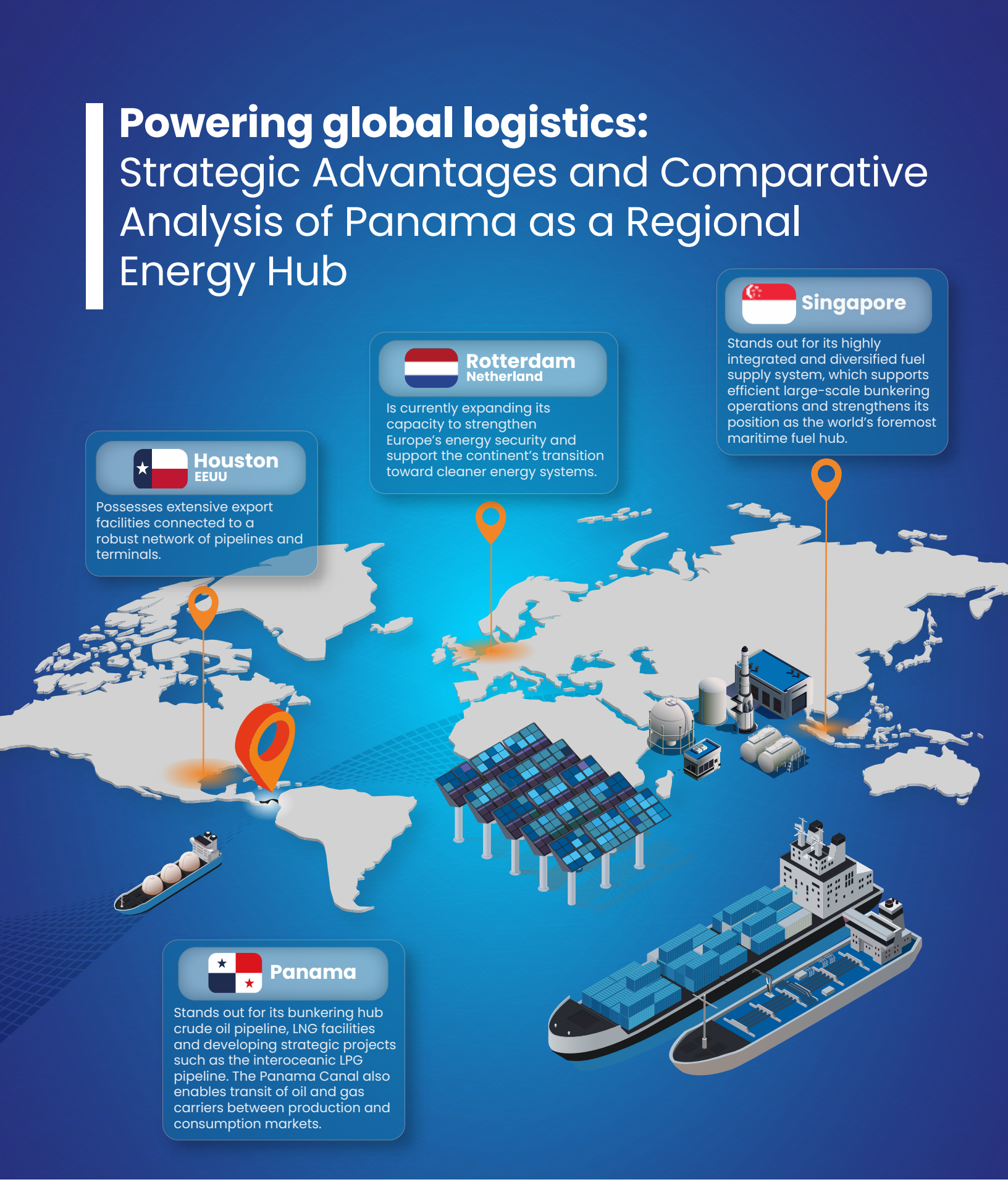
Powering global logistics: Strategic Advantages and Comparative Analysis of Panama as a Regional Energy Hub



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Regional Hub for Energy

While traditional energy hubs such as Houston or Rotterdam are characterized by large scale production, refining, and export infrastructure, Panama is advancing a different model: logistics energy hub. This emerging concept positions the country as a regional connector for energy trade and transformation, built on the pillars of maritime connectivity, energy transshipment, and the progressive integration of renewable sources into its domestic energy matrix.

Panama's energy sector is undergoing a structural transformation aimed at reducing dependence on fossil fuels, diversifying its energy matrix, and increasing integration into international energy markets. However, while locations such as Singapore, Rotterdam, and Houston have long been established as global energy hubs, the comparative potential and specific strategic advantages of Panama remain under explored.

We analyze the dynamics of Panama's energy sector by focusing on three dimensions: the bunkering market, Panama's role as an energy corridor and LNG hub and domestic energy generation with emphasis on sustainability. Additionally, a comparative analysis with other global energy hubs such as Singapore, Rotterdam, and Houston will provide insights into Panama's competitive advantages and challenges. This will allow us to answer the central question: **Why Panama has the potential to consolidate itself as a regional and global energy hub.**

The Panama bunkering market

Panama holds a strategic position in global maritime trade due to the Panama Canal and its well-developed port and logistics infrastructure. This geographical advantage has positioned the country as key player in the international energy market, both in the supply of marine fuels (bunkering) and in the transshipment of energy resources across the region.

Bunker sales (Panama bunker sales)

Panama's strategic location between the Pacific and Atlantic Oceans remains central to international shipping, and 2024 was no exception. The Panama bunkering sector serviced a total of 5,783 vessels, delivering 5,283,500 metric tons of bunker fuel. This marks a 9% year on year growth in fuel demand, with notable increases in the consumption of both high sulfur and low sulfur fuels, further solidifying Panama's status as a key maritime fueling hub.[1]

How bunkering in Panama works

Fuel delivery operations are key factors for vessel efficiency and maritime planning. As a global bunkering hub at the crossroads of international trade, Panama offers flexible and cost-effective fueling options for vessels in transit. Understanding how marine fuel delivery operates in this context helps shipowners and operators optimize costs, minimize delays, and ensure compliance with international standards.[2] Bunker traders in Panama specialize in coordinating fuel deliveries across the country, leveraging local expertise and established supplier networks to ensure reliable and efficient service

Main bunkering methods in Panama's ports

In Panama, the most used bunkering method is Ship-to-Ship (STS) transfer, particularly due to its efficiency in servicing large vessels

transiting the Panama Canal. This method involves transferring fuel from bunker barges to ships while at anchor or moored and is preferred because it offers flexibility, speed, and scalability in high traffic maritime zones. STS operations are primarily conducted in Balboa (Pacific side) and Cristóbal or Colón (Atlantic side), which are strategic locations near the Canal entrances. These areas have established infrastructure and a high concentration of physical suppliers, Balboa being the largest bunkering hub with multiple global suppliers and a wide availability of VLSFO, LSMGO, and HSFO grades. While Truck-to-Ship is used occasionally for small vessels or in ports without fixed infrastructure, and Shore-to-Ship is available at terminals like MIT and Cristóbal, the scale and logistics of Panama's bunker market make STS the dominant and most practical option.[3]

Main Methods of Bunkering in Panama

Anchorage Bunkering (Ship-to-Ship)

Location: Most bunkering operations take place at anchorages in Balboa (Pacific side) and Cristobal (Atlantic side) of the Panama Canal. This method avoids high port fees and delays.

Delivery Method: Fuel is delivered using bunker barges that connect to the ship via hoses. No port berthing is required, making this method fast and economical.

