

An aerial photograph of a tropical beach. The water is a vibrant turquoise color, transitioning to a deeper blue further out. A sandy beach curves along the right side of the frame. Several people are visible in the shallow water, and a few more are on the beach. In the background, there are lush green hills under a bright blue sky with scattered white clouds.

# Why does gas make sense for Latin America & the Caribbean?

Natural gas can bring great benefits to the region regarding economic development, investment, job creation, quality of life, and decarbonisation

Regional Association of Oil Gas and Biofuel Sector Companies in Latin America and the Caribbean (ARPEL)

## Natural gas and the global energy transition

Natural gas will continue to play a fundamental role in the global energy transition, contributing to decarbonisation, energy security, and economic development, mainly in emerging economies.

Firstly, natural gas is the cleaner fossil fuel, as it generates 40% less CO<sub>2</sub> emissions than coal and 25% less than oil products when burned. Moreover, natural gas reduces to almost zero the emissions of other harmful pollutants such as particulate matter, NO<sub>x</sub>, and SO<sub>x</sub>, which is particularly important regarding the air quality that people breathe in large cities. Additionally, natural gas combines very well with renewable energies, providing flexibility to power generation systems or potentially coupling with low carbon hydrogen, leveraging the development of one of the most promising energy carriers in the transition. For example, natural gas can be the feedstock for producing low-carbon hydrogen (blue) or blended in distribution networks. Also, the infrastructure and knowledge are compatible, among other synergies. Furthermore, biomethane, or in other words, non-fossil natural gas, will continue growing rapidly in the next few years.

Another positive attribute that we should mention is that the technology associated with natural gas is mature and well-known along its value chain, from extraction to final consumption. In other words, natural gas is a real option, not a promise, an option that fits perfectly with the most promising technological solutions for decarbonisation, which can also leverage them to reach commercial feasibility.

## Natural Gas in Latin America and the Caribbean

Latin America and the Caribbean is a vast and heterogeneous region where natural gas has excellent development opportunities. Natural gas share in the total energy supply is 31% (OLADE, 2021: 51), and it plays a critical role in the economies of several countries. The chart below shows a summary of the main market indicators in 2020.

There are currently two LNG exporting countries: Trinidad & Tobago and Peru. Both economies were significantly transformed since they incorporated natural gas value chains. Trinidad and Tobago also became one of the main ammonia and methanol world

producers and exporters, two products that are taking great relevance in the global decarbonisation journey. The other export-oriented country is Bolivia, which supplies gas to Argentina and Brazil, natural gas being the country's main export product. Additionally, Mexico, Argentina, Brazil, Chile, and Colombia have very mature and developed natural gas markets, while others are emerging or taking advantage of demand niches such as LNG-to-power. LNG has also proliferated in the region. Since the first importing terminal began operations in the Dominican Republic in 2003, 20 importing terminals have been deployed in 10 countries while many projects are now underway.

## Where are the greatest opportunities in LAC?

### Argentina's Vaca Muerta play:

The Vaca Muerta play in Argentina, which has world-class, non-conventional oil and gas resources, has been under development in the last few years. This play has become a reality thanks to massive investments and innovation, transforming the gas market in Argentina and the Southern Cone while helping the country to attract investment and foster economic development. Currently, most of the 57 mcmppd of shale and tight gas produced in the country are coming from Vaca Muerta, representing 46% of the country's natural gas production. The quality and abundance of its resources could transform Argentina into a prominent gas exporter, first amplifying the delivery to neighbouring countries and later integrating to world markets through LNG. However, reaching Vaca Muerta's full potential will require significant transport infrastructure development, some of which are now underway.

### Brazil gas market opening and LNG

The recent opening of the natural gas market can potentially boost demand, enhancing the development of different sources of supply, both domestic, mainly in the offshore pre-salt region, and foreign. In particular, the massive drought that Brazil suffered last year, which was one of the largest in the last 100 years, boosted LNG imports to reach historical records in 2021, almost trebling the 2020 figure. This situation clearly showed the role of natural gas in providing security and flexibility, particularly in power markets that rely primarily on renewable sources. There are currently 5 LNG import terminals in Brazil, and there are also some projects →

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under development. LNG is seen as one of the main opportunities in the country.

