Panama Canal Advances Two Projects to Boost LNG Transits in Early 2030s

- **Panama Canal Authority issued RFQs for Rio Indio Reservoir and LPG pipeline projects**
- **If approved, both projects could be completed by 2031 to 2032**
- **Projects could increase lock capacity for LNG carriers**

The Panama Canal Authority (ACP) advanced two major infrastructure projects this year that could improve the waterway's drought resiliency and increase LNG transits during the early 2030s.

ACP officials issued a request for qualifications (RFQ) for project management services related to the proposed Rio Indio Reservoir project on Aug. 18. Canal officials also released prequalification documents for an LPG pipeline corridor on Jan. 30. If completed on currently proposed timelines, both projects could enter service between 2031 and 2032.

The Rio Indio Reservoir project would help build freshwater supplies needed to operate the Panama Canal's lock system. The LPG energy corridor project would shift growing propane, butane and ethane transits into individual pipelines and off the locks to make additional capacity available for higher-tonnage and higher-value market segments such as LNG carriers. The reservoir project could allow three additional Neopanamax vessel transits per day, or roughly 1,100 per year. Some of those additional slots could go to LNG carriers. Any cargoes diverted via the pipeline would open additional transit slots for LNG and other segments.

LNG traffic in the Panama Canal reached a peak of 271 transits in 2021 as US Gulf Coast liquefaction capacity expanded and Pacific Basin demand increased. However, LNG transits fell sharply to 178 in 2022, following Russia's invasion of Ukraine, which shifted global trade patterns to Europe and away from the Asia-Pacific region.

The decline accelerated during 2023-2024, as the El Nino weather pattern caused regional drought, impacting Gatun Lake levels, which feed the locks. During this time, the ACP imposed draft restrictions, reduced slot availability and reduced daily vessel transits to preserve freshwater supplies. LNG traffic fell to 37 transits in 2024. LNG traffic has since remained relatively flat at 35 transits in 2025 recovering to 55 transits so far this year. Out of the 55 transits this year, a combined 70% were done by LNG carriers chartered by TotalEnergies, JERA and Mitsui while the remaining 30% went to SK Gas, Cheniere, Securing Energy for Europe (SEFE), QatarEnergy and seven other companies.

In response to the Panama Canal water restrictions during the 2023-2024 El Nino drought, many of the US LNG cargoes headed to Asia bypassed the waterway opting for either the Suez Canal or taking the longer route below the Cape of Good Hope in Africa. Several market participants have continued using the longer route even after restrictions eased. While most US cargoes continue to be sold into Europe, South Korean, Japanese and Asian buyers still use the canal and secure transit reservations to minimize waiting times. Free on-board (FOB) cargoes without a declared destination often opt for the Cape of Good Hope route, prioritizing certainty over the risk of delays associated with obtaining a Panama Canal transit slot.

And with this year marked as another El Nino drought year, cumulative rainfall across the Panama Canal watershed was 34% below the historical average, while watershed inflows were 44% below normal, according to an ACP advisory issued on Aug. 20. ACP officials have already implemented precautionary water-conservation measures. At full freshwater capacity, the maximum draft for Neopanamax vessels is 50 ft. ACP officials have been gradually lowering the maximum draft since July and in a Sep. 3 decision, lowered it to 47.5 ft. The ACP subsequently raised the maximum authorized Neopanamax draft to 49 ft and increased availability to 10 Neopanamax slots and 33 total daily slots from Oct. 15. During the worst of the 2023 drought, maximum draft was lowered to 44 ft while daily transits were reduced to as few as 22 vessels per day.

Rio Indio Reservoir

ACP officials view the proposed Rio Indio Reservoir as a long-term solution to recurring water shortages that threaten canal operations.

The approximately $1.5 billion project would create a new reservoir west of Gatun Lake connected by a 5.3-mile tunnel capable of transferring water into the canal system through gravity. The project includes a 900-meter rockfill dam, three auxiliary dams and supporting infrastructure. The ACP estimates the reservoir would provide enough

freshwater for both canal operations and Panama's projected population growth for the next 50 years.

The ACP launched the first major procurement phase on Aug. 18 with the issuance of the project management RFQ. Canal officials expect to release a design-build tender in late 2027, award that contract in early 2028 and complete construction approximately four years later. The ACP is targeting to commence operations around 2031, although it may take an additional one to two years to fill the reservoir, depending on rainfall patterns. The project has not yet received final environmental approval and remains in the environmental impact assessment phase that is expected to be completed in late 2026 or early 2027.