Fuel Delivery Procedure

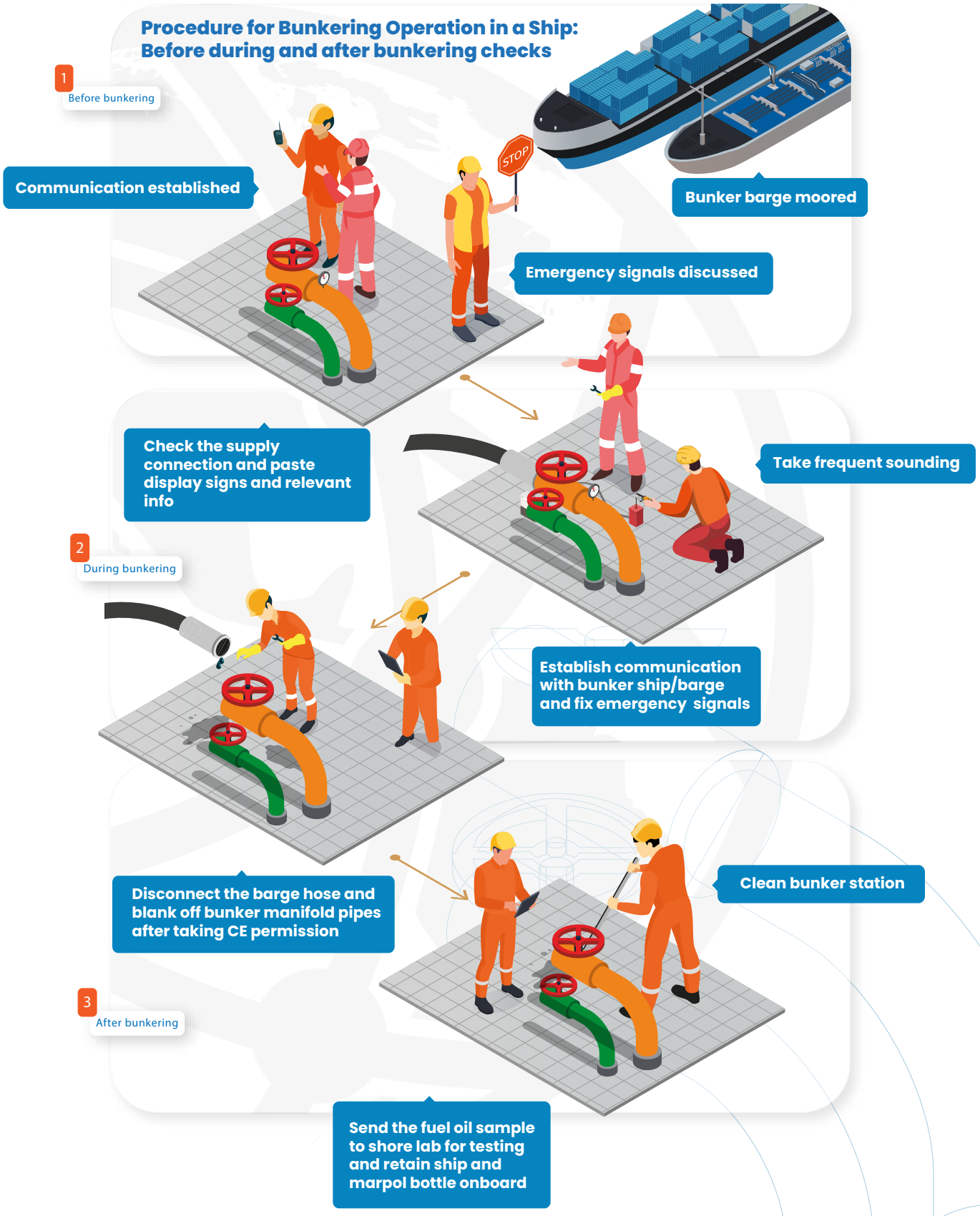
Scheduling: The vessel's agent, bunker trader, and supplier coordinate the delivery slot with port authorities.

Safety Protocols: Safety checks include hose inspection, anti-spill gear setup, and continuous communication between vessels.

Sampling & Analysis: Fuel samples are taken both at the barge and receiving manifold for quality control, often sent for independent lab testing.

Measurement & Quantity Check: Tank soundings before and after the transfer confirm the correct quantity delivered.

Bunker Delivery Note (BDN): A complete report of quantity, specifications, and delivery time and signed.

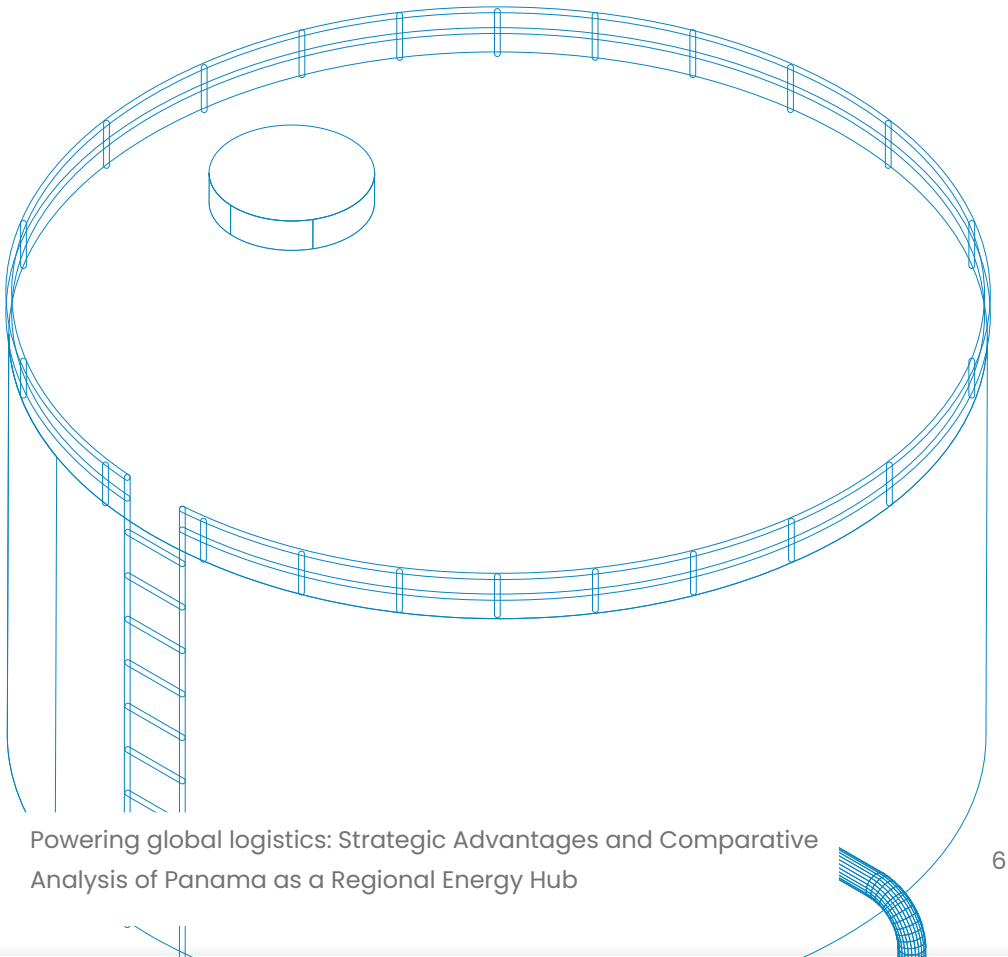


Source: *Marine Insight. Before Bunkering – During bunkering – After Bunkering https://www.marineinsight.com/guidelines/bunkering-is-dangerous-procedure-for-bunkering-operation-on-a-ship*

Infrastructure and coordination

Panama's strategic location along one of the world's busiest maritime routes forms the foundation of its bunkering market. However, it is the country's advanced port and logistics infrastructure that truly enhances its appeal as an emerging energy hub, enabling efficient refueling operations for vessels transiting both the Atlantic and Pacific oceans.

This system is further strengthened by the presence of eleven **petroleum free zone** s across the country, which provide fiscal and customs incentives that facilitate the storage and distribution of marine fuels. These zones play a crucial role in maintaining Panama's competitive fuel prices and ensuring a steady supply chain that supports global maritime operations.



Panama Logistics Assets: Panama Petroleum Free Zones

Supplier	Capacity	Type of fuel
Panama Oil Terminals, S.A.	27,618.97 MT	Diesel, Fuel Oil
Panama Oil Terminals, S.A.	34,177.12 MT	Diesel, Fuel Oil, Sludge
Petroterminal De Panamá, S.A.	1,205,998.08 MT	Oily water, Diesel, Crude Oil.
Petroterminal De Panamá, S.A.	1,067,593.6 MT	Oily water, Diesel, Crude Oil.
Exolum Panamá, S.A.	17,497 MT	JET A
PETROPORT, S.A.	93,916.06 MT	Butane, Diesel, Gasoline, HD5 (Propane specification grade)
PAYARDI TERMINAL COMPANY S. DE R.L.	811,849.51 MT	Asphalt AC-30, Asphalt MC-250, Asphalt RC-250, Avgas (Aviation Gasoline), Avjet (Aviation Jet Fuel), Butane, Under Maintenance, Fuel Oil, MGO, Mogas91, Mogas95, Propane, ULSD, VLSFO
Petroamerica Terminal, S.A. (PATSA)	249,245.53 MT	Fuel Oil, Gasoil, Jet Fuel, JP-5 (Military Jet Fuel), ULSD, VLSFO
DECAL PANAMÁ, S.A.	356,500 MT	DIESEL, FUEL OIL
Colon Oil and Services, S.A.	136,560 MT	FO, LSMGO, VLSFO
Melones Oil Terminal, INC.	336,406.48 MT	Fuel Oil, Marine Diesel Oil
TELFER TANKS INC.	155,711.12 MT	Gasoline, ULSD, VLSFO
Costa Norte LNG Terminal	180,000 MT	LNG[4]

Table No. 1 *Eleven petroleum free zones across the country.*

In addition to traditional fuel storage and supply infrastructure, Panama is now integrating new assets such as the liquefied natural gas (LNG) storage terminal of AES Colon, a complex that also includes a therm power plant generating energy from LNG. This facility represents a key step toward cleaner maritime fuels and reflects the country's gradual transition toward a greener energy hub model.

Main Bunker Suppliers in Panama

In Panama, bunker suppliers play a critical role in the maritime fuel supply chain by physically delivering fuel to vessels calling at the country's ports. These companies are responsible for managing the coordination of fuel storage, transportation, and direct delivery via barges or pipelines. Unlike traders or brokers, suppliers maintain operational control over the fuel's handling and ensure compliance with quality and safety standards. Their infrastructure and presence in key port areas make them essential for ensuring timely and efficient bunkering operations for vessels transiting the Panama Canal or docking at major terminals.