## **LNG-to-Power in Central America and the Caribbean**

Countries with a significant share of coal or oil products as feedstock for power generation have a great opportunity to incorporate natural gas in the energy matrix. Most Central American and Caribbean countries are in this category. LNG-to-power has been the main driver in Panama, Dominican Republic, or El Salvador, so the region has a high and well-proven potential, which can take advantage of its proximity to diverse supply sources such as the USA or Trinidad and Tobago. In the case of small islands, small-scale solutions are becoming more competitive, and the maturity of the regasification infrastructure in other neighbouring countries can leverage this option. A recent small-scale LNG project developed in Ecuador which imports ISO-containers, or the Jamaican experience, can be interesting examples to replicate in the Caribbean.

## **Chile's coal power generation phase-out**

Chile, a country that is progressing rapidly in the development of renewable energies and green hydrogen, still relies vastly on coal for power generation. This source represented 34% of the power generation share in 2021 (CNE, 2021). Chile has committed to phasing out 65% of

coal power plants by 2025 and 100% by 2040; therefore, it can find in natural gas, coming from Vaca Muerta or via LNG, the perfect partner for this transition.

## **Guyana and Suriname, the rising stars**

Undoubtedly, the region's rising star is the recently discovered high-potential offshore basin of Guyana and Suriname. Guyana, which has already reached the production phase, is currently producing 120,000 barrels of light oil per day, and reasonable projections indicate that the country can reach 750,000 barrels per day by 2026. Hitting oil led to a massive economic impact in the country, as Guyana's GDP grew 43.5% in 2020; 21.2% in 2021, and it is expected to grow 50% in 2022, despite COVID-19. Guyana, the Human Development Index of which was 0.68 in 2019 (mid-level), has in its hands a unique opportunity to leapfrog in terms of economic development. Suriname, still in the development phase, is expected to follow Guyana's way. Natural gas projects will begin to happen in both countries, anchoring in monetization opportunities of associated gas and power generation needs.

## **Other opportunities - integration and heavy transport**

The Southern Cone, a sub-region physically integrated via pipelines with idle capacity, shows excellent opportunities to deepen regional gas integration, taking advantage of

Country	Reserves	R/P Ratio (years)	Production (Mill. m3/d)	Consumption (Mill. m3/d)	Imports Pipelines (Mill. m3/d)	Imports LNG (Mill. m3/d regas)	Exports Pipelines (Mill. m3/d)	Exports LNG (Mill. m3/d regas)
Mexico	6.3	5.9	82.4	236.4	148.7	6.9	0.1	-
Argentina	13.6	10.1	104.9	120.4	14.3	4.9	3.7	-
Bolivia	7.5	14.8	39.5	10.0	-	-	31.3	-
Brazil	12.3	14.6	65.6	88.0	17.0	9.2	-	-
Chile	s/d	s/d	3.5	16.8	3.5	10.1	-	-
Colombia	3.0	6.5	36.3	38.2	-	1.1	-	-
Ecuador	s/d	s/d	1.5	1.5	-	-	-	-
Peru	9.2	21.6	33.1	19.3	-	-	-	13.8
Trinidad & Tobago	10.2	9.8	80.7	41.4	-	-	-	39.3
Venezuela	221.1	333.9	51.4	51.4	-	-	-	-
Others	1.9	19.7	7.3	13.8	0.2	12.8	-	-
<b>Total</b>	<b>285.2</b>		<b>506.2</b>	<b>637.1</b>	<b>183.6</b>	<b>44.9</b>	<b>35.1</b>	<b>53.1</b>

Sources: BP, GIIGNL, Enargas, ANH Bolivia, CNE Chile

the interesting supply and demand complementarities.

Finally, heavy transport, both land and maritime, constitutes an excellent opportunity to develop new value chains in the region. In the case of land transport, natural gas (CNG or LNG) can bring significant economies, considering that 85% of tons per km are transported via diesel-fuelled trucks. In the case of maritime transport, Panama could become a natural hub regarding LNG for bunkering because of the Panama Canal. At the same time, river transport in the Parana-Paraguay waterway represents another interesting option for the Southern Cone.

### Challenges and final considerations

Natural gas can bring great benefits to the region regarding economic development, investment, job creation, quality of life, and decarbonisation. However, reaching the potential that natural gas represents for the region implies large amounts of capital and investment. Despite the excellent and well-documented opportunities that natural gas can bring to this region, access to finance represents today a significant challenge to develop natural gas projects, and this situation could become an important barrier. At the same time, the finance sector's growing demands, as well as those from the international community and

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civil society, should lead oil and gas companies in the region to adopt strict ESG policies to report and manage their impacts more transparently.

Finally, fostering natural gas will require political decisions and appropriate energy planning that considers the specificities of the energy transitions in Latin American and the Caribbean countries while striving to advance in other technologies that show great promise in the long term. ■