



Decoding Latin America

Key insights for understanding climate action in the region

Delfina Godfrid, Pau Morandi and Juan Pablo Martínez

Policy insight

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Summary

This policy insight provides policymakers, researchers and finance actors with an overview of the political and economic climate action landscape in Latin America, through a nuanced analysis of national climate action in 10 Latin American countries.

Key insights

- Argentina has high clean energy potential and large lithium reserves. Some national initiatives aim to leverage these resources, but they seem to lack a sustainable approach. A development model reliant on fossil fuels is being prioritised and political commitment to climate action has weakened. However, subnational climate action seems to be progressing.
- Brazil's main challenge is halting deforestation, which is particularly difficult due to perceived short-term economic trade-offs given the direct link between deforestation and the agricultural sector. The current administration promotes green industrialisation and the country's welldeveloped financial ecosystem is key to channelling international capital towards its net zero transition.
- Chile has abundant natural resources and renewable energy potential, and has so far profited from policy and market signals that have helped shut down coal power plants, expand solar and wind power, and develop sustainable industrial strategies. However, economic and institutional bottlenecks in electricity transmission and project approval have impeded further progress and the frontrunner in the 2025 national elections may weaken political consensus on climate action.
- Colombia's measures to halt oil and gas exploration have destabilised energy prices, increased investors' perceived risk and reduced investment. Still, the government's environmental agenda has had a few successes, including bringing renewables to poorly connected areas. However, reaching net zero will heavily depend on rural development pathways, where illegal groups thrive.
- Costa Rica is a regional clean energy pioneer and is facing growing political tensions around its
 decarbonisation agenda. The continuity and protection of the country's climate action progress
 depend heavily on securing adaptation finance, particularly for developing resilient infrastructure,
 reducing dependence on hydropower, and addressing rising organised crime.
- **Ecuador's** economy depends on fossil fuels and its hydroelectricity production has been failing due to water shortages. There are opportunities to diversify the country's electricity supply by drawing on its wind and solar potential, but strong investment barriers persist. Ecuador exports copper, but developing the sector while addressing community concerns around its impacts is challenging.
- Mexico's main climate challenge lies in its energy transition, which is hampered by fossil fuel dependence, vested interests, energy subsidies and institutional barriers. Additionally, urgent adaptation efforts require stronger support and coordination with subnational governments, as the national government is trying to balance fiscal pressures and high public debt.
- Panama aims to advance its renewable energy production while managing associated challenges, including water stress threatening hydropower-electricity production and the functioning of the Panama Canal, fiscal pressures, and risks posed by land use change. Advancing both its energy transition and forest protection strategies is key to securing Panama's climate goals through to 2050.
- **Peru** is a mining economy facing high political volatility and institutional weakness. Advancing climate action requires ensuring the mining sector is aligned with environmental protection and socioeconomic objectives. Key greenhouse gas mitigation actions include reducing deforestation (which is linked to agricultural and mining activities) and increasing renewable energy generation.
- **Uruguay** is a regional leader in the energy transition, committed to climate action, having consistently developed initiatives in this respect, including innovative financial decarbonisation instruments. It is working towards its 'second energy transition' to address fossil fuel use beyond electricity. Agriculture remains a challenging sector for greenhouse gas mitigation.

1. Introduction

This report decodes the landscape of political and economic climate action in Latin America by providing a synthetic overview of 10 Latin American countries as of early November 2025: Argentina, Brazil, Chile, Colombia, Costa Rica, Ecuador, Mexico, Panama, Peru and Uruguay (see Figure 1.1). It is designed to inform policymakers, researchers and finance actors who intend to engage with stakeholders from the analysed countries during the 30th meeting of the Conference of the Parties (COP30), which will take place in Brazil from 10 to 21 November 2025.



Figure 1.1. Economic profile by country and main greenhouse gas (GHG) emission sector

Source: Authors' elaboration. World greenhouse gas emissions contribution data: authors' analysis based on EDGAR (2025). Main emission sector data: Argentina: Subsecretaría de Ambiente (2024); Brazil: Government of Brazil (2024a); Chile: UNFCCC (2024); Colombia: IDEAM et al. (2024); Costa Rica: MINAE (2024); Ecuador: MAATE (2024a); Mexico: Gobierno de México (2024); Panama: Ministerio de Ambiente de Panamá (2024); Peru: Gobierno del Perú (2024a); Uruguay: Ministerio de Ambiente (2024). Other data: WB (2025a).

By aggregating countries into regions, general traits can be identified, revealing common opportunities and challenges. A key characteristic of Latin America is its strong natural capital endowment, including fertile land, water and forests. Its economies commonly export raw materials, such as fuels and minerals, and import high-value green technology (WB, 2025b). Agriculture is economically crucial, with emissions from agriculture, forestry and land use change predominating, and significant associated resilience needs (WB, 2025c). The region's electricity profile is relatively clean, with hydropower supplying nearly half of its electricity (IEA, 2021), and expansive wind and solar resources, if unevenly developed. Latin America also has abundant fossil fuels, particularly oil and gas (IEA, 2023a). Socioeconomic trends include low investment levels, fiscal problems, and high debt and inequality (IEA, 2024a; OECD, 2023a).

Yet, each country's national circumstances differ. They have different development models, heterogeneous opportunities to embed climate action in their future pathways, and distinct levels of political commitment to do so. Our aim is to provide an understanding of the political and economic climate action landscape in each country analysed, thereby facilitating cooperation in initiatives that can strengthen green economic sectors and boost sustainable development by

leveraging climate action opportunities and tackling associated challenges. Climate action and development are interlinked and cannot be considered separately.

We conducted a structured analysis, which enabled us to identify the current development model and socioeconomic context of each country, as well as whether measures to embed climate action into development pathways are being pursued or if there is political willingness to do so. First, we identified national climate action needs by analysing the main emission sources and the main socioeconomic sectors exposed to climate risk. Second, we examined how these pressing sectors are linked to the development models of each country. Third, we reviewed transition initiatives that target changing these sectors and their relation to the current political agenda. The analysis is based on a review of published material, supplemented by the reviewers' expertise.

Section 2 presents our analysis of each of the 10 Latin American countries studied. Each country profile is customised to highlight the main climate action challenges and opportunities. Section 3 concludes by outlining some considerations for advancing towards climate targets and sustainable development in the region.

2. Country analyses

2.1. Argentina: great clean energy potential but political and economic challenges

Argentina's top four sectors for greenhouse gas emissions



1. Energy: 50%



2. Agriculture: 25%



3. Land use, land use change and forestry (LULUCF): 13%



4. Industry: 6%

Note: 2022 data. Source: Subsecretaría de Ambiente (2024).

Argentina's economic growth is hampered by a legacy of institutional instability, high macroeconomic risk and political uncertainty (EIU, 2025a). Further, investment is obstructed by a history of sovereign debt defaults, with three occurring since 2001 (EP, 2023). Sluggish economic growth contributed to a stagnation in total greenhouse gas emissions during roughly the past 15 years (MAyDS, 2022; Subsecretaría de Ambiente, 2024). The country's energy mix is highly dependent on fossil fuels. In 2023, clean energy sources, including nuclear, accounted for around 16% of primary energy consumption, and the majority of that was from hydroelectricity. Nevertheless, Argentina has the fourth-largest onshore wind potential globally and 'excellent' solar photovoltaic (PV) conditions (Aneise et al., 2024; OECD, 2025a; WB, 2020). The two main emissions subsectors within the energy sector are the energy industry, specifically electricity and heat production, and transport, which is yet to electrify (Subsecretaría de Ambiente, 2024).

The agrifood sector is critical to the Argentine economy, and its productivity is closely tied to technology, an area in which it is a regional leader. In 2021, agricultural and agrifood value chains accounted for nearly 16% of gross domestic product (GDP), over 10% of federal tax revenues, around 20% of private sector employment, and more than half of all exports (WB, 2023a).2 Argentina has much to gain from developing and implementing climate-smart practices that decrease emissions, improve resilience and enhance productivity. Upstream, it produces agricultural machinery, fertilisers and biotechnology. And the country's agrifood tech ecosystem has given rise to innovations, such as those in digital agriculture (WB, 2022a). Since climate events impact yields, building agricultural resilience should contribute to building economic stability. For example, droughts, which have increased in frequency, are already impacting the agriculture sector (WB, 2022a). Other unresolved sustainability challenges for the sector include the expansion of the agricultural frontier in the Gran Chaco region (Almeida et al., 2024); and enteric fermentation emissions, which account for 74% of agriculture (and livestock) emissions (Subsecretaría de Ambiente, 2024). The Forestry Law, which protects native forests, has contributed to a reduction in national deforestation (MayDS, 2021; WEF, 2025). And so too have sustainable intensification practices, such as zero-tillage methods (WB, 2023a).