To see the most updated list of bunker suppliers in Panama you can access Georgia Tech Panama's logistics directory on the following link: https://directorio.gatech.pa/en

Main types of maritime fuel

Panama Bunker Sales Comparision: 2023, 2024,2025

Fuel Grade	2023 (tonnes)	2024 (tonnes)	2025 (tonnes)(p)
VLSFO	3,379,121	3,367,757	3,406,627
RMG 380	998,015	1,414,114	1,307,526
LSMGO	361,365	385,164	521,847
MGO	104,596	116,465	64,481
Total	4,843,097	5,283,500	5,305,202

Table No.2

Panama Bunker Sales: Notable Insights. Source: Panama Maritime Authority (AMP) Statistics System. Yearly Fuel Sales 2023, 2024, 2025. (p): preliminary

Very Low Sulphur Fuel Oil (VLSFO):

VLSFO remained the dominant fuel type, showing a slight decline in 2024 compared to 2023, and an increase again in 2025. This movements reflect the stability in demand for this low-sulfur fuel, driven by the ongoing regulatory push for cleaner shipping fuels. While global shifts in fuel preferences continue, VLSFO's position as the go-to fuel remains firm in Panama's bunkering sector.

High Sulphur Fuel Oil (RMG 380):

RMG 380 experienced a substantial increase of 48% in 2024 compared to 2023 followed by a small decrease in 2025 compared to 2024. This growth is attributed to continued demand in the Pacific region, where larger vessels, such as bulk carriers and tankers, often rely on RMG 380 for its cost-effectiveness. The increase in RMG 380 usage is also linked to the growing adoption of scrubber systems on ships. These systems allow vessels to continue using high-sulfur fuels while complying with sulfur emission regulations, thus further boosting the demand for RMG 380.

Low Sulphur Marine Gasoil (LSMGO):

LSMGO showed an increase of 26% in 2025, continuing its steady growth from the previous year. This fuel grade remains attractive for vessels looking for a cleaner alternative to traditional fuels while operating in regions with strict emission controls. The rise in LSMGO consumption indicates a rising trend toward eco-friendly fueling options in Panama.

Marine Gasoil (MGO):

Marine Gasoil, though still significant in Panama's bunkering mix, saw a reduction of 40% in 2025, compared to a maintenance of levels in 2024. The sharp decrease reflects the ongoing need for low sulfur fuel solutions, and it contrasts with the rise of sales of LSMGO.

The year-on-year comparison between 2024 and 2025 highlights a consistent shift toward cleaner fuels like VLSFO and LSMGO, while also showcasing the continued demand for RMG 380 in the Pacific region, driven by larger vessel requirements. The slight increase in VLSFO sales suggests a stable market, while the substantial growth in RMG 380 points to Panama's bunkering sector adjusting to the evolving mix of fuel preferences.

The scale of Panama's bunkering market not only highlights its strategic position within global maritime logistics and sets the stage for its positioning as a growing and diversified energy hub.
By fostering infrastructure, operational expertise, and steady fuel demand, the bunkering sector creates the fundamental conditions for Panama's emerging role in large-scale energy transshipment.

Energy transshipment

Panama energy corridor

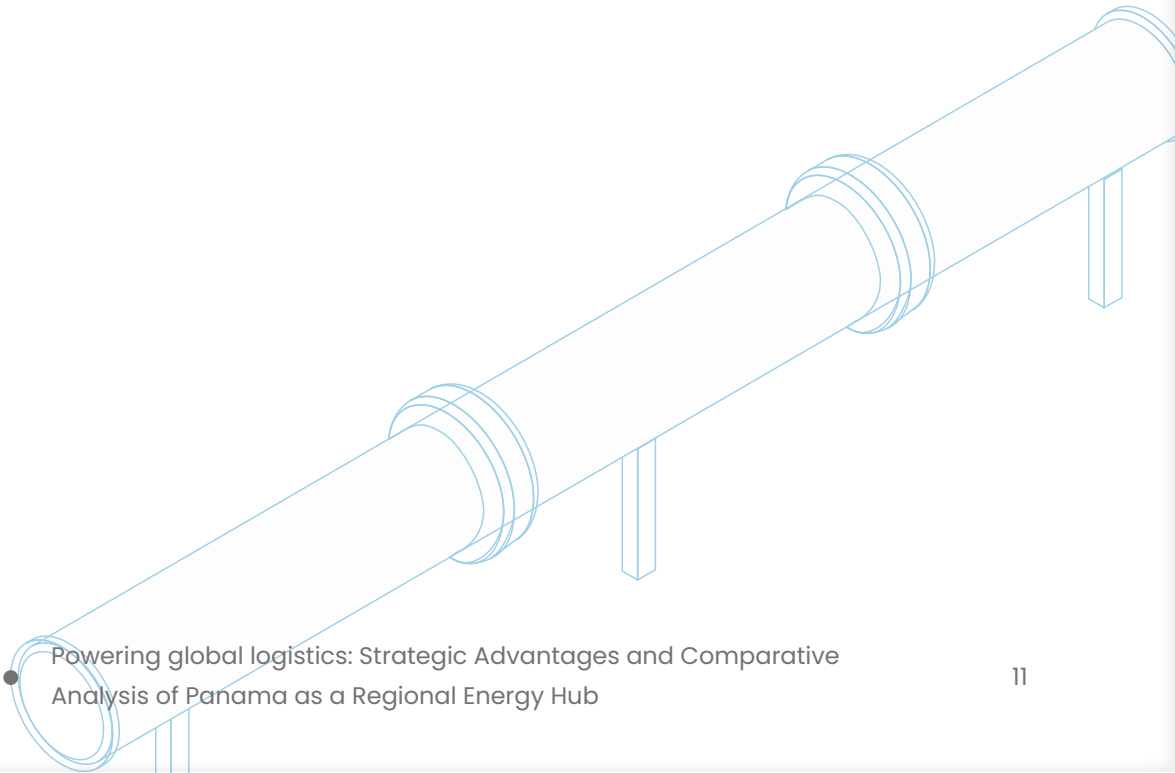
The proposed development of a liquified petroleum gas (LPG) energy corridor marks a significant step in advancing Panama's role as a leading global logistics and energy hub. This initiative, which includes an LPG pipeline crossing the Isthmus alongside the Panama Canal, aims to strengthen the country's energy infrastructure while addressing operational challenges such as Canal capacity constraints and water scarcity.
Complementing this future oriented vision is the operator of Petroterminal de Panamá S.A. (PTP), a complex that has long played an important role in the storage and transshipment of hydrocarbons between Panama's coasts. Petroterminal de Panamá S.A. (PTP) is a key player in the country's hydrocarbon logistics, established through a joint venture between the Government of Panama and NIC Holding Corp., a company based in Melville, New York, which specializes in the storage, distribution, and marketing of petroleum products.

Future Panama Canal Gas Pipeline

By enabling transshipment of LPG between the Atlantic and Pacific coasts without requiring full Canal transit, the project reduces reliance on Very Large Gas Carriers (VLGCs) traversing the waterway. This alleviates current traffic constraints, especially under water level restrictions, and enhances the predictability and capacity of energy flows. This infrastructure would become an essential complement to maritime operations, reinforcing Panama's resilience to climate-induced

disruptions and its competitiveness in the global energy logistics chain. Moreover, the energy corridor integrates into broader sustainable development plans for the Canal's west bank, signaling a reconfiguration of Panama's economic geography. This diversification aligns with global energy transition trends, particularly the rising demand for transition fuels such as LPG in Asia, and positions Panama as a crucial conduit in trans-Pacific energy trade.[5]

As part of a wider interoceanic energy and logistics corridor, the pipeline aims to complement the development of new port terminals, enhancing Panama's cargo managing capacity and integrating land-based infrastructure with maritime flows. This consolidation of services positions Panama to capture greater value from its unique geography, enabling energy and goods to move through the country with greater speed and reliability.



Comparison of Panama's existing oil infrastructure (Petroterminal de Panamá) and the proposed LPG Pipeline within the Energy Corridor initiative.

Category	Existing Infrastructure: Petroterminal de Panamá (PTP)	Proposed Infrastructure: LPG Pipeline & Energy Corridor	Strategic Impact / Insights
Type of Project	Crude oil transisthmian pipeline	Liquefied Petroleum Gas (LPG) pipeline alongside the Panama Canal	Transition from crude oil to cleaner fuels; modernization of Panama's energy logistics
Length / Coverage	130 km (Chiriquí Grande, Charco Azul)	76 km approx. interoceanic span between Atlantic and Pacific coasts	Strengthens interoceanic connectivity; complements transit corridor
Operator / Stakeholders	Petroterminal de Panamá S.A. (PTP) joint venture between NIC Holding Corp. (U.S.) and Government of Panama	Panama Canal Authority (ACP) with potential private and international partners	Greater institutional diversification
Function / Purpose	Transports crude oil (approx. 7 million barrels /month) between coasts for export to Asia and Americas	Transfers LPG (propane and butane) without canal transit	Reduces water dependency and pressures on Canal capacity
Energy Type	Fossil fuel, crude oil	Transition fuel, LPG	Supports Panama's transition toward lower-carbon energy and sustainability goals
Global Market Relevance	Facilitates crude oil exports mainly to Asia and the U.S. East Coast[6]	Facilitates LPG and LNG flows across the Pacific and Atlantic, serving rising Asian demand[7]	Positions Panama as a strategic link in global energy trade and the energy transition

Table No. 3 *The table summarizes technical, economic, and strategic aspects of both infrastructures and evaluates their role in Panama's transition toward a diversified and sustainable energy logistics platform.*

Source: *Author's elaboration based on official data from the Panama Canal Authority (ACP) and Petroterminal de Panamá S.A.*

Panama as an emerging LNG Hub in the Americas

Panama is consolidating its role as an emerging hub for liquefied natural gas (LNG) in the Americas as well, supported by ongoing investments in infrastructure and a national policy framework aimed at energy diversification. The development of the country's first LNG terminal in Central America represents a milestone in this process, enabling not only the import and regasification of natural gas for domestic consumption but also the potential export of LNG to regional markets.