Community groups representing more than 3,000 people from 500 families who would need to be relocated have also challenged the project through protests and legal action. ACP has said affected families would receive compensation and relocation assistance in accordance with international standards, including replacement housing, land and formal property titles where applicable.

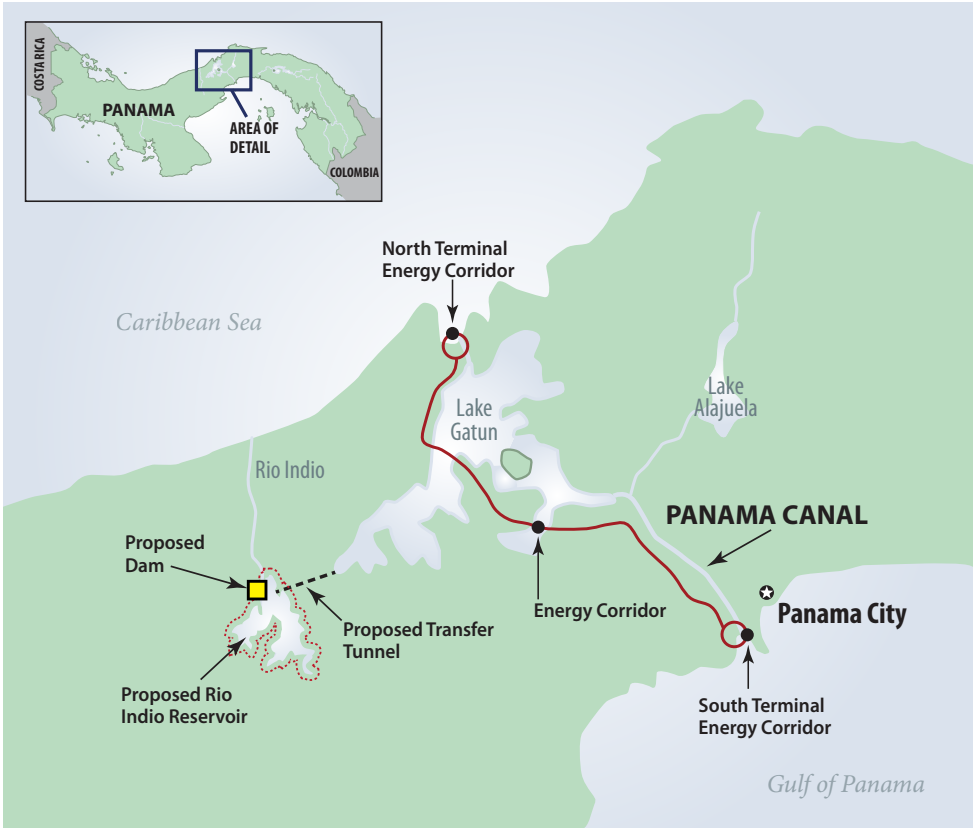
According to ACP officials, the project would eliminate the need for water-related transit restrictions under normal operating conditions while adding the capacity equivalent to roughly three additional Neopanamax vessel transits per day.

For LNG shippers, the reservoir's primary benefit would be greater certainty. The project is intended to reduce the risk of future drought-driven restrictions that have disproportionately affected large vessels requiring deeper drafts.

LPG pipeline

The second initiative addresses a different bottleneck: lock capacity.

Panama LPG Pipeline and Rio Indio Reservoir



The ACP's proposed Energy Corridor project would transport propane, butane and ethane across Panama through three dedicated pipelines stretching approximately 47 miles between the Atlantic and Pacific coasts rather than have LPG carriers transit through the canal's locks.

The project is planned to have 2.5 MMbbl/d of throughput capacity with a dedicated pipeline for each product that includes 1.7 MMbbl/d for propane, 200,000 bbl/d for butane and 600,000 bbl/d for ethane. The project would also include a combined 12 MMbbls of storage and up to 600 MW of LPG-based power generation capacity.

ACP officials released prequalification documents for the concession process on Jan. 30 and closed submissions on July 23. The authority is currently evaluating applicants before moving to a dialogue phase with shortlisted bidders. ACP officials believe the project could cost between $4.2 billion to $8 billion.

LPG carriers transited the Panama Canal via the NeoPanamax locks 76 times, as of end September, accounting for more than 28% of all NeoPanamax transits during the month. Of these transits, 49 were southbound and 27 were northbound. LPG carriers have consistently ranked as the second-largest vessel segment utilizing the NeoPanamax locks, highlighting the continued importance of the Panama Canal to global LPG trade flows.