¹ Hydroelectricity production is expected to be affected by climate change, due to decreasing water availability (WB, 2022a).

² In 2024, soy and derived products were the biggest national export sector, responsible for 25% of exported goods (INDEC, 2024).

Between 2015 and 2023, the importance of institutionalising and enacting climate policy seemed to be understood by all Argentinian political parties. This was evidenced in 2019, when 95% of the Chamber of Deputies' legislators voted in favour of the country's Law 27.520, which institutionalised the Climate Change National Cabinet, mandating it to implement the country's adaptation and mitigation plan (FARN, 2019). However, under President Milei's government (2023–27) — an administration that prioritises tackling high levels of inflation by conducting a fiscal consolidation process — the climate agenda has undergone a shift.

The current national government has downgraded the environmental agenda, with the Ministry of Environment having been relegated to a subsecretariat since January 2024 as part of the government's downsizing reforms. Strategic climate action appears to be absent from the current government, with no overarching energy transition plan existing to guide and sequence investments. The development of the fossil fuel shale formation known as Vaca Muerta is high on the agenda, as is building pipelines to transport gas and infrastructure to export liquefied natural gas (CAT, 2025).⁴ A priority of this administration appears to be implementing policies that attract investment in sectors with static comparative advantages, primarily natural resources, such as minerals — for example, lithium, as Argentina is the world's fourth-largest lithium producer, and has one of the biggest lithium reserves in the world (Corfield and Delbuono, 2024) — and energy, with a focus on hydrocarbons. A key norm in pursuing this is the Incentive Scheme for Large Investments, which environmental organisations have expressed strong concerns about, explaining that it reduces socio-environmental protections (FARN, 2025a; 2024).

Several events are unfolding that will shape Argentina's clean energy future. First, an electric market reform decree was sanctioned in July 2025 to increase private competition and investment in electricity generation and transmission (Medinilla, 2025). Second, a priority for renewable expansion and to alleviate blackouts is strengthening high-voltage transmission infrastructure, which the government is now trying to address through private investment (Ministerio de Economía, Argentina, 2025). However, it remains unclear whether these measures will significantly increase clean energy production (Medinilla, 2025). Renewables appear not to have the same level of governmental support as fossil fuels (French, 2025; Trebucq, 2025). Concurrently, Law 27.191 from 2015, which established national incentives and aims for renewable energy growth, will expire in 2025 (IEA, 2025a).⁵ A third development to highlight is the government's nuclear energy plans, an initiative which is still unfolding and focuses on attracting private capital (Scibona, 2025).

Regarding climate policy, Argentina's first biennial transparency report (BTR) was presented in December 2024 and it has not withdrawn from the Paris Agreement, although in February 2025, President Milei was reported as saying he was considering doing so (Ubertalli, 2025). Further, in early November 2025, the government presented its third nationally determined contribution (NDC), which modifies Argentina's emissions limit "from 349 million tonnes of CO2 equivalent — set in 2021 — to 375 million for 2030 and 2035" (Mohle, 2025, translated). The government claims that the new target is more ambitious, based on methodological changes having been implemented (these details are yet to be published [Gadea Lara, 2025a]). However, concerns about the updated NDC being regressive have been expressed by civil society actors (Mohle, 2025). This follows concerns that were raised before the third NDC was published over the lack of

All governments during 2015–23 supported hydrocarbon production, and none sought to strategically position the country as a climate action frontrunner. Nevertheless, Law 27.520 was enacted during President Macri's government (2015–19), which also upgraded the previous subsecretary of environment into a ministry, developed several sectoral climate action plans, and created a programme called RenovAr, which increased renewable energy generation. President Fernández's climate policy (2019–23) was tainted by disagreements between different governmental areas (Aneise and Möhle, 2024). However, it worked through the Climate Change National Cabinet to create updated climate action plans.

⁴ Relative to the previous 15 years, 2024 hydrocarbon production was at its highest level. Globally, Vaca Muerta is the fourth-largest unconventional oil reserve and the second-largest natural gas reserve (EIU, 2025a).

 $^{^{\}rm 5}$ $\,$ It appears that the law will be extended but with some modifications.

⁶ The motivations underlying this could be related to political complexities (given that the Agreement has been ratified by law), an interest in climate finance opportunities, such as carbon markets, the EU-Mercosur free-trade agreement, and joining the Organisation for Economic Co-operation and Development (OECD), with the latter two being linked to environmental requisites (Jefatura de Gabinete de Ministros, 2025; EIU, 2025a; Fraquelli, 2025; FARN, 2025a).

participatory processes involved in its development (Gadea Lara, 2025b; Mercure and Laguzzi, 2025). During COP29, the Argentine delegation, including "technical staff from the environment secretariat and the Foreign Office were ordered to withdraw from the global event" (Rosemberg and Vazquez, 2024, translated), and the Party Overflow accreditations, used by representatives from "academia, civil society, and subnational governments", were discontinued (Gadea Lara, 2025b, translated). Still, at the subnational level, per Villares, "the majority of provinces are increasing their climate commitments" (2025: 93, translated). Argentina is a federal country, and some provinces are cooperating and coordinating their climate actions through alliances, such as the newly created 'Argentinian Green Alliance' (Ricard et al., 2025), and hosting pre-COP30 events (e.g. ICLEI, 2025).

Overall, the current national administration prioritises a development model reliant on fossil fuels, and has implemented fiscal and institutional governmental reforms leading to decreased resources being dedicated to climate action (FARN, 2025a; 2025b).

2.2. Brazil: ecological transition: towards green reindustrialisation

Brazil's top four sectors for greenhouse gas emissions



1. Land use, land use change and forestry (LULUCF): 39.5%



2. Agriculture: 30.5%



3. Energy: 20.5%



4. Industry: 5.0%

Note: 2022 data. Source: Government of Brazil (2024a).

Brazil is one of the biggest and most biodiverse countries in the world, as well as the largest economy and the most populous country in Latin America. It occupies nearly half of the South American continent and is home to both the Amazon rainforest and the Cerrado tropical savannah, which are among the most critical biomes for global biodiversity and climate regulation. The country faces both high levels of inequality and significant exposure to climate risks, especially flooding and extreme heat.

Over the last two decades, Brazil's economic growth has been largely dependent on agriculture and extractive activities (WB, 2023b). The main source of emissions is land use change, largely driven by forest-to-pasture conversion and agricultural expansion in the Amazon and Cerrado. The second-largest source is agriculture, where enteric fermentation from cattle accounts for 65% of sectoral emissions, followed by emissions from agricultural soils (23%) (WB, 2023b; Government of Brazil, 2024a). High exposure to physical climate risks is shaping Brazil's economic trajectory: between 1995 and 2019, recurrent climate-related events caused average annual losses of US\$2.6 billion, highlighting the scale of the country's climate vulnerability (WB, 2023b).

Concerning energy, Brazil has a very clean electricity matrix: renewables account for 90% of its electricity supply, with around half of its primary energy supply relying on renewables. Hydropower remains the main renewable source, providing around 60% of total electricity generation. However, infrastructure ageing, lack of maintenance and projected precipitation changes could reduce its efficiency and increase the frequency of energy supply disruptions (WB, 2023b). Between 2022 and 2023, expansion of installed electricity generation capacity increased by almost 10%, mainly due to rapid growth in solar (+68%) and wind (+17%) power, alongside reductions in thermal generation from natural gas (-8%) and oil products (-19%) (Government of Brazil, 2024a). Nevertheless, the country is a growing fossil fuels exporter, and Petrobras, its national fossil fuel company, is expected to play a crucial role in expanding national production by 2030 in correlation to increasing global demand (Bois von Kursk et al., 2025). During a speech in July 2025 for the inauguration of a natural gas plant, President Lula expressed his views on this: "I think that in the future we will not need fossil fuels, but while we have them and we do not have clean energy, we will have to use the money from fossil fuels to build clean energy ..."

(Government of Brazil, 2025c, translated).

Parazil's GDP per capita increased 1.4 times between 2000 and 2023, compared to 5.5 times in China and 3.0 times in India. Its national economic growth is heavily dependent on factor accumulation, while productivity growth remains static (WB, 2025d).

Re-elected in 2022 after Jair Bolsonaro's administration, President Luiz Inácio Lula da Silva (2023-26) is seeking to reposition the country as a global climate action leader ahead of COP30 with a regional and pragmatic view. At the international level, Lula has worked in this direction through Brazil's G20 and BRICS presidencies, linking climate action and economic development.