These efforts align with the objectives outlined in the National Energy Plan (PEN), which projects that LNG will supply approximately 15% of Panama's power generation capacity by 2030. This transition highlights the country's broader commitment to cleaner, more flexible, and resilient energy systems.[8]

Opportunities and strategies for potential growth

The development of an LNG strategy supports national energy security by reducing dependence on imported diesel and fuel oil, thereby contributing to both energy diversification and environmental targets. It opens avenues for private and public investment in associated technologies, including storage, regasification, and distribution infrastructure. Additionally, Panama's location on major shipping routes allows it to function not only as a regional supplier but as a potential re-export platform for LNG to markets in the Caribbean and South America.

Panama´s growing attractiveness for energy investments is closely linked to the evolution of its domestic energy system. As the country positions itself as a regional hub for LNG and other energy logistics, it is also advancing toward a more stable, independent, and green model of energy generation. This internal transformation strengthens national energy security while reinforcing Panama's credibility and leadership in the regional transition toward sustainable energy.

Panama's LNG development strategy encompasses three principal areas of growth: domestic energy consumption, transport sector applications, and regional distribution. Domestically, LNG is expected to play an expanding role in industrial, commercial, and residential energy use. In the transport sector, LNG's adoption in heavy-duty vehicles introduces the potential for reduced street-level emissions in urban areas. Regionally, the development of small-scale distribution systems, including LNG transport trucks and micro infrastructure, positions Panama to supply neighboring countries currently lacking **large-scale import capabilities.**

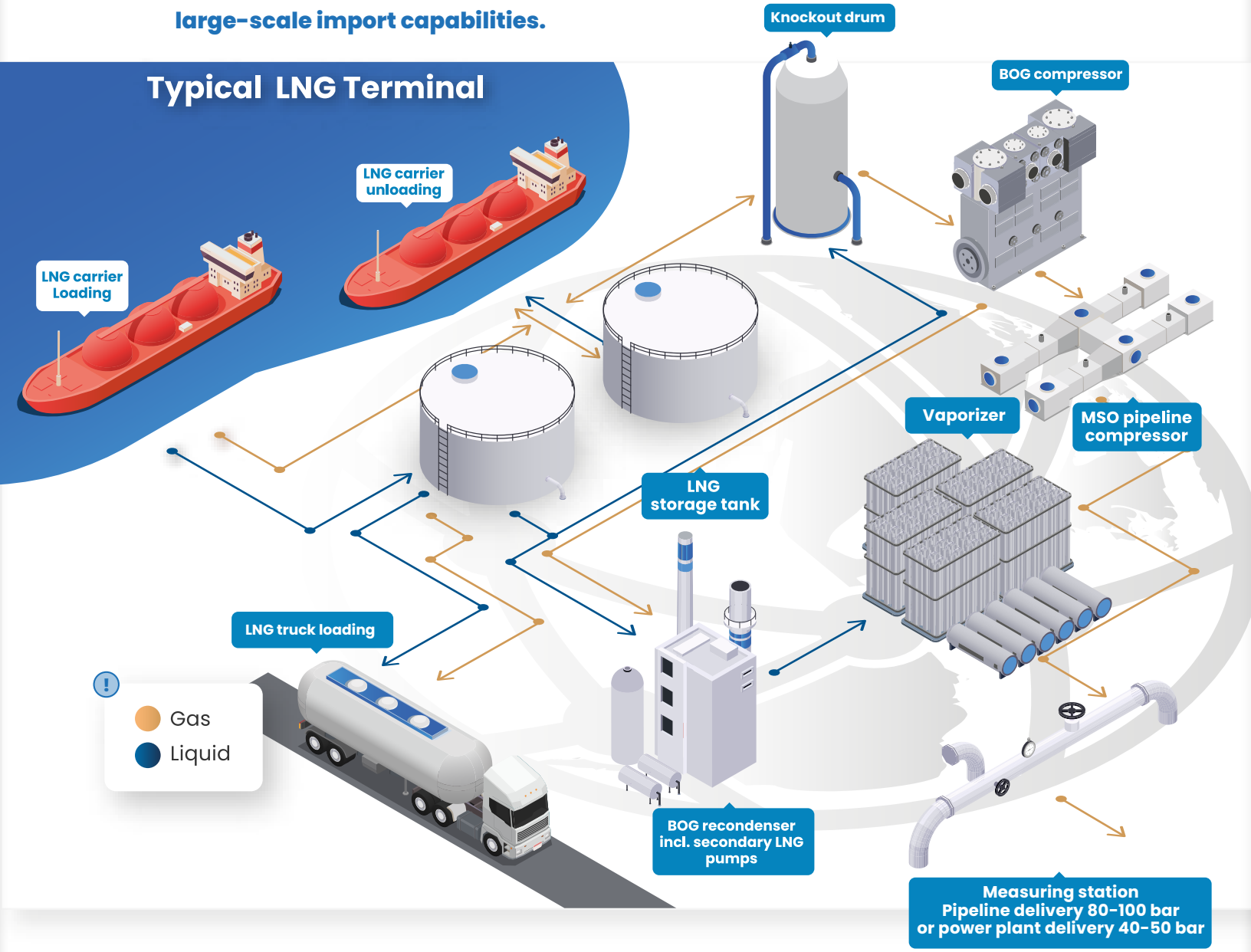


Figure No. 2 . *LNG import terminal illustrating the regasification process and boil-off gas (BOG) compression system.*

Source: *Burckhardt Compression. LNG import terminal – boil-off gas (BOG) application [Image].* [9] *Retrieved October 24, 2025, from https://www.burckhardtcompression.com/applications/boil-off-gas-bog-onshore/lng-import-terminal/*

LNG infrastructure and operations

One of Panama's strongest players in domestic energy generation is AES Panama, a subsidiary of the global AES Corporation. Drawing on AES's international experience in energy development, construction, and operations, AES Panamá has become a key player in delivering sustainable energy solutions locally. While part of a company recognized for its truly global scope, AES Panamá remains deeply rooted in the local context, adapting its projects to meet the specific needs of Panamanian communities and contributing to the country's energy independence and sustainable growth.

AES began operations in Panama in 1999 and has since invested over $2.55 billion in the country's energy sector. The company operates through three key subsidiaries: AES Panamá, AES Changuinola, and AES Colón. These entities collectively provide approximately 1,158 megawatts (MW) of installed capacity.

The company has contributed to the diversification of Panama's energy matrix, specifically by reducing reliance on petroleum-based fuels. According to AES, this transition has led to estimated fuel import savings of around two billion balboas and a reported reduction of sixteen million tons of CO_2 emissions. AES positions Panama as a regional leader in energy production through its investments.[10]

Natural Gas and LNG Infrastructure

A component of AES's strategy in Panama is its investment in liquefied natural gas (LNG) infrastructure. It operates one of Central America's first LNG terminals, which plays a dual role: generating electricity and supplying LNG to industrial, commercial, and transportation sectors. LNG infrastructure includes:

Storage:	A cryogenic LNG tank with a maximum operating capacity of 180,000 m³.
Docking:	Facilities that can accommodate vessels from 3,000 m³ (small scale) to 180,000 m³ (large scale).
Truck Loading Bays:	Two dedicated bays for the loading of tanker trucks or ISO containers.
Power Plant Integration:	Direct pipeline connections to both the Atlantic Natural Gas Combined Cycle Power Plant and the Gatun Power Plant.
Measurement Systems:	Equipment compliant with international standards and Panamanian energy regulations.

AES's LNG facilities form part of a broader regional strategy that includes similar operations in the Dominican Republic. This infrastructure aims to promote a shift from diesel and heavy fuel oil to natural gas, with associated environmental benefits and operational efficiencies.[11]

The potential for LNG bunkering

In partnership with Seaspan Energy, AES has established Panam LNG Bunkering, a joint venture aimed at launching LNG bunkering services in Panama by March 2025. This service will use the Seaspan Garibaldi, a 7,600 cubic-meter LNG bunkering vessel. The initiative targets LNG fueled ships transiting the Panama Canal or docking on the Atlantic coast.

A call for expressions of interest (EOI) was issued in October 2025 to potential customers such as shipping agents, vessel owners, and operators. The EOI process is intended to facilitate early-stage planning, including bunkering slot reservations and negotiations related to service scope and pricing.[12]

Operational and Regulatory Challenges for LNG Bunkering in Panama

Despite established infrastructure and long-term strategic intent, AES has not yet commenced full scale LNG bunkering in Panama. This is primarily due to a series of regulatory, operational, and logistical constraints, including:

1. Regulatory Limitations

LNG bunkering is permitted only in specifically designated anchorage zones by the Panama Canal Authority (ACP). On the Pacific side, this is restricted to the Flamenco Explosives Area, while on the Atlantic side, operations are contingent on favorable weather conditions and coordination through facilities like the Cristóbal Signal Station.

2. Infrastructure Requirements

LNG bunkering demands compliance with strict international safety and environmental standards (IGF Code, ISO guidelines). Required infrastructure includes cryogenic pipelines, gas detection systems, emergency shutdown mechanisms, and explosion proof equipment. Gaps in infrastructure or trained personnel pose significant barriers to implementation.

3. Storage and Spatial Constraints

The storage of LNG requires significant space due to the need for insulated tanks. In congested port areas or constrained anchorages, this becomes a logistical issue. Additionally, LNG's lower volumetric energy density compared to conventional marine fuels results in increased refueling requirements or reduced operational range for vessels.