The canal further estimates that more than 85% of US propane, butane and ethane exports to Asia currently move through Panama. And on top of that, US LPG export projects are expected to grow by the end of the decade. Expansion projects by Enterprise Products Partners, Targa Resources and a joint venture between OneOK and MPLX are

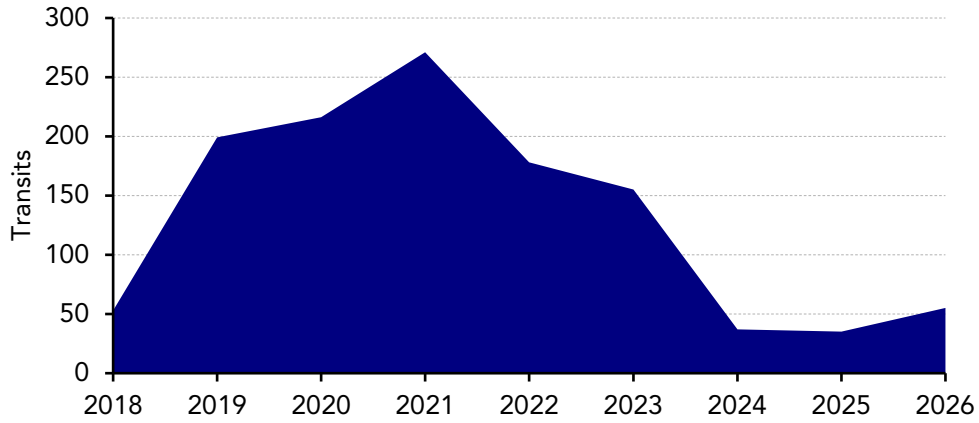
expected to add nearly 1 MMbbl/d of new export capacity by 2028. Most of those new exports will be headed to Asia, increasing competition for Panama Canal slots. By transferring future LPG volume growth into pipelines rather than ships, the ACP hopes to preserve lock capacity and freshwater resources while accommodating growing energy exports.

However, the proposed Panama LPG pipeline faces a range of technical, commercial and logistical challenges that could affect its competitiveness versus traditional ship transits. With the proposal still being evaluated there are no disclosed pipeline tariffs or estimated costs for using the proposed pipelines. The most important goal is to keep the costs of transloading cargoes below the current final cost of delivering LPG to Asia using the canal.

Among the key commercial challenges would be how pipeline operators would guarantee product specs and manage custody transfer as cargo ownership changes between discharge and reload and whether charterers would require additional inspections before reloading. It also remains unclear how much of the cargo would be lost during the transloading process and what additional emissions or product shrinkage could occur. Any material losses would increase costs and could affect the project's competitiveness.

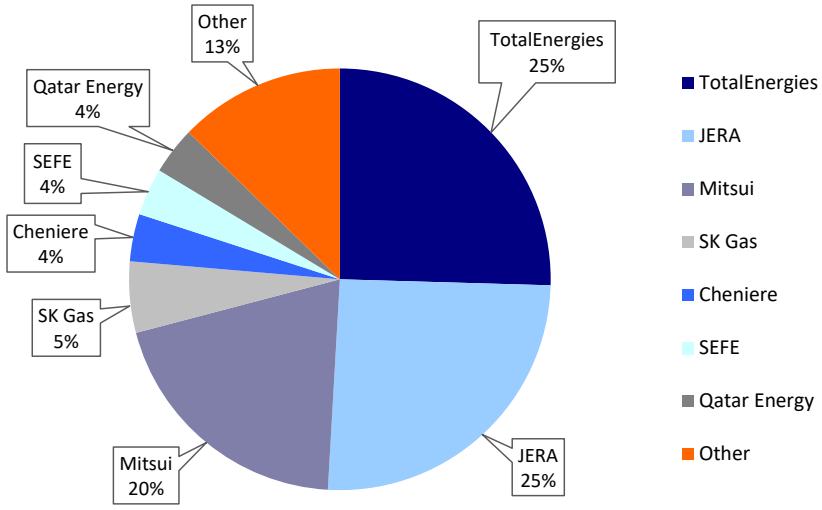
A one-way canal transit for a Neopanamax LPG carrier typically costs between $650,000 and $700,000 when booked through the ACP reservation system. The price includes a $300,000 fixed transit charge, a $2.75/m^3 capacity fee and a $100,000 reservation fee. However, costs can rise substantially during periods of congestion or drought-related restrictions. South Korea's SK Gas reportedly paid a record $5.3 million for an auctioned transit slot in August 2026 to avoid delays.