At the domestic level, a reform agenda is being implemented to green and reindustrialise the economy, linking decarbonisation, social inclusion and industrial policy. After the interruption and weakening of many environmental initiatives during the last administration, the government has presented an updated NDC and relaunched critical sectoral plans like the Action Plan for the Prevention and Control of Deforestation in the Legal Amazon, and in the Cerrado (respectively PPCDAm and PPCerrado), to curb deforestation and fires. Consequently, between August 2023 and July 2024, deforestation in the Amazon fell by more than 30% and by 25.8% in the Cerrado (Government of Brazil, 2024a). Other key policy frameworks include the ABC+ Plan for lowcarbon agriculture, originally launched in 2021 under the previous administration, and the Ten-Year Energy Expansion Plan (PDE), updated in 2023, to maintain Brazil's globally distinctive highrenewables electricity mix. These policies are backed by strengthened enforcement agencies (e.g. the Brazilian Institute of Environmental and Renewable Natural Resources [IBAMA] and National Institute for Space Research [INPE]) and renewed interministerial coordination. Two key strategies launched to pursue Brazil's green reform agenda are the Ecological Transformation Plan (ETP) (2023), led by the Ministry of Finance, which seeks to achieve a shift in Brazil's economic model (Government of Brazil, 2025b), and the Nova Indústria Brasil Plan, launched in 2024 by the Ministry of Development, Industry, Commerce, and Services, to reindustrialise the country (Government of Brazil, 2025a).

However, Brazil remains caught in a 'high-debt, high-cost' trap, where fiscal and monetary constraints elevate the cost of capital for green investments despite stronger institutions and ambitious climate plans. Pensions and social security, public wages, transfers to subnational governments, and debt service absorb nearly all federal revenues, leaving limited space for discretionary climate investment (WB, 2025d). Inflation is highly climate-sensitive: droughts, floods and fires disrupt food and energy supply, quickly translating into higher prices and forcing the central bank to maintain one of the highest policy interest rates among G20 peers.

While dealing with challenging fiscal rigidity, Brazil is strategically seeking to advance climate commitments and address development needs concurrently. Advancing rural development while controlling deforestation requires integrating enforcement with inclusive rural credit, land tenure reform and viable bioeconomy alternatives. Strong policies are needed to avoid stranded assets and unlock private investment in clean industries, for which de-risking instruments, such as climate insurance, sovereign guarantees and blended finance, can be key. To this end, Brazil has already developed notable mechanisms such as the Amazon Bioeconomy Fund, the BNDES-managed Climate Fund Program, and the Inter-American Development Bank's (IDB) FX EDGE facility to mitigate currency risk and lower financing costs.

On this, it is also important to highlight the continued expansion of Bazil's climate finance architecture: Brazil Climate and Ecological Transformation Investment Platform (BIP), a collaboration between the Brazilian Development Bank (BNDES) and the Glasgow Financial Alliance for Net Zero (GFANZ) launched in 2024 to mobilise private capital aligned with the Ecological Transformation Plan (PTE), a platform that promotes business opportunities in green economic sectors, attracting foreign investment to support decarbonisation and development (GFANZ, 2024). Looking ahead, another innovative mechanism proposed by the Brazilian Government, the Tropical Forests Forever Facility (TFFF), is expected to be launched at COP30 to enable large-scale, performance-based investment in forest preservation.

Brazil's updated NDC (2024) pledges to reduce emissions by 59-67% relative to 2005 by 2035, and reaffirms net zero by 2050. A positive aspect of the NDC is that it includes a statement related to fossil fuel phase-out, though no exact timelines have been specified (Carbon Brief,

2024; Talanoa, 2024). To achieve its NDC, *Plano Clima* (2024–35) was launched by Brazil's Ministry of Environment and Climate Change, a national mitigation and adaptation plan coordinated by the Interministerial Climate Committee. The plan outlines sectoral mitigation pathways for energy, transport, agriculture and industry, as well as the country's key adaptation priorities.

Overall, the opportunities are significant. With one of the cleanest power systems in the G20, vast biodiversity and strong financial and institutional capacity and political commitment, Brazil has the ingredients to anchor a just and sustainable transition. The challenge is to lock in its recent deforestation gains, lower the cost of capital for green industries, and ensure that climate action delivers both social inclusion and fiscal resilience — challenges that resonate well beyond Brazil.

The NDC says "Brazil would welcome the launching of international work for the definition of schedules for transitioning away from fossil fuels in energy systems ..." (Government of Brazil, 2024b: 30).

⁹ Urgencies include securing water resources amid droughts, protecting food systems and smallholder farmers, reducing disaster risks from floods and fires, strengthening health systems to address climate-related diseases, and safeguarding vulnerable populations and ecosystems through a just transition approach.

2.3. Chile: an early mover facing scale challenges

Chile's top four sectors for greenhouse gas emissions



1. Energy: 76.4%



2. Agriculture: 8.3%



3. Waste: 8.0%



4. Industry: 7.3%

Note: 2022 data. Source: Authors' calculations based on gross emissions data provided by the UNFCCC (2024).

Chile has positioned itself as a global frontrunner in the energy transition, combining ambitious emission reduction targets with institutional reforms to enable decarbonisation. Over the past decade, the country has dramatically reduced its reliance on coal while scaling up solar and wind generation. This success is partly explained by a copious endowment of natural resources and renewable potential, and it has been supported by competitive auctions, clear regulatory frameworks and long-term planning. These achievements have brought Chile closer to its goal of carbon neutrality by 2050 and strengthened its reputation as a model for emerging economies. Yet, significant challenges to complete the transition remain — for example, transmission bottlenecks, permitting delays and the need for greater storage and grid flexibility pose significant hurdles. Addressing these bottlenecks will be critical to sustaining momentum and ensuring Chile's transition away from fossil fuels.

Chile is phasing out coal at an unprecedented pace among developing nations — 65% of its coal power plants should be retired by the end of 2025. In 2016, coal accounted for over 38% of the country's electricity generation; by mid-2023, this share had fallen to just 16%. The government's decision to join the Powering Past Coal Alliance and accelerate its original 2040 coal phase-out target to 2030 further cemented this trajectory (UNFCC, 2021; Gobierno de Chile, 2021). This has been accompanied by aid from multilateral development banks (MDBs) and a comprehensive strategy that reflects a vision of a just transition (Zelenczuk and Weinstein-Wright, 2025). The combination of strong policy and market signals has facilitated the increase of wind and solar generation to 31% and 33% of total generation in 2023 and 2024, respectively (EMBER, 2025).

However, the rapid expansion of solar and wind power has exposed bottlenecks in Chile's energy system, particularly in transmission and storage. The pace of renewable generation growth has far outstripped the development of transmission infrastructure, leading to significant curtailment of clean energy — around 9% of renewable output in 2023 was not added to the grid (Fraunhofer, 2023; Montoya, 2024). This occurs because congested transmission lines cannot evacuate surplus electricity during peak solar hours, while inflexible thermal plants remain online for system security. The shortage in transmission compounds with a lack of storage capacity. Without accelerated investment in long-duration storage and major grid projects, Chile risks wasting its renewable advantage and slowing its decarbonisation trajectory (Gonzalez, 2023).

Chile is leveraging its solar and wind potential to position itself as a global hub for green hydrogen and critical minerals. Building on its 2020 National Hydrogen Strategy, the government has expanded its ambitions through the Green Hydrogen Action Plan 2023–30, which focuses on

¹⁰ Authors' calculations based on data provided by the International Energy Agency (IEA, 2024b).

regulatory and environmental standards to attract investment. This has already resulted in large-scale projects such as the H2 Magallanes initiative, which will combine 10 gigawatts of wind power with electrolysis to produce 800,000 tonnes of green hydrogen annually and 4.4 million tonnes of green ammonia by 2030 (EIU, 2025a; H2Chile, 2021).

However, many of the announced projects for producing hydrogen have not met their initial goals and the starting dates will unlikely be met. The IEA (2025b) cites the existing cost gap between green hydrogen and fossil-based production as a key barrier for project development, rendering low-carbon alternatives non-commercially viable in the short and medium terms. Moreover, in the Chilean case, environmental and territorial issues complicate delivery: large-scale projects intensify debate over land use (e.g. extensive wind parks), water sourcing (electrolysis driving reliance on seawater desalination in arid zones) and brine disposal, alongside biodiversity concerns such as risks to migratory birds in Patagonia (Carrere, 2025).

In parallel, Chile is reinforcing its institutional framework for critical minerals: alongside its established copper industry, the creation of the National Lithium Institute signals a push to further develop lithium resources. The mining sector remains a cornerstone of Chile's economy, representing over 18% of GDP and 55% of exports (BNP Paribas, 2025). Chile is the global leader in copper production and is the second-largest lithium producer, just behind Australia. In this context, the government is developing a national critical minerals strategy as an effort to leverage its mining expertise and integrate industrial policy with decarbonisation goals. It aims to increase production, to promote responsible mining practices and to foster value addition through local processing and technological development (Ministerio de Minería, 2025).