4. Supply Chain Limitations

The regional LNG supply network remains underdeveloped, with limited suppliers capable of reliably meeting consistent demand for marine fuel. This raises concerns about supply security, cost predictability, and logistical coordination.[14]

AES Corporation's operations in Panama represent a significant case of foreign direct investment in energy infrastructure aimed at supporting the transition to cleaner energy sources. While the company has made measurable contributions to Panama's energy diversification and sustainability goals, its future ambitions particularly in LNG bunkering are contingent on resolving complex regulatory, technical, and logistical challenges.

A comprehensive assessment of AES's long-term viability in Panama must critically consider these operational barriers alongside its technological capabilities and community engagement strategies. As Panama positions itself as a regional energy hub, the success of initiatives will depend on cross sector coordination, regulatory adaptability, and sustained investment in infrastructure and human capital.

Panama's Energy Matrix

The **energy mix** is a quantitative representation of a country's total energy classified by type of energy source. Energy sources include nuclear, hydro, solar, wind, biomass, geothermal, or fossil fuels such as oil, gas and coal.

The energy matrix is useful for analyzing and comparing a country's energy consumption over time, or for comparing it with other countries, and is an essential tool for planning.[19]

Goals for 2050

The National Energy Plan (PEN) 2015-2050 of Panama, titled "*Panama: The Future We Want*", is a roadmap for the country's energy development over 35 years. It was created through a participatory process involving sixteen sessions and over eight hundred participants from the public sector, private sector, Indigenous communities, and civil society.

The main goal of the plan is for energy generators to **use renewable sources for the generation of at least 70% of the country's energy matrix by 2050**, with a focus on solar and wind energy, complemented by other generation sources.
The plan outlines the general and conceptual guidelines for the energy future Panamanians deserve within a market-based environment. Its long-term pillars are:

- Universal access to energy and reduction of energy poverty.
- Decarbonization of the energy matrix.
- Energy efficiency and responsible consumption.

Transition Pathways

Panama has made a commitment to remain a country with a green electricity matrix, and it has also taken on the challenge of reducing the use of fossil fuels in its energy matrix. It's no simple task, as it requires ensuring energy security, affordability, and reliability of supply at the same time. Panama is taking firm steps in the fulfillment of the goals outlined in the National Energy Plan by identifying the relevant processes, infrastructure, and policy that must be modernized while also leveraging the necessary technologies for efficient and cleaner uses of energy.

Panama's energy transition is defined by its efforts to reduce fossil fuel dependency while ensuring energy security and affordability. The country is introducing transitional fuels like natural gas while expanding renewables such as solar and wind. The AES Colón project, a major LNG-based power plant, symbolizes Panama's shift from heavy fuel oil to cleaner alternatives, improving efficiency and reducing emissions.

Currently, Panama imports all its crude oil and natural gas but uses them strategically to support electricity generation and transportation. The growing share of LNG (liquefied natural gas) reflects Panama's balanced approach: maintaining stability with cleaner fossil fuels while expanding renewable capacity. This gradual shift demonstrates how the country is managing an effective transition pathway toward a low-carbon future.

Fuel mix (fossil fuels vs renewables)

Panama currently relies on imported oil for a share of its total energy supply. In the electrical sector, hydro energy also plays a key role, accounting for 43.9% of installed capacity and 67.2% of total generation as of 2020. Other renewable sources such as wind and solar supply are a small but growing percentage of the country's electrical needs.

Panama´s energy mix highlights the significant role of renewables, particularity hydropower, complemented by growing contributions from solar and wind. The steady integration of renewables into grid reduces fossil fuel dependency and provides the country with a comparative advantage over other hubs that rely more heavily on imported natural gas.

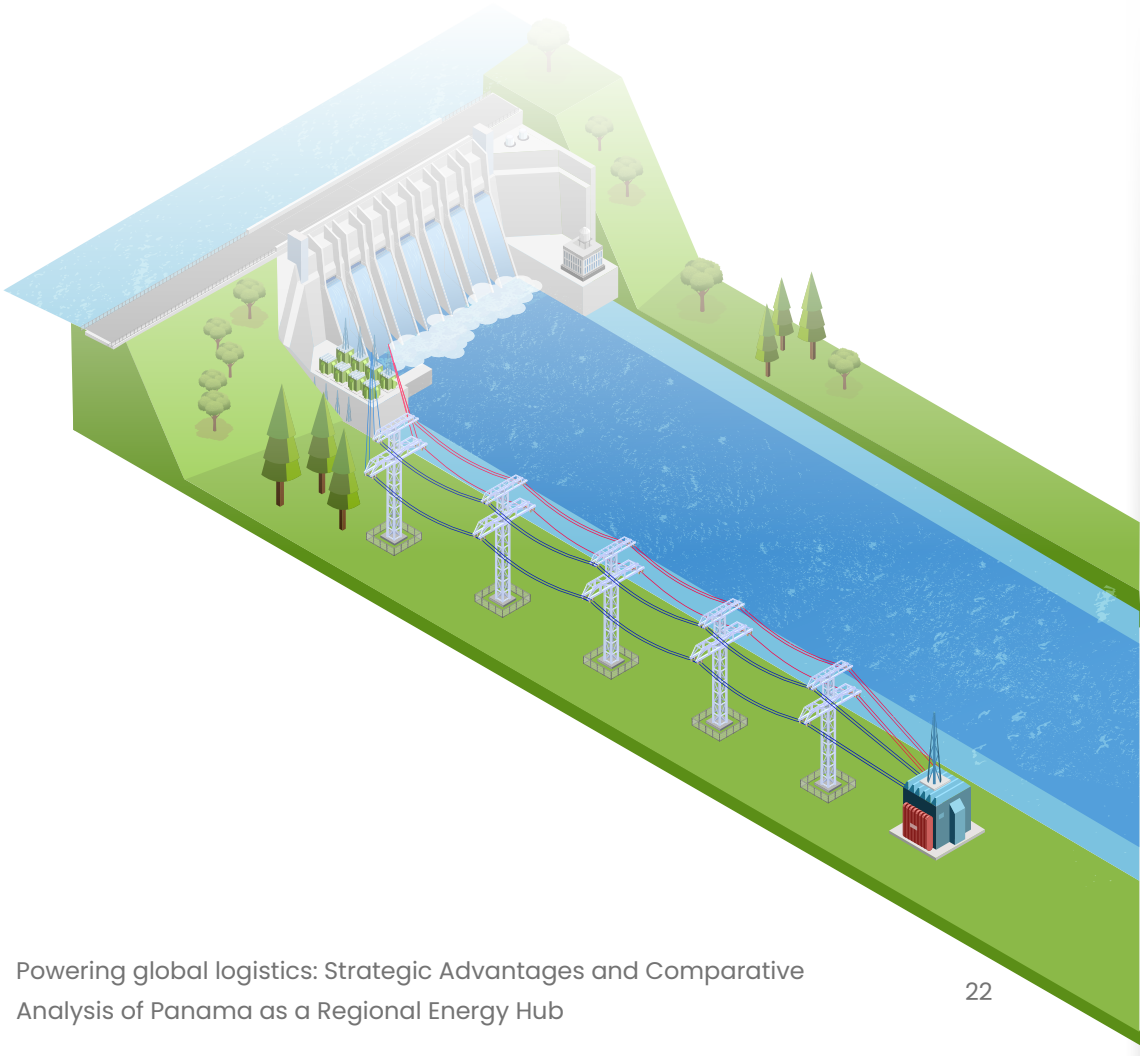
Panama's renewable energy sector currently depends heavily on hydropower, and the National Energy Plan 2015-2050 aims to diversify Panama's energy matrix to avoid dependence. Government initiatives call for increased reliance on wind and solar energy, and replacement of imported petroleum with biofuels. In 2022, the government announced plans to develop the world's largest biofuels production and distribution hub; the proposed Biorefineries Ciudad Dorada, scheduled to begin operating in 2027, would produce sustainable aviation fuel (SAF) and other biofuels from waste grease and purpose grown plant oil. [17]

Looking ahead, Panama´s National Green Hydrogen Strategy (ENHIVE) sets ambitious goals that transform domestic generation into a platform for future exports. By producing hydrogen and its derivatives from solar and winds projects, Panama can supply its domestic market while positioning itself as a regional exporter of clean fuels. Through ENHIVE, Panama seeks to produce 500,000 tons of green hydrogen by 2030, with targets to reach 40% of its maritime bunkering supply from hydrogen-based fuels by 2050. These efforts align with global decarbonization goals under the Paris Agreement and the United Nations Sustainable Development Goals (SDGs).[18]

Infrastructure and Future Goals

A country's energy infrastructure includes all of those elements involved in the generation, transportation, storage, and distribution of energy to consumers. Key initiatives and policies are driving energy systems around the globe to move towards clean energy, decarbonization, grid resilience, and modernization. In that aspect Panama has a head start, having more than half of its energy infrastructure centered around renewable resources.

Panama's energy infrastructure includes thermal, hydroelectric, solar, and wind power plants. As of 2021, total installed capacity reached 3,941 MW: 47% hydroelectric, 34% thermoelectric, 11% solar, and 8% wind. This diversified structure provides flexibility, allowing Panama to integrate with the Central American Electrical Interconnection System (SIEPAC) and contribute to regional energy stability.