Panama Canal LNG Transits



Source: Poten & Partners Research

Panama Canal Transits in 2026 by Charterer



The project would also require significant supporting infrastructure, including storage tanks, marine terminals and potentially multiple jetties on both coasts to coordinate vessel arrivals and departures. Shipping costs could increase because cargoes would need to be discharged from one vessel, transported across Panama and then reloaded onto another vessel, adding time and operational complexity compared with a direct canal transit. Exporters may also need to schedule multiple vessels to optimize loading and unloading operations.

Key commercial details also remain unresolved, including pipeline tariffs, how transportation costs would compare with canal tolls, whether LPG carriers would retain access to canal transits and who would ultimately own and operate the pipeline, terminals and storage facilities.

LNG transits

With Panama Canal tolls largely linked to vessel size and tonnage, LNG carriers are viewed as an attractive vessel segment. A fully laden standard-sized 174,000-m^3 LNG tanker typically requires up to 40 ft of draft, meaning most LNG carriers could still transit the canal even when maximum draft restrictions were reduced to 44 ft during the 2023 drought. However, the challenge for LNG shippers is always the reduction in available transit slots and competition from other segments.

The Panama Canal received 14 LNG carriers in September. A one-way transit for a modern 174,000-m³ LNG carrier can cost roughly $1 million, compared to the $650,000-$700,000 in fees for a large LPG carrier.

Looking ahead, the timing of the Rio Indio Reservoir and LPG pipeline coincides with a new wave of US LNG export projects that are expected to enter commercial service in the early 2030s. ACP officials believe that LNG will remain one of the canal's most valuable and strategically important cargo segments.

The projects also represent a long-term bet that LNG demand in Asia will continue to grow. If completed as planned, the Rio Indio Reservoir and LPG pipeline project could allow the Panama Canal to accommodate more LNG cargoes while reducing operational risk.

Amigo LNG Developer Seeks to Build Second Export Project in Mexico

- **Developer of Amigo LNG now seeking to build export project along Mexico's Gulf Coast**
- **Bravo LNG in Matamoros begins permitting for 6 MMt/y of exports**
- **LNG project plans to utilize US feedgas**

The developer of Amigo LNG along Mexico's Pacific Coast is now seeking to develop a second LNG export project along Mexico's Gulf Coast.

Freedom LNG, a Plano, Texas-based affiliate of Singapore-based LNG Alliance, is seeking to build the Bravo LNG export project at the Port of Matamoros, roughly 40 miles south of the US-Mexico border from Brownsville, Texas.

Developers started the permitting process on Sep. 11 after filing applications for free trade agreement (FTA) and non-free trade agreement (non-FTA) export permits from the US Department of Energy (DOE). The proposed export project will require the two DOE permits because the plant will use and re-export US feedgas. Public comments regarding the FTA and non-FTA export permits are due Dec. 7.

The 6-MMt/y export project plans to use one floating liquefaction (FLNG) unit, one pretreatment barge and two floating storage units (FSUs), requiring roughly 0.94 Bcf/d of natural gas, including retainage. Developers plan to install power generation equipment on each barge. Although an engineering, procurement and construction (EPC) contractor has not been selected, developers said the liquefaction and pre-treatment barges will be built in either the UAE or Southeast Asia.

Feedgas for the project will come from a 43.5-mile lateral that will connect to the subsea and 2.6-Bcf/d Sur de Texas-Tuxpan pipeline. It will also require booking capacity on the Valley Crossing pipeline, a sister pipeline on the US side of the border. Developers have not disclosed how they will secure transportation on either pipeline or the proposed lateral. Maximum tariffs published by Mexican government for the Sur de Texas-Tuxpan pipeline are equivalent to roughly $0.53/MMBtu, but the actual transportation cost to Bravo LNG could vary depending on how and at what price capacity is secured. The project could potentially obtain a discount based on its location near the northern end of the pipeline system.

Feedgas transportation costs could increase further after charges for using the Valley Crossing pipeline, the proposed lateral and other services are applied. Because Mexico's state-owned utility company Comision Federal de Electricidad (CFE) is the anchor shipper on Sur de Texas-Tuxpan pipeline under a long-term ship-or-pay agreement, Bravo LNG may need to obtain and pay for transportation rights through a capacity release or commercial arrangement, similar to the approach already used by its sister project Amigo LNG in Sonora. Combined transportation costs could potentially exceed $1/MMBtu depending on the terms of those agreements.

Developers plan to begin the Mexican permitting process for Bravo LNG during 4Q 2027. The Port of Mat-