Like the green hydrogen industry, Chile's critical minerals sector faces mounting risks from severe water scarcity, particularly in the arid north where most copper and lithium operations are concentrated. Water demand is projected to rise as ore grades decline, while freshwater availability continues to shrink. To adapt, companies are rapidly shifting towards seawater and desalination — expected to supply about two-thirds of mining water by 2034 — alongside measures like higher recycling rates and shared infrastructure to cut costs and environmental impacts. However, desalination brings its own challenges, including high energy use, brine disposal and the need for long-distance pumping to high-altitude sites.

Chile's progress in decarbonising its power sector and advancing green industrial strategies underscores a rare policy consensus (Conley, 2023). This political alignment provided fertile ground for the enactment of the 2022 Framework Law on Climate Change, which institutionalises climate action as a state policy rather than a government programme, and is a leading example for developing countries (Gobierno de Chile, 2022). By embedding carbon neutrality by 2050 into law and mandating sectoral and regional climate plans, the legislation transforms consensus into enforceable obligations, ensuring continuity across political cycles. The law's multi-level governance structure — requiring ministries, regions and municipalities to align with national targets — further reinforces this synergy, making climate policy a shared responsibility across government entities (Currie, 2022; World Resource Institute, 2024).

Despite this strong foundation, the durability of Chile's climate leadership is at risk. The continuity of the country's climate policy has been called into question by the upcoming presidential election, which is currently led by the climate-sceptic candidate José Antonio Kast. To sustain momentum, policymakers must ensure the climate agenda survives political cycles. At the same time, they will have to tackle structural bottlenecks — streamlining permitting, accelerating grid expansion and scaling up storage — while ensuring that the hydrogen and critical minerals strategies are implemented responsibly and efficiently. If these challenges are addressed effectively, Chile can consolidate its position as a global leader in clean energy and deliver on its long-term vision of carbon neutrality.

2.4. Colombia: facing economic and social challenges linked to the green transition

Colombia's top four sectors for greenhouse gas emissions



1. Land use, land use change and forestry (LULUCF): 34.5%



2. Waste: 32.7%



3. Agriculture: 20.7%



4. Energy: 7.9%

Note: 2021 data. Source: IDEAM et al. (2024).

The Colombian economy heavily depends on fossil fuel exports — their value has been on average over 40% of total exported goods over the past 20 years." Likewise, fiscal revenue accrued from fossil fuel exports equalled 1.5% of GDP during 2023 and 2024 (Grupo Bancolombia, 2024), a significant amount of total fiscal receipts given that taxes accounted for 16.5% of GDP in 2024 (Ministerio de Hacienda y Crédito Público, 2025). Comparatively, the share of coffee in total exports has shrunk by about half since the 1990s, from around 20% to below 10%. This has been accompanied by an expansion of coal, oil and derivatives within the export basket — fossil fuels reached 70% of total exports in the early 2010s and are now at almost 40%. Thus, despite Colombia's gradual move away from extractive industries, it still relies on coal, oil and gas for foreign currency and fiscal resources.

Decoupling from extractive industries without destabilising energy prices, the external account and public finances requires the right set of public policies that foster the growth of other sectors. The executive's progressive administration, led by Gustavo Petro (2022–26), has enacted a series of environmental policies with different levels of success. For one thing, the government's decision to stop issuing fossil fuel exploration contracts aligns with Colombia's long-term climate goals. This decision has been accompanied by a comprehensive climate change and biodiversity management plan for fiscal and financial policy. Co-developed with the IDB, the plan clearly outlines which actions must be taken at the subnational, national and international levels to transition away from extractive activities (Ministerio de Hacienda y Crédito Público, 2024).

Furthermore, Petro's government has been successful in addressing energy poverty and marginally increasing the role of renewable energy sources. Colombia's power mix is already relatively low carbon, yet it is highly climate sensitive. Hydropower accounts for approximately 70%, and more volatile rain patterns due to climate change put the grid's stability at risk. Hence, dry-year resilience matters to avoid emissions and to ensure price stability (Fioretti et al., 2025). Even though these issues have not been properly addressed, and the electricity supply has barely expanded to meet growing demand (Herrera, 2025), energy poverty has been partially addressed via off-grid clean technologies, particularly in poorly connected rural areas. The government-led Energy Communities initiative has enabled the adoption of solar-diesel hybrid mini-grids that deliver 24/7 power to hundreds of families, thereby replacing costly and dirtier diesel-only generation and improving local livelihoods (World Resource Institute, 2025).

¹¹ This figure, as well as the ensuing percentages, were calculated by the authors with data provided by Departamento Administrativo Nacional de Estadística (2025).

Despite efforts to develop other areas of the economy, Colombia's sudden halt to oil and gas exploration is a cautionary tale of the macroeconomic imbalances developing economies may face during the transition. The government's announcements have raised investors' perceived risks and decreased foreign investment in other sectors. In fact, investment levels are at historical lows, and a significant part of GDP growth has been mainly driven by fiscal stimulus (Becerra, 2024; Banco de la República, 2025). This has been coupled with short-term energy insecurity due to the necessity to import gas as a way of covering domestic supply shortfalls (Escobar, 2025; Garces et al., 2021). Consequently, poor investment dynamics, growing fiscal risk resulting from high deficits, and energy price hikes showcase some of the macroeconomic challenges Colombia currently faces, partly due to the ambition of the low carbon agenda, and that may hamper a faster transition.

Colombian emissions stem from deforestation in hard-to-reach regions; mitigation must be paired with territorial development and security policy. Around 56% of land use emissions are related to forestry, and 27% of these emissions result from the degradation of forests (IDEAM, 2024). This is partly explained by the expansion of the agricultural frontier, yet the role of armed conflict has become more salient too. One of the current government's flagship projects was initiating peace talks with several armed groups. Given that the environmental agenda is also a political priority, criminal groups have used deforestation as a bargaining chip with the government to reach better surrender terms.

Colombia's experience illustrates the complex challenges emerging economies face in pursuing a net zero transition. While the country has taken bold steps to align with its long-term climate objectives, these measures have exposed structural vulnerabilities. Heavy reliance on extractive industries for fiscal revenues and foreign exchange has amplified macroeconomic imbalances. At the same time, the intersection of environmental policy with security dynamics underscores that decarbonisation cannot be divorced from territorial governance and peacebuilding. Yet, these challenges coexist with significant opportunities. Colombia is advancing innovative fiscal instruments that integrate climate risk considerations and nature conservation into public finance, signalling a shift towards more resilient economic planning (Ministerio de Hacienda, 2024; Expert Review on Debt, Nature and Climate, 2025). Moreover, its approach to a just transition — linking peacebuilding with mitigation and adaptation — offers a holistic model for reconciling social equity, environmental sustainability and economic stability (Godinho et al., 2024).

2.5. Costa Rica: continuity and constraint in a mature climate policy framework

Costa Rica's top four sectors for greenhouse gas emissions



1. Energy: 50.0%



2. Agriculture: 21.8%



3. Waste: 17.0%



4. Industry: 11.2%

Note: 2021 data. Source: MINAE (2024).

Costa Rica, classified as a high-income country with a small and open economy largely driven by the services sector, which accounts for around 65% of GDP, is the only Central American country member of the OECD. Among the 20 most biodiverse countries in the world, with ecosystems that are central to both its economy and social wellbeing, tourism and information technology (IT) services, including business-process outsourcing, are major economic activities. Agriculture, although still relevant for exports (such as bananas, coffee and pineapples), accounts for less than 5% of GDP and is increasingly exposed to climate risks (EIU, 2025b; IDB, 2024c).

Internationally, Costa Rica is frequently cited as a climate frontrunner due to its strong environmental protection policies, where more than a quarter of its land area is under some form of protection, and its marine territory, which is 11 times larger than its landmass, supports fisheries, tourism and coastal livelihoods. The economic contribution of ecosystem services is significant; for instance, mangroves provide carbon sequestration benefits estimated at 1.7% of GDP, helping to shield communities and infrastructure from extreme weather and sea-level rise (IDB, 2024c). More than 25% of the country's forest area has been under a Payments for Environmental Services Program since 1997, reversing deforestation and achieving net reforestation since the early 2000s. Indeed, Costa Rica has reversed deforestation trends; generates over 98% of its electricity from renewable sources; and was the first developing nation to adopt a long-term decarbonisation pathway through its National Decarbonization Plan 2019–50. Its 2020 NDC, awaiting update in 2025, aims for economy-wide net zero emissions by 2050 and commits to reducing emissions by 26% below business-as-usual (BAU) levels by 2030, contingent on international support (MINAE, 2024).