Resource	Technology	Installed capacity (MW)	Firm power (MW)
Hydroelectric	Run-of-river hydroelectric power plant	1287.07	694.33
	Reservoir hydroelectric power plant	560.00	450.33
Thermoelectric	Combined cycle	531.00	490.75
	Medium-speed engine	300.45	264.24
	Low-speed engine	81.61	45.20
	Gas turbine	86.50	70.28
	Steam turbine	330.00	266.50
Wind power	Horizontal axis wind turbines	336.00	0.00
Solar	Solar photovoltaic	429.13	0.00
Total		3,941.77	2,281.63

Table No. 4. *Installed capacity and firm power by energy source.*
Source: *(Información de Agentes Panamá, 2022)*

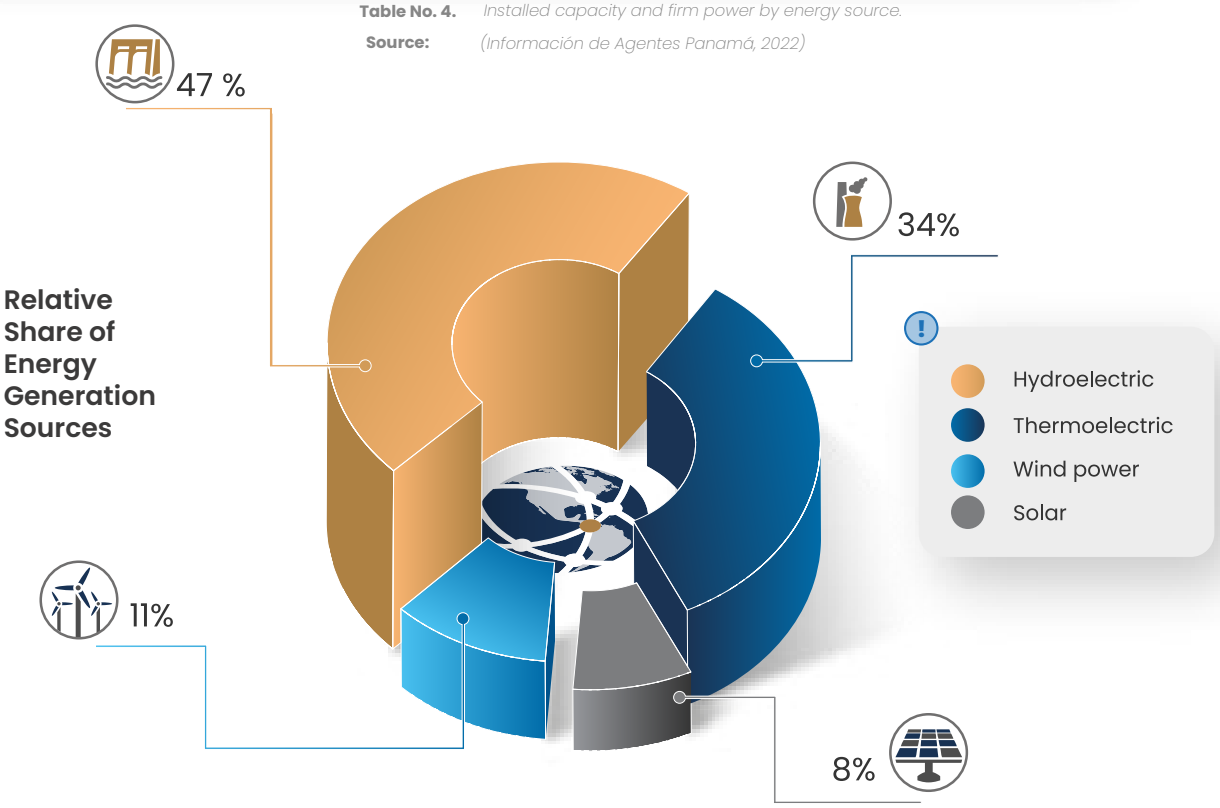


Figure3. *Relative share of energy generation sources in Panama*

The relative share of energy generation sources is shown in figure 3. The figures mentioned do not consider the non-firm surplus from the Panama Canal Authority (ACP) plants, Minera Panamá, small power plants, and isolated systems.

Panama's domestic energy infrastructure not only meets national demand but also enhances the country's regional influence with a diversified mix of hydro, solar, wind, and gas-powered plants. By stabilizing its own grid and supporting regional energy flows, Panama strengthens its position as both a supplier and a strategic connector in Latin America's energy landscape. Its participation in the SIEPAC network and the proposed interconnection with Colombia further position the country as a bridge between Central and South America's energy systems.

This regional energy role is further reinforced by Panama's maritime sector. The country's bunkering industry, which supplies marine fuels like diesel and fuel oil, plays a vital part in supporting global shipping and links the maritime and energy sectors. While Panama still relies on imported fossil fuels for transportation and industrial needs, its continued progress in expanding renewable energy sources and investing in clean fuels such as hydrogen signals a steady and determined transition toward a more sustainable energy future.

Strategies in place: green hydrogen (ENHIVE)

Panama is actively advancing its strategy for green hydrogen development through its National Green Hydrogen and Derivatives Strategy (ENHIVE), which outlines clear targets for 2030, 2040, and 2050. The plan positions Panama as a future leader in the Global Green Hydrogen and Derivatives Route by setting short, medium, and long-term goals.

To achieve this, Panama is relying heavily on non-conventional renewable energy sources. ENHIVE identifies two major flagship projects:

- A green ammonia project for bunkering, powered by a 290 MW solar plant in Colon.
- A green aviation fuel (e-kerosene) project, powered by a 160 MW solar plant and an 18 MW wind plant in the Arco Seco region.

These projects demonstrate the country's commitment to integrating photovoltaic and wind technologies into large scale green fuel production. Although further government plans for renewables are pending, ENHIVE provides a detailed framework for hydrogen development.

Proposed energy matrix vs. current reality

Panama's energy consumption is projected to increase by 188% between 2015 and 2050, reflecting an average annual growth rate of about 3.0% significantly higher than the 62% growth estimated by the International Energy Outlook (EIA, 2013) for non-OECD countries between 2010 and 2040. In response to this outlook, the Government of Panama approved the PEN 2015-2050, in March 2016 as a long-term roadmap to diversify the energy sector and promote energy access, efficiency, security, and decarbonization.[20]

A major milestone was achieved in November 2024, when Panama met 100% of its electricity demand using renewable energy for the first time. The renewable electricity mix was led by hydropower (83.35%), followed by solar energy (11.43%) and wind energy (5.22%), showing increasing diversification in renewable sources This achievement highlights the country's strong potential for clean energy generation and its commitment to decarbonization and climate change mitigation.[21]

Green hydrogen: Green Hydrogen Vision

Panama envisions green hydrogen as a key pillar in its transition toward a sustainable and diversified energy future, leveraging its strategic

geographic location and abundant renewable energy potential. Through the 2023 National Strategy for Green Hydrogen and Derivatives (ENHIVE), the country aims to become a regional hub for the production, storage, and export of green hydrogen, in alignment with its national energy policy, the Paris Agreement, and SDG 7 (Affordable and Clean Energy). This vision seeks to decarbonize hard-to-abate sectors such as transportation, industry, and shipping, while fostering innovation, creating economic opportunities, and strengthening Panama's contribution to global climate action.

How is green hydrogen produced and how does it work?

Green hydrogen is produced via electrolysis using renewable electricity from sources like solar and wind. Hydrogen can then be stored and used in fuel cells, producing only water as a byproduct. Its value lies in its ability to replace fossil fuels in sectors that are otherwise difficult to decarbonize, such as heavy transport, shipping, and energy intensive industries. It also offers energy storage capabilities, supporting grid stability in renewable based systems.[22]

Comparative Perspectives: Global Green Hydrogen Strategies

China, the world's largest hydrogen producer, is transitioning from fossil-based to green hydrogen through a national strategy that targets up to 200,000 tons of green hydrogen annually by 2025. Backed by both central and regional governments, large-scale projects like Sinopec's Inner Mongolia initiative aim to integrate wind and solar energy for hydrogen production, primarily to decarbonize heavy industry and reduce emissions. Singapore, constrained by limited land and renewable resources, focuses on building international hydrogen supply chains and advancing low carbon hydrogen technologies. Its national strategy supports research and development, infrastructure planning, and bilateral agreements with countries such as Australia and Chile, particularly to decarbonize its maritime and aviation sectors.[23]

These contrasting models: China's production led, industrial decarbonization approach and Singapore's import driven, innovation focused strategy highlight the diverse policy paths available. Panama's ENHIVE strategy draws elements from both, aiming to leverage domestic renewables for green hydrogen production while positioning itself as a regional logistics and export hub.

Panama's Role in the Global Green Hydrogen Market

With ten green hydrogen projects currently in the design or assessment phase, Panama is beginning to build the foundations needed to participate in the global hydrogen value chain. The country is exploring the possibility of becoming a re-export point for green hydrogen and its derivatives (such as ammonia and methanol) to markets in Asia and Europe.
Panama is also working on developing infrastructure that can accommodate hydrogen powered vessels and manage the redistribution of hydrogen transported through different carriers, which could expand its role in maritime logistics for clean energy.

However, there are challenges remaining, including:

- Developing a comprehensive regulatory framework for safety and environmental standards.
- Ensuring investment readiness and financial viability of early-stage projects.
- Training a qualified workforce and ensuring inclusive stakeholder engagement.

The National Energy Secretariat is leading efforts in policy development, international cooperation, and regulatory design to support hydrogen infrastructure and investment.

Comparative analysis: Singapore, Rotterdam, Houston, USA and Panama

To gain a clearer perspective on Panama´s advancement and possibilities in the global energy industries, comparing its growth to that of the other prominent ports is crucial. This comparative viewpoint highlights Panama´s changing role and strategic location as it aims to strengthen its presence among the globe´s key energy and logistics centers. While Panama has not attained the level of infrastructure or fuel quantities seen in the global leaders like Singapore, Rotterdam and Houston, its strength is in its unique differentiation. Singapore excels in bunkering operations and Rotterdam stand out in alternative fuels and regasification with facilities such as the Gate Terminal and the Singapore LNG Corporation (SLNG), while Panama leverages its interoceanic position, a relatively clean domestic energy mix, and growing investments in LNG and hydrogen. Floating Storage and Regasification Units (FSRUs), facilitating adaptable LNG management, exemplify the infrastructure Panama seeks to incorporate into its upcoming energy framework.

Analyzing these components together reveals that Panama´s advantage arises form sustainability, regional connectivity, and innovation, rather than just size, establishing it as a dynamic and evolving participant in the worldwide energy.

Comparative Table of Energy Hubs

Category	Panama	Singapore	Rotterdam	Houston/ Texas
Bunkering (annual volume 2024)	= 5.28 Mt (9%)	= 54.9 Mt (world record)[24]	= 9.06 Mt; LNG (+50% 2024)	=4.5 Mts annually[25]
Bunkering model	Anchorage bunkering (Balboa, Cristóbal), local/international suppliers	Trader-refiner-port integrations; wide fuel offer	European hub, fast transition to LNG	Traditional fuels emerging LNG/ bio-LNG
Energy Transshipments / corridors	Interoceanic LPG pipeline project, emerging LNG hub	Jurong terminal (SLNG), planned FSRU, regional commercial hub	Gate terminal (import/ regas), inland pipelines	Major LNG/LPG exporter, large pipeline and terminal network
LNG capacity / regasification	Emerging LNG terminal (AES Colón)	SLNG Jurong (reload, truck-loading), future FSRU[26]	Gate terminal (12-16 billion cubic meters, expansion ongoing)	Extensive LNG export capacity terminals expanding[27]
Domestic power generation (mix)	60-80% hydro; growing solar/wind; AES natural gas	95% imported natural gas, limited local renewables	Growing renewables (offshore wind	Natural gas + strong wind and solar (diverse mix)[28]
Energy transition strategy	National Energy Plan 2015-2050 (70% renewables), ENHIVE (green H2)	Clean energy imports, low-carbon hydrogen, biofuels	Hydrogen, alternative fuels, offshore wind[29]	CCUS (Carbon Capture, Use and Storage), hydrogen, e-fuels; large private investment
Key advantages	Strategic location (Canal), high renewable share	Global scale, strong trading presence, coordination efficiency	Advanced LNG infra, integrated EU grid	Direct access to US energy production, coordination scale
Risks / Challenges	Lack of LNG infrastructure, imported fossil dependency, financing needs	High import dependency, limited domestic resources	Intra Europe competition, climate transition pressure	Grid resilience

Table No.6 *Comparative Analysis of Energy Hubs (Panama, Singapore, Rotterdam and Houston).*

Source: *Compiled and elaborated by the author based on data from the Maritime and Port Authority of Singapore (MPA), Port of Rotterdam, Port Houston, Singapore LNG Corporation (SLNG), U.S. Energy information Administration (EIA).*

This table presents a comparative analysis of four key energy and maritime hubs: Panama, Singapore, Rotterdam, and Houston (Texas). Each location plays a significant role in the global energy landscape, but with distinct strengths, infrastructures, and strategic priorities.

Singapore currently leads the world in bunkering volume, followed closely by Rotterdam, while Panama is emerging as a regional player with significant potential for growth. Each location operates under distinct business and logistical models. Singapore stands out for its highly integrated and diversified fuel supply system, which supports efficient large-scale bunkering operations and strengthens its position as the world's foremost maritime fuel hub.

Regarding energy corridors and transshipment, Houston and Singapore already function as major global nodes with well-established infrastructure and energy flow networks. Panama, in contrast, is developing strategic projects such as the interoceanic LPG pipeline, which aims to facilitate energy transfer between the Atlantic and Pacific coasts. This initiative positions the country as a future hub for LNG and energy transshipment, enhancing its role within the regional energy supply chain.

In terms of LNG infrastructure, both Panama and Singapore are investing in the development and expansion of LNG terminals, though they are at different stages of maturity. Houston possesses extensive export facilities connected to a robust network of pipelines and terminals, while Rotterdam focuses primarily on regasification and capacity expansion through the Gate Terminal, serves as the Netherlands' main LNG import and regasification hub and is currently expanding its capacity to strengthen Europe's energy security and support the continent's transition toward cleaner energy systems.

The domestic power mix of each hub reflects its specific energy priorities and resources. Panama relies heavily on renewable hydropower, complemented by growing investments in solar and wind generation. Conversely, Singapore and Rotterdam depend largely on imported natural gas, while Texas maintains one of the most diversified and resilient

energy matrices in the world, combining natural gas, wind, and solar power within its generation portfolio.

Panama, Singapore, Rotterdam, and Houston are all moving toward cleaner energy systems, though at different speeds. Panama has set ambitious renewable energy goals through its National Energy Plan, while the other three hubs are advancing faster in hydrogen development, carbon capture, and alternative fuels thanks to substantial public and private investment.

One of Panama's greatest advantages is its geographic position, which connects major global trade routes and strengthens its potential as an interoceanic energy logistics hub. This, combined with strong renewable resources, positions the country to develop cleaner energy corridors. Still, Panama faces challenges such as infrastructure limitations, financing needs, and gaps in policy execution, just as the other hubs face their own constraints from Singapore's dependence on imports to strict European regulations and U.S. grid vulnerabilities.

Conclusion: Why Panama is Strategically Positioned as a Regional Energy Hub

Panama's emergence as a strategic energy hub is the result of a confluence of structural, geographic, and policy factors that collectively distinguish it within the regional energy landscape.

Geographic advantages and systemic integration

At the core of Panama's strategic relevance is its unique geographic location at the intersection of two continents and two oceans. The Panama Canal enables direct maritime connectivity between major global markets, significantly reducing shipping times and costs. This is further enhanced by emerging energy infrastructure such as the proposed LPG pipeline and existing LNG terminals that allows Panama to function as a transit corridor but also as a redistribution point for energy commodities.[30] Panama is also

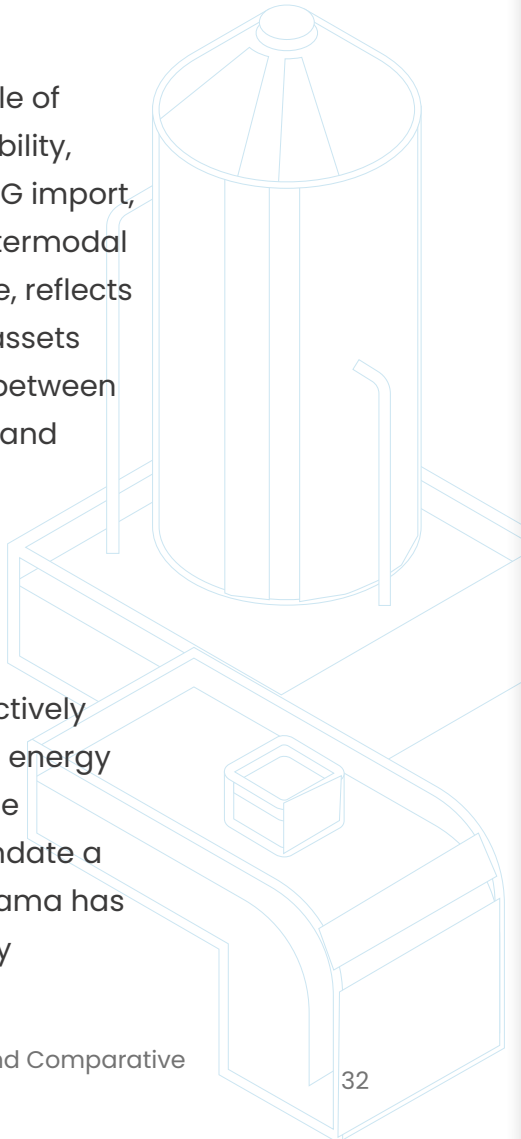
embedded in the Central American Electrical Interconnection System (SIEPAC), allowing it to participate in cross-border electricity trade and regional energy stability.[31]

Diversification and transition of the energy matrix

In response to the vulnerabilities of fossil fuel dependence and climate imperatives, Panama is actively diversifying its energy mix. While imported oil continues to play a role, national policy is shifting toward renewables (solar, wind, and hydro) and transition fuels such as natural gas. The incorporation of LNG, alongside prospects for green hydrogen, demonstrates a deliberate approach to aligning domestic energy policy with broader global decarbonization efforts. This transition is backed by concrete investment in infrastructure and long-term planning under frameworks such as the National Energy Plan.

Infrastructure readiness and market connectivity

Panama has a solid and expanding energy infrastructure capable of supporting national. Recent investments have improved grid stability, increased renewable generation, and established facilities for LNG import, storage, and re-export. The development of a comprehensive intermodal logistics corridor, including new port terminals and a gas pipeline, reflects a systemic approach to energy and logistics integration. These assets enable Panama to serve as a physical and regulatory interface between global supply chains and Central American and Caribbean demand center.