Access to concessional adaptation finance will be decisive for Costa Rica's ability to meet its targets, as financial resources are already constrained by recurrent spending needs for loss and damage associated with climate-related disasters and pandemic recovery. Costa Rica is highly exposed to climate extremes, facing recurrent droughts, particularly in the northwest Pacific region, and floods, especially along the Caribbean coast and northern lowlands. In this context, strengthening water management infrastructure is a top priority, not only to secure water supply for households and industry but also to safeguard agriculture and food security. Floods and landslides regularly damage roads, bridges and housing, generating annual losses estimated at around 0.3% of GDP (IDB, 2024c). This increases the urgency for modernising and maintaining the road network, ports and airports to ensure connectivity and logistics, which are critical for trade and economic competitiveness. This also aligns with Costa Rica's National Adaptation Policy 2018–30, which emphasises resilient water management, climate-proof infrastructure and

territorial planning as key axes for reducing vulnerability, highlighting the need for sustained investment and policy continuity to translate planning into implementation (MINAE, 2018).

However, President Rodrigo Chaves Robles (2022–26) has placed less emphasis on climate action than previous administrations (Gobierno de Costa Rica, 2022). His agenda has focused primarily on reducing government bureaucracy, maintaining fiscal balance, complying with the International Monetary Fund's (IMF) debt-repayment schedule agreed during the pandemic, and addressing violent crime linked to drug trafficking, which has escalated into one of the country's most pressing governance challenges since 2023. He has also reopened debate on extractive activities, including the possibility of reviving gold production at the Crucitas mine in northern Costa Rica, a controversial issue given the country's strong environmental legacy. Its National Decarbonization Plan 2019–50 has been pending update since 2023 and no announcement has been made regarding its revision or implementation roadmap, raising uncertainty about the future direction of Costa Rica's decarbonisation strategy. However, Climate Action Tracker's assessment classifies Costa Rica's policies as 'almost sufficient', given all the efforts and goals achieved; for example, more than 12% of vehicle sales in 2023 were electric vehicles (EVs). But sustained effort is still needed to stay on track (CAT, 2023).

In relation to energy, Costa Rica has a very clean electricity matrix, in which more than 90% of its electricity comes from renewables, mainly hydropower. Transport remains the country's single largest source of emissions, driven by road vehicles like private cars, freight trucks and public buses (MINAE, 2024). On this, the country is now facing a drop in renewable generation, largely due to severe drought and low reservoir levels, forcing greater reliance on thermal plants and highlighting the urgency for diversifying the renewable energy mix (CAT, 2023).

Costa Rica's future climate position will depend on ratifying its 2002 oil exploration moratorium into law; diversifying its renewable energy matrix to reduce hydropower dependency vulnerable to droughts; and accelerating transport electrification through expanded EV infrastructure and modernised public transit (CAT, 2023). Limited fiscal space, declining public investment and large infrastructure gaps — 37% of roads are in poor condition and port and rail facilities are near obsolescence — underscore the need to mobilise private capital through well-structured public-private partnerships and improve project preparation and monitoring systems (IDB, 2024c). Strengthening micro, small and medium enterprises' access to finance (especially for women-led businesses), operationalising the sustainable finance taxonomy, and scaling climate finance are essential to close development gaps. At the same time, rising organised crime and drug-related violence pose risks to Costa Rica's attractiveness for tourism and foreign direct investment, linking security challenges to the resources available for climate action (EIU, 2025c).

2.6. Ecuador: a hydrocarbon-based economy with strong socioeconomic challenges

Ecuador's top four sectors for greenhouse gas emissions



1. Energy: 47.22%



2. Land use, land use change and forestry (LULUCF): 29.26%



3. Agriculture: 13.29%



4. Industry: 4.81%

Note: 2022 data. Source: MAATE (2024a).

Ecuador, the sixth-largest oil producer in Latin America, and the country with the largest debt-for-nature conversion in the world, is coping with a frail economy, narco-trafficking violence and the impacts of low climate resilience, generating energy insecurity (EIU, 2025d). The Ecuadorian economy is heavily dependent on oil revenues, ¹² which between 2005 and 2014 financed high levels of public expenditure that could not be sustained due to the international volatility of oil prices. This exacerbated Ecuador's debt problems, removing its capacity to enter international capital markets on favourable terms (WB, 2024a). In recent years, the country's public debt has become more balanced. To achieve this, Ecuador has implemented several measures, including making changes to tax policies, eliminating oil subsidies, reducing the size of the State, and conducting debt-for-nature swaps. ¹³ At the same time, oil production is currently declining due to infrastructure problems, social opposition, and decreased investment and productivity, among other reasons (WB, 2024b). ¹⁴

As part of the measures Ecuador is implementing to reduce public expenses, it appears to have taken a step back in environmental institutionalisation. A key priority for its recently re-elected President, Daniel Noboa (2025–29), is advancing fiscal reforms, linked to the country's commitments with the IMF. Its government is downsizing, affecting, among others, environmental competencies in a way that has resulted in civil society expressing concern. In July 2025, the merger of the former ministry on environment, water and ecological transition with that dedicated to energy and mines raised concerns among civil society organisations, which claimed there would be a conflict of interest (Radwin, 2025): the same entity that will foster Ecuador's extractive activities will be granting environmental authorisations and conducting environmental auditing processes, thus losing its independence (WCS, 2025; WWF, 2025).

In relation to climate policy, Ecuador presented a new NDC in 2024, pledging to achieve a 7% reduction in national greenhouse gas emissions by 2035 relative to 2010 (across all mitigation sectors), with the possibility to increase this ambition to 8% with international support (República del Ecuador, 2025). This new NDC has a broader scope than the previous one as it incorporates

¹² The country remains heavily dependent on oil, with 10% of its GDP, 31% of its fiscal revenues, and 41% of its total exports attributed to the sector in the last decade (WB, 2024b).

Ecuador is generating 'lifetime savings' higher than US\$1 billion in debt through the Galapagos debt-for-nature swap. The government completed this swap in May 2023, making it the largest debt-for-nature swap in the world (IDB, 2023). In 2024, a second swap took place, an operation which enabled the government to save more than US\$800 million by 2035, of which above half will be used for financing the conservation of the Ecuadorian Amazon (MAATE, 2024b; IDB, 2024a).

Structural barriers hinder domestic and international financial flows, as well as private sector development. Barriers to investment include an underdeveloped capital market, high perceived political and macroeconomic risks, legal instability, and insecurity, particularly related to narco-trafficking (WB, 2024b).

LULUCF and advances adaptation and loss and damage efforts but its mitigation targets are less ambitious (Nature4Climate, 2025). Also, it does not mention pathways for winding down fossil fuel production (Marshall et al., 2025; República del Ecuador, 2025). Among other climate planning instruments, the country has a national mitigation plan towards 2070 and an adaptation plan until 2027 (MAATE, 2023). Further, a national climate change registry is due to be launched in November 2025, with the objective of consolidating information to monitor and evaluate Ecuador's climate policies, including its NDC.

Energy security-wise, strengthening the energy grid, adapting hydroelectricity production and diversifying the country's electricity mix are all necessary (WB, 2024b). On the one hand, Ecuador's energy sector relies heavily on fossil fuels; on the other hand, 75% of its total electricity supply is generated by renewable sources (Meurer and Soria, 2024). The majority of this is hydropower (EIU, 2025d), which makes the country heavily dependent on water availability, linked to rainfall. In 2024, Ecuador and other countries in the region faced a severe drought, a key factor in leading the electrical grid to the verge of collapse and placing the country in a critical energy security situation (BCE, 2025). On a more positive note, Ecuador has significant wind and solar potential, and the current administration is seeking to attract investment for clean generation and transmission (e.g. see Gobierno de Ecuador, 2025a; 2025b).

Given Ecuador's dependence on oil revenue, halting oil drilling is a highly sensitive matter. An important case in this respect is the Yasuní-ITT initiative, proposed in 2007, which involved Ecuador ceasing oil exploitation in the Yasuní National Park in exchange for international compensation. The funds would represent around half of the country's expected income from the drilling and would be used to develop sustainable development programmes and renewable energy. Still, due to various factors, including domestic institutional instability and restricted finance, the finance target was not met, and the initiative was abandoned by Ecuador in 2013 (Kingsbury et al., 2019; Sovacool and Scarpaci, 2016; Laastad, 2024). Although oil extraction started in 2017 at Yasuní-ITT, a national referendum in 2023 led to the restriction of oil activity there through a popular vote (Alarcón, 2024). President Noboa first delayed implementing the referendum — which he had formally supported — for national security reasons and has not followed up on its directives (HRW, 2025a).

Analyses for decoupling oil production from economic growth in Ecuador have included the potential of agribusiness, the bioeconomy, tourism, mining and other extractive activities (WB, 2024a; IDB, 2024b). However, extractive activities in Ecuador have faced strong opposition from civil society, particularly due to water use and environmental degradation in or in proximity to natural or populated areas. Some popular consultations have resulted in mining activity bans (Solano-Paucay and Cordero-Poao, 2023); and the mining registry was closed between 2018 and 2025. Nonetheless, illegal mining is a growing problem (WB, 2024a, 2024b; ITO, 2025; Cogălniceanu and Szekely, 2025). Ecuador faces the challenge of harnessing its natural resources in a way that addresses the concerns of communities, enabling their prosperity and wellbeing.