Investment Climate and Policy Framework

Panama's robust investment climate is supported by regulatory transparency, economic stability, and a policy framework that actively promotes public-private collaboration particularly evident in the energy and maritime sectors. In anticipation of the International Maritime Organization's (IMO) 2020 environmental regulations, which mandate a reduction in sulfur content in marine fuels from 3.5% to 0.5%, Panama has proactively aligned its maritime policies with global sustainability

standards. The Panama Canal Authority, recognizing the strategic implications of IMO 2020, has implemented forward looking measures to enhance the Canal's competitive position, including emission reduction incentives and new international partnerships. These initiatives reinforce Panama's broader agenda of integrating environmental governance with market liberalization.[32]

This alignment between regulatory innovation and infrastructure modernization has made Panama an increasingly attractive destination for foreign direct investment (FDI). Investors are drawn to the country's commitment to long term environmental goals without compromising economic competitiveness. Strategic sectors such as logistics, clean energy, and green maritime services continue to benefit from targeted policy incentives, further solidifying Panama's role as a regional hub for sustainable investment.

Sustainability as a Strategic Imperative

Panama's energy strategy is increasingly shaped by climate considerations. National goals for emissions reduction, alongside commitments under international frameworks, have driven the expansion of renewable energy capacity and the development of clean energy technologies. Initiatives in green hydrogen, electrified transport, and energy efficiency place Panama on a trajectory aligned with global decarbonization pathways. This commitment positions the country as a regional leader and a credible actor in the global energy transition.[33]

Notes

[1] Bunker Market. (2025, May 15). Panama bunker sales surge to 5.28M tonnes in 2024: notable insights. https://bunkermarket.com/panama-bunker-sales-surge-to-5-28m-tonnes-in-2024-notable-insights/

[2] Fuentes, G. (2025, June 18). Bunkering process in Panama: How fuel delivery works for ships. Global Bunker Trading Solutions. https://gfbunkertrade.com/bunkering-process-in-panama/

[3] Integr8. (2023, June 1). Bunkering in Panama, prices and data for Balboa - Integr8. https://integr8fuels.com/bunkering-ports/bunkering-panama-balboa/

[4] Georgia Tech Panama Logistics Innovation and Research Center. (2026). Map of Logistics Assets | Panama Logistics Portal. [Computer software]. https://assetsmap.gatech.pa/

[5] Cleghorn, L. (2025, July 8). Corredor energético, puertos y agua potable, las nuevas inversiones del Canal de Panamá. Autoridad Del Canal De Panamá. https://pancanal.com/corredor-energetico-puertos-y-agua-potable-las-nuevas-inversiones-del-canal-de-panama/

[6] Petroterminal De Panamá. (2025). About Us – Petroterminal de Panamá. https://www.petroterminal.com/en/about-us/

[7] Cleghorn, L. (2025, September 3). President José Raúl Mulino announces in Japan the start of the Canal Pipeline Project. Autoridad Del Canal De Panamá. https://pancanal.com/en/president-jose-raul-mulino-announces-in-japan-the-start-of-the-canal-pipeline-project/

[8] International Trade Administration. (2021, April 28). Panama: an LNG hub for the region. U.S. Department of Commerce. https://www.trade.gov/market-intelligence/panama-lng-hub-region

[9] Burckhardt Compression. (2026). LNG import terminal. https://www.burckhardtcompression.com/applications/boil-off-gas-bog-onshore/lng-import-terminal/

[10] AES Panama. (2026). Global x local. https://www.aespanama.com/en/global-x-local

[11] AES Panama. (2026). Fuel conversion. https://www.aespanama.com/en/sustainability/clean-growth-and-innovation/fuel-conversion

[12] Digitude. (2024, November 12). AES Corporation inviting interest in LNG bunkering in Panama ahead of 2025 launch. https://digitude.io/aes-corporation-inviting-interest-in-lng-bunkering-in-panama-ahead-of-2025-launch/

[13] Calabrese, M., Portarapillo, M., Di Nardo, A., Venezia, V., Turco, M., Luciani, G., & Di Benedetto, A. (2024). Hydrogen Safety Challenges: A Comprehensive Review on Production, Storage, Transport, Utilization, and CFD-Based Consequence and Risk Assessment. Energies, 17(6), 1350. https://doi.org/10.3390/en17061350

[14] Panam LNG Bunkering, & Díaz Urrutia, R. J. (2024, October 28). Notice to Shipping – No. N-1-2024 Notice to Shipping. https://h2businessnews.com/wp-content/uploads/2024/11/No.01-28102024-Notice-to-Shipping-LNG-bunkering-services-Panama-2025.pdf

[15] International Renewable Energy Agency. (2018). Renewables Readiness Assessment: Panama. IRENA. https://www.irena.org/-/media/Files/IRENA/Agency/Publication/2018/May/IRENA_RRA_Panama_2018_En.pdf

[16] National Secretariat of Energy (SNE). (2016). Plan Energético Nacional 2015 2050. Gobierno de Panamá. https://www.senacyt.gob.pa/wp-content/uploads/2018/12/3.-Plan-Energetico-Nacional-2015-2050-1.pdf

[17] Global Energy Monitor. (2022, September 21). Energy profile: Panama - Global Energy Monitor. https://www.gem.wiki/Energy_profile:_Panama

[18] Green Hydrogen Organization. (n.d.). Panama. https://gh2.org/countries/panama

Notes

[19] Mosquera, C., Rendoll, O., Halphen, L., Pereira, D., Rivera, M. Bishop, R., Saavedra, M., Rosales, E., & Trejos, J. C. (2023). Plan de Expansión del Sistema Interconectado Nacional 2022 – 2036: Tomo II. Plan Indicativo de Generación. Empresa de Transmisión Electrica S.A. https://asep.gob.pa/wp-content/uploads/electricidad/consultas_publicas/2023/cp_003-2023/tomo_II/tomo_II-plan_indicativo_generacion_2022-2036.pdf

[20] BNamericas. (2024, November 3). Panama achieves 100% renewable generation and supports energy exports to the region. BNamericas.com. https://www.bnamericas.com/en/news/panama-achieves-100-renewable-generation-and-supports-energy-exports-to-the-region

[21] Muñoz, M. A. (2025, April 1). ¿Qué es el hidrógeno verde y por qué Panamá quiere convertirse en un centro de operaciones regional? Octanos Media. https://www.octanosmedia.com/post/hidr%C3%B3geno-una-gran-oportunidad-para-panam%C3%A1

[22] Kumar, K., John, G., Lim, L., Seeger, K., Wakabayashi, M., Kawamura, G. (2023, July 7). Green Hydrogen in Asia: A brief survey of existing programmes and projects. Orrick. https://www.orrick.com/en/Insights/2023/07/Green-Hydrogen-in-Asia-A-Brief-Survey-of-Existing-Programmes-and-Projects

[23] Lerh, J. (2025, January 16). Marine fuel sales at Singapore bunker hub hit record highs in 2024. Reuters. https://www.reuters.com/markets/commodities/marine-fuel-sales-singapore-bunker-hub-hit-record-highs-2024-2025-01-16/

[24] Manifoldtimes. (2020, July 15). Monjasa increases bunker supply capacity at the Houston Greater Area. Manifoldtimes.com. Retrieved October 27, 2025, from https://www.manifoldtimes.com/news/monjasa-increases-bunker-supply-capacity-at-the-houston-greater-area/

[25] Singapore LNG Corporation. (n.d.). Propelling the growth of the LNG ecosystem. https://www.slng.com.sg/

[26] Port Houston. (2025, May 13). Port Houston | Gulf Coast Efficiency driving international trade. https://porthouston.com/

[27] U.S. Energy Information Administration (EIA). (n.d.). Homepage. https://www.eia.gov/

[28] Port of Rotterdam. (n.d.). Bunkering in Rotterdam. https://www.portofrotterdam.com/en/sea-shipping/bunkering-in-rotterdam

[29] Canal de Panamá. (2023, October 24). Connectivity - Autoridad del Canal de Panamá. Autoridad Del Canal De Panamá. https://pancanal.com/en/connectivity/

[30] Comisión Económica para América Latina y el Caribe (CEPAL). (2023). Sistema de interconexión eléctrica para América Central (SIEPAC). CEPAL. https://www.cepal.org

[31] Rodríguez, R. (2023, August 15). El Canal de Panamá Afirma su rol como la Ruta Verde ante la OMI 2020. Autoridad Del Canal De Panamá. https://pancanal.com/el-canal-de-panama-afirma-su-rol/

[32] Staff, J. O. & Secreataría Nacional de Energía. (2023). Resolución N.ºMIPRE-2023-0028248. In Gaceta Oficial Digital. https://www.gacetaoficial.gob.pa/pdfTemp/29832_A/99700.pdf

About the **Why Panama** Program

In the current dynamic global landscape, it is clear that having access to high-quality insights is crucial when determining the optimal location for regional distribution in order to take advantage on the present structure of global value chains.

Georgia Tech Panama Logistics Innovation & Research Center recognizes the importance of key insights in the decision-making process, and works closely with companies seeking to assess their supply chains and how Panama can become a key part of their global logistics network.

The "Why Panama" program utilizes quantitative data and analytics to assess key variables and compare the costs, investments, and service benefits of setting up a distribution center in Panama. By conducting a thorough analysis, the program aims to provide businesses with valuable insights into the advantages of establishing a hub in Panama.

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About Us

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