Agriculture is being impacted by climate change and is a key driver of Ecuador's emissions through deforestation. Around three-quarters of the agricultural units of Ecuador are small farms which face constraints such as limited access to technology, finance and irrigation, which in turn limits their productivity, profitability, and the sustainability of their practices. Deforestation is primarily driven by the expansion of the agricultural frontier, particularly due to livestock, but also permanent crops such as coffee and bananas. Ecuador's deforestation rate appears to be increasing, damaging its international competitiveness (WB, 2024b).

Overall, the Ecuadorian economy remains heavily dependent on oil income. Diversifying its economy and energy matrix are key challenges in transitioning towards sustainability.

¹⁵ The national adaptation plan prioritises six sectors for adaptation: "Human Settlements; Water Heritage; Natural Heritage; Health; Productive and Strategic Sectors; and Food Sovereignty, Agriculture, Livestock, Aquaculture and Fisheries" (MAATE, 2023).

¹⁶ More specifically, not developing the Ishpingo Tambococha Tiputini (ITT) oilfield.

¹⁷ Among the main non-oil export products are shrimps, cacao, bananas, and lead and copper concentrate (MPCEIP, 2025).

2.7. Mexico: deep fossil fuel path-dependency; huge clean energy potential to unlock

Mexico's top four sectors for greenhouse gas emissions



1. Energy: 63.4%



2. Agriculture, forestry and other land use (AFOLU): 18.7%



3. Industry: 9.6%



4. Waste: 8.5%

Note: 2022 data. Source: Gobierno de México (2024).

After Brazil, Mexico is Latin America's second-largest emitter, economy and population. It is also the most complex and diversified economy in the region, according to the Economic Complexity Index (Harvard Growth Lab, 2025). However, it remains highly dependent on the US, which is the destination for nearly 80% of Mexico's total exports, primarily manufactures such as vehicles and electronics, as well as crude oil (Harvard Growth Lab, 2025). Mexico is also one of the world's most biodiverse countries, hosting about 10–12% of global species, which makes balancing industrial growth with nature conservation a critical policy challenge. Moreover, it is ranked 12th worldwide in marine and coastal resources and ecosystems, highlighting the importance of protecting its mangroves, seagrasses and coastal wetlands as part of its climate and biodiversity strategies (Government of Mexico, 2022).

Under President Claudia Sheinbaum Pardo, Mexico is navigating a complex political economy of energy sovereignty, fiscal pressures and climate commitments, with public debt reaching 51.7% of GDP in 2024, its highest level since 2000 (SHCP, 2024). Elected in 2024 with a strong mandate, Sheinbaum presents climate action not only as an environmental necessity but as part of a wider economic strategy: linking renewables expansion, industrial policy and nearshoring opportunities. At the same time, she maintains continuity with Andrés Manuel López Obrador's (former Mexican President, 2018–24) emphasis on Pemex (the state-owned oil company) and CFE (the state-owned electric utility) as symbols of sovereignty and key providers of energy security. This dual approach, supporting fossil fuels while pledging to scale renewables, reflects the balancing act of a government working under high inequality and pressing fiscal constraints.

Regarding energy, the government has signalled an intention to increase the share of renewables in the power mix by 2030, but progress is hampered by institutional preference for CFE and Pemex, and a grid that needs modernisation. Energy subsidies, particularly for fossil fuels and electricity tariffs, have historically absorbed a significant share of public resources: for example, Mexico spent about US\$17.1 billion in fossil fuel subsidies in 2019, with roughly 73% of those subsidies going to petroleum, and US\$11.8 billion in 2020 (around 67% to petroleum) (Gütschow et al., 2021).

Internationally, Mexico is supportive of the Paris Agreement and biodiversity COP processes, but implementation is constrained by fiscal and political challenges. Mexico's climate policy framework includes the General Law on Climate Change (2012, amended 2018), a carbon tax introduced in 2014, and an emissions trading system (ETS) launched in a pilot phase in 2020 and currently transitioning to its operational phase. The country is also implementing the National Climate Change Strategy (SEMARNAT, 2013; 2025). Complementary initiatives include Sembrando Vida (since 2019), a large-scale reforestation programme with social co-benefits, and

recent sustainable finance pilots, such as the Mexican Sustainable Taxonomy (2022) and climate budget tagging efforts (initiated in 2020 with the Secretary of Finance and Public Credit and UNDP support).

Mexico's NDC, last updated in 2022, pledges 22% unconditional and 36% conditional emissions reduction by 2030, compared to a BAU scenario (SEMARNAT and INECC, 2022). And a new NDC is expected in 2025. In 2021, Mexico also signed the Global Methane Pledge and committed to a 30% reduction in methane emissions by 2030, but there is no clear evidence yet of strong implementation. According to Climate Action Tracker (2022), Mexico's policies are rated 'critically insufficient', meaning emissions are still rising rather than falling, due to slow decarbonisation in power and transport and the persistence of fossil subsidies. The main emission source remains the energy sector (64%), particularly electricity and heat, where fossil fuels still supply 60–70% of power (Government of Mexico, 2022). The Climate Change Performance Index country profile assessment for Mexico¹⁸ likewise notes stagnation since the 2022 NDC update, particularly pointing to continued prioritisation of fossil fuels, weak ambition on renewables, and limited implementation (Germanwatch et al., 2024).

Adaptation urgencies in Mexico are pronounced and highly location-specific, highlighting the critical role of subnational governments in climate action. Water scarcity and drought, agriculture, and food security challenges, particularly for smallholders and indigenous communities, demand regionally tailored support programmes that combine climate-smart practices with rural development. Coastal areas along the Gulf of Mexico and the Caribbean face increasing risks from hurricanes and sea-level rise, necessitating municipal-level resilience planning and early warning systems. Meanwhile, major urban centres like Mexico City and Monterrey are increasingly exposed to floods, heatwaves and infrastructure stress. Strengthening vertical coordination between federal, state and municipal governments is therefore essential to ensure that adaptation strategies are context-specific, funded and effectively implemented on the ground (WB, 2023c).

Key pain points reflect trade-offs: expanding oil and gas production provides short-term fiscal relief and energy security but undermines emission targets and risks perpetuating costly subsidies. The Maya Train illustrates another dilemma: a project with potential to expand tourism and regional development, but one that raises concerns about fiscal cost, local community participation and environmental impacts, with implications for government credibility. Yet there are strategic opportunities. Mexico's abundant solar exposure and extensive coastline make it one of the most promising countries globally for expanding solar, wind and other renewable energy production. MDBs and partners could support guarantees to unlock renewable auctions, transition-linked sovereign bonds and methane-reduction finance.

¹⁸ CCPI is an independent monitoring tool which compares the climate performance of over 60 nations.

2.8. Panama: forest wealth, pressures on the canal, and climate ambition

Panama's top four sectors for greenhouse gas emissions



1. Energy: 65.5%



2. Agriculture: 20.2%



3. Industry: 7.9%



4. Waste: 6.4%

Note: 2020/21 data. Source: Ministerio de Ambiente de Panamá (2024).

Panama, Central America's second-largest economy after Guatemala, is classified as a high-income country with an economy centred on international trade and service exports. The Panama Canal, which handles about 5% of global trade, makes the country a logistics hub and a key player in global supply chains (EIU, 2025e). This also means that energy accounts for 65.5% of the country's emissions, largely from fossil fuel-based transport (Ministerio de Ambiente de Panamá, 2024). However, its BTR declared that Panama is one of the few countries globally that remains carbon negative, with LULUCF absorbing around 87% of gross national emissions, a status the government aims to maintain through 2050 (Ministerio de Ambiente de Panamá, 2023). This reliance on forest sinks highlights both the country's unique mitigation contribution and its vulnerability to land use change and deforestation pressures.

Around 72% of Panama's total primary energy supply still comes from imported fossil fuels, with transport as the main consumer, followed by residential, commercial and industrial uses. Despite this dependence, Panama has already surpassed its first NDC target of 15% installed nonconventional renewable capacity by 2030: solar PV and wind accounted for 20.95% of installed capacity by 2023 (Ministerio de Ambiente de Panamá, 2024). More than 80% of electricity generation in 2021–22 came from renewables in the National Interconnected System (SIN), mostly hydropower but also wind, biogas and solar, whose capacity doubled between 2020 and 2021 (Ministerio de Ambiente de Panamá, 2024). However, due to its dependence on hydropower, the electricity system is highly vulnerable to climate hazards, including droughts, storms and floods. To address these risks and advance clean energy, the government is implementing the National Energy Transition Agenda 2020–30, promoting distributed generation, electric mobility and efficiency measures, and advancing the Río Indio Reservoir to secure water for the Canal and hydropower plants. These efforts aim to decarbonise transport, diversify the energy mix and build grid resilience. Nonetheless, Panama has also expanded its use of natural gas, with the construction of a power plant in Colón, reflecting efforts to strengthen energy security but raising questions about long-term emissions goals.

With forests covering more than 61% of its territory in 2022, Panama's climate strategy heavily relies on land use management and forest conservation. A significant share of these forests lies within semi-autonomous indigenous territories, making indigenous stewardship essential to national LULUCF outcomes. In 2022, the Ministry of Environment, with Food and Agriculture Organization (FAO) support, submitted the National Strategy for Reducing Emissions from Deforestation and Forest Degradation (ENREDD+) to the UNFCCC, aimed at improving forest governance, creating financial incentives to reduce deforestation and degradation, and promoting conservation, reforestation and sustainable forest management. In its updated NDC,

Panama committed to maintaining and expanding its natural carbon sinks, through reforestation, ecosystem restoration and enhanced monitoring under the National Forest Reference Emission Level and monitoring, reporting and verification systems.

José Raúl Mulino (2024–29), recently elected president, faces major challenges: beyond addressing the uncertainty surrounding the closed Copper Panamá mine, he must tackle structural issues in the Social Security Administration, navigate heightened tensions with the US' recent tariff hikes, and respond to the severe water stress affecting the Panama Canal (EIU, 2025e). Although the loss of mining royalties and pension reforms have strained public finances, fiscal discipline and robust GDP growth have helped narrow the deficit, a trend expected to continue in the medium term. President Mulino has acknowledged the environmental risks posed by the inactive mine and suggested a temporary restart of operations to generate funds for its safe closure. The government is currently assessing the remaining copper ore and may request a comprehensive environmental audit (Chambers and Partners, 2025). The coming months will be critical to determine how the administration addresses these interconnected fiscal, social and environmental challenges while safeguarding the Canal's operations, which — by avoiding further water stress — remain essential to preserving both the country's economic competitiveness and its climate commitments.

2.9. Peru: a mining economy facing political fragmentation and vested interests

Peru's top four sectors for greenhouse gas emissions



1. Land use, land use change and forestry (LULUCF): 43.51%



2. Energy: 31.82%



3. Agriculture: 15.28%



4. Waste: 5.61%

Note: 2021 data. Source: Gobierno del Perú (2024a).

In the last two decades, Peru's economic growth rate has been among the fastest in the region, supported by the independence of its central bank, the strength of its macroeconomic institutions and effective financial regulation (OECD, 2025b). However, its economic outlook is being hampered by crime rates and political volatility (EIU, 2025f). Illustrating this instability, Peru has had seven presidents in less than 10 years, including President Dina Boluarte (2022–25), who was replaced by the Congress in October 2025, and José Jerí (2025–26), her recent replacement. The political and institutional challenges described hinder Peru's ability to implement policies consistently, a crucial requirement to unlock the country's green economic potential.

Peru's past relationship with natural resource extractive activities, and particularly mining, is complex and vexed. Key economic sectors in Peru include mining, agriculture and tourism. It is a mining economy, ranking as the second-largest copper exporter in the world, with around 64% of the country's exports being metals and minerals (Sabatini and Binetti, 2024). Although Peru's annual copper production, a critical mineral for the energy transition, increased fivefold in the last two decades, mining investment has stalled (despite historically high mineral prices) due to longstanding challenges, including insecurity, burdensome regulations, political instability, lack of capacity to translate royalties into investments that foster local development, and social conflicts (IPE, 2025a; WB, 2021). In February 2024, nearly 58% of active social conflicts in Peru were socioenvironmental, and 65% of these conflicts were related to mining activities (Gobierno del Perú, 2024b). Developing the Peruvian mining sector — which comprises a pipeline of 67 investment projects worth around US\$64 billion (MINEM, 2025a) — in a more sustainable way requires a multifaceted approach. This encompasses actions such as strengthening coordination among mining and environmental authorities, as well as establishing sustained multi-stakeholder dialogues to ensure the sector's alignment with environmental protection and socioeconomic objectives. Institutions must be strengthened and illegal mining tackled, a latent problem which is also linked to deforestation and continues to expand (Sabatini and Binetti, 2024; IPE, 2025b).

The Peruvian Framework Law on Climate Change from 2018 established the national commission on climate change, responsible for creating national climate plans and implementing NDCs. The country has been implementing 84 measures on adaptation and 66 on mitigation since 2018, which are aligned with its NDC, a national commitment which was first presented in 2018 and then updated in 2020 (Gobierno del Perú, 2025d). In its latest NDC (2020), the government committed to net zero by 2050, and to reducing 40% of emissions by 2030 relative to a BAU scenario. Further, the latest BTR notes that the government is currently updating its NDC and plans to present it to the UNFCCC during 2025 (Gobierno del Perú, 2024a).

Fulfilling Peru's climate commitments requires tackling deforestation and increasing renewable energy generation. Peru is a megadiverse country, with half of its surface area covered in forests (FCDS, 2025), and nearly half of its annual emissions are generated by LULUCF. This is mainly due to deforestation, which is caused predominantly by the anthropogenic conversion of forests, into, for example, agricultural land, pastures and mining. Approximately 60% of Peru's surface area is covered by the Amazon, and land use change is strongly linked to deforestation in that particular geographical area (Gobierno del Perú, 2024a). Specifically, Peruvian forests are lost as a result of several activities, including illegal or informal extractive activities, such as illegal mining, changes in land use resulting from the expansion of extensive monocultures, illicit crops or migratory agriculture, among others (Gobierno del Perú, 2022).

Civil society organisations have raised strong concerns regarding setbacks in laws generated by the Congress in recent years, which appear to benefit criminal organisations and support deforestation and illegal mining. These actions have been documented in a report from Human Rights Watch (HRW, 2025b) which, for example, mentions that the modification in 2022 of the forestry law has "legalised large-scale illegal deforestation that had occurred in the past and closed criminal investigations related to logging on those lands" (ibid.: 36–37, translated).

Regarding energy, the country is heavily reliant on fossil fuels. Primary energy generation in Peru is fossil fuel-based (around 73% in 2020), with a predominance of natural gas. In relation to electricity production, around half is hydroelectricity and 37% is produced through natural gas (Gobierno del Perú, 2023). Although solar electricity production in Peru is low, the country has one of the highest solar potentials in the world. Some policies have been enacted to leverage this, such as an initiative from 2018 to foster solar energy in rural and marginalised areas (OECD, 2023b). And, in 2022, the objective of 20% of non-conventional renewables in the electricity generation matrix by 2030 was established by decree. However, for a decade, no renewable energy auctions have taken place, and at present, non-conventional renewable levels in electricity generation are just 6% (Gobierno del Perú, 2024a). Peru seems to be particularly focused on increasing its natural gas production (OECD, 2023b). The country exports primarily gas, but also oil (MINEM, 2025b).²¹

All in all, it appears that Peru faces the challenge of strengthening its institutions and developing a state vision that integrates climate pledges into its development model (Gobierno del Perú, 2023). With elections on the horizon, it remains to be seen whether the next administration can foster social consensus and cohesive policies to achieve the country's socioeconomic priorities.

¹⁹ In terms of Amazon forest concentration, Peru ranks second, right after Brazil (Gobierno del Perú, 2023).

The administration, which ended in October 2025, had announced several plans related to deforestation. For example, it launched the Great Amazon Plan to sustainably develop the Peruvian Amazon. This plan aims to restore 2.5 million hectares of degraded forests due to illegal activities, formalise forestry activities, and diversify the Amazonian economy (Gobierno del Perú, 2025a). That government also approved, in 2024, a national climate change strategy to 2050, a national biodiversity strategy to 2050, a Circular Economy Roadmap to 2050 (Gobierno del Perú, 2025b), and a national Strategy for the Reduction and Interdiction of Illegal Mining by 2030 (Gobierno del Perú, 2025c).

²¹ The most important gas deposit in Peru is called Camisea (Gobierno del Perú, 2023).

2.10. Uruguay: a climate action leader starting its 'second energy transition'

Uruguay's top four sectors for greenhouse gas emissions



1. Agriculture: 73%



2. Energy: 20%



3. Waste: 5%



4. Industry: 2%

Note: 2022 data. Source: Ministerio de Ambiente, Uruguay (2024).

Uruguay, a small high-income country neighbouring Brazil and Argentina, is recognised as a global leader in the energy transition. Its long-term '2005–2030 Energy Policy' is key to understanding its electricity mix today: the policy constituted a strategic response to Uruguay's energy insecurity at a time when it relied on costly fossil fuel imports. Grounded in political consensus, this plan sets aims and priorities that have guided Uruguay into producing on average 94% of its electricity from renewable sources (2017–23), some of which it exports to neighbouring countries (Corrêa et al., 2022; República Oriental del Uruguay, 2024). Further, in 2024, its electricity matrix reached 99% of renewable energy generation (Presidencia, Uruguay, 2025a). This denotes a key attribute of Uruguay that makes it attractive for businesses: its ability to implement policies in a consistent and predictable way, across national governments.

Incoming President Yamandú Orsi (2025–30) appears to be providing continuity to this clean path, planning to advance decarbonisation beyond electricity. His government is working towards its 'second energy transition', to address Uruguay's use of fossil fuels for energy needs beyond current electricity demand.²³ This transition encompasses the decarbonisation of the transport sector and industrial processes and product use, implying green industrial investment opportunities that the government seeks to leverage, such as in the sustainable mobility sector and the green hydrogen economy, which is mainly oriented towards exports (Presidencia, Uruguay, 2025b; Uruguay XXI, 2024b; Ferragut et al., 2022). However, the energy policy legacy of this government is still unfolding; although no fossil fuels have been found in Uruguayan territory to date, the country is navigating the preliminary stages necessary to restart exploration activities, following discoveries in geologically similar regions (Presidencia, Uruguay, 2023).

The economy of Uruguay is closely tied to natural capital. Its GDP dependence on agriculture and livestock has decreased to around 6%, as the services sector has overtaken it. Still, the macroeconomic relevance of this primary sector remains very high, given its significant share in exported goods and its link to the country's value chains, services and manufacturing industries (Giuliano et al., 2024). More than 70% of Uruguay's national emissions come from agriculture (excluding LULUCF), with enteric fermentation contributing substantially (Ministerio de Ambiente, Uruguay, 2024). Mirroring this, at the 17th BRICS Summit, President Yamandú Orsi advocated for COP30 to include on its agenda agriculture-related topics, such as rural development, family farming, and their link to food and the environment (Presidencia, Uruguay,

²² On average, between 2017 and 2022, Uruguay generated its electricity mainly through hydraulic (46%) and eolic (37%) sources, but also biomass (7%), thermic (fossil fuel-based) (7%), and photovoltaic (3%) (Bendersky and Brusa, 2023).

²³ In 2023, around 40% of total final energy consumption in Uruguay was fossil fuel-based. And virtually all of that is oil (IEA, 2023b).

2025c). Given the economic importance of agriculture, improving Uruguay's resilience is a pressing matter, particularly in response to droughts and floods, two key climate threats the country is facing. Similarly, continuing to work on the sustainability of the agricultural sector is crucial, as it has impacted soil and water resources (WB, 2022b). Another key economic sector is forestry, with cellulose exports surpassing those of meat for the first time in 2024 (Uruguay XXI, 2024a).

Uruguay has shown itself to be highly committed to climate action, having consistently developed plans, programmes and regulations to address its pressing environmental challenges. In relation to the agricultural sector, in 2024, the government published several sustainability strategies, including a national strategy for farming, agriculture and livestock, called 'SENDA' (Spanish acronym), that includes, as one of its strategic dimensions, the sustainability of agroecosystems. It also published a bioeconomy general strategy, and a more specific corresponding action plan for its operationalisation (2024–26). Deforestation has been reversed through the country's Forestry Law. And land degradation has been mitigated through land use and management plans, under which nearly all agricultural areas of the country are operating (República Oriental del Uruguay, 2024). A challenge the country is currently confronting is managing emissions from biogenic methane (from livestock). It joined the Global Methane Pledge in 2020 and designed an instrument of sovereign finance tied to an indicator of methane emissions intensity in beef production (República Oriental del Uruguay, 2024; CCAC, 2023).

Overall, the country's climate policy framework is strong. Uruguay was among the few countries in the region which presented its NDC during 2024 (i.e. the country's third NDC, with a 2035 horizon), which includes a reaffirmation of its 2050 commitment. Although, on the one hand, Uruguay's new NDC includes some improvements (UNDP, 2025), on the other hand, it has been criticised because it presents the same emission reduction aim by 2035 as its last NDC, which set this target for 2030 (CCPI, 2025). Uruguay is also a regional frontrunner in the development of innovative financial decarbonisation instruments. Besides the instrument mentioned above, it issued the first sovereign bond linked to climate change indicators with a bidirectional structure in October 2022, which includes "both rewards and penalties" (IEA, 2023a: 37) and attracted more than 180 investors from Europe, Asia, the US and Latin America, widening Uruguay's investor base (IMF, 2023). If the aims are not met by 2025,24 the government will need to pay a higher interest rate to bondholders; if it exceeds the KPIs, it must pay a lower interest rate. This was made possible by the country's transparency and monitoring efforts, including the creation of indicators to track climate action and commitments.

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²⁴ This process will take place in 2027, given that there is a two-year lag regarding emissions information. Therefore, the payment will be reviewed during 2027, based on the performance of the associated 2025 key performance indicators (KPIs).

3. Conclusion

Having presented the economic and political landscape of climate action across 10 Latin American countries, here we offer some final considerations. We first reflect on how long-term planning and political continuity, or their absence, can determine the success of climate strategies. We then highlight the main challenges identified at both regional and national levels, followed by the key opportunities that could drive progress. Finally, we outline some considerations for advancing towards climate targets and sustainable development in the region.

In general, we have observed that all countries analysed have strategic opportunities to leverage but not many have managed to embed continuous and ambitious climate action into their development agendas, and the threat of climate setbacks remains pressing, given a new polarisation of the climate agenda. Of course, these challenges are not exclusive to Latin America and reflect broader global patterns observed in other regions undergoing the low-carbon transition. Nonetheless, a few of the analysed countries have managed to adopt a strong approach that links development and climate action underpinned by cross-party commitment. Uruguay and Chile stand out in this regard, having incorporated climate action as an integral part of their development plans.

Climate ambition is hindered in many countries by short-term domestic tensions and policy inconsistencies, shaped by short electoral cycles, vested interests, volatile political coalitions and pressing priorities that are often perceived as competing. For example, Costa Rica implemented strong and continuous action in relation to forest protection. Nevertheless, a narrative shift is taking place, with the current administration placing less emphasis on climate action than its predecessors. Colombia has advanced climate action, yet in a way that has damaged fiscal stability and investor confidence. High dependence on fossil fuel exports, as well as low historical greenhouse gas emissions, have tilted the political discourse towards reactivating oil and gas exploration and exploitation. Argentina had some cross-party continuity for climate action but this has recently been reversed. Brazil maintains some continuity in key climate finance policies, but progress on other issues, such as deforestation and land use change, remains vulnerable to political shifts.

Common challenges include high capital costs, elevated country risk premiums and a reliance on fossil fuels for fiscal stability. More than half of the analysed countries are fossil fuel exporters. Although some countries, such as Brazil, have expressed the possibility of using fossil fuel revenues to finance their energy transition, these investments carry the risk of not only increasing emissions but also, if revenues are not well-managed, increasing fiscal vulnerability. Further, though macroeconomic stability and overcoming fiscal constraints are the main concerns across the region, these aims cannot be achieved without integrating climate risk. If development pathways are not resilient, fiscal costs from climate events will rise as climate change intensifies, forcing governments into expensive post-disaster spending, worsening deficits and hampering growth.

However, the opportunities are abundant: the region's clean electricity potential, emerging green industrial strategies, deepening sustainable finance architecture and vast natural capital position it uniquely to advance a just and resilient transition. Argentina, Brazil, Chile, Colombia, Ecuador and Mexico all possess significant solar and wind potential, and several of the countries are already expanding generation capacity through targeted policies and investments. Brazil and Chile lead in scaling up renewable deployment, supported by long-term planning frameworks, while Colombia, Costa Rica and Ecuador must diversify their renewable matrices to reduce dependence on hydropower and address increasing drought risk. These advances, together with the gradual electrification of transport and distributed generation initiatives in countries such as Panama and Costa Rica, could enable the region to achieve deep decarbonisation while improving energy security.

Strategic climate policies aligned with national sustainable development can be found throughout the region. Brazil's Ecological Transformation Plan and Nova Indústria Brasil link

decarbonisation with industrial competitiveness and social inclusion. And Uruguay is moving forward with its 'second energy transition', leveraging green hydrogen and sustainable mobility investments. Uruguay and Chile have become testbeds for innovative climate finance instruments — from sovereign sustainability bonds to bidirectional performance-linked debt — illustrating the credibility of their institutional frameworks. Mexico's Sustainable Taxonomy and ETS, alongside Costa Rica's sustainable finance and public-private partnership initiatives, contribute to building a regional ecosystem capable of mobilising private capital at scale. At the same time, debt-fornature swaps in Ecuador and Colombia highlight the potential of aligning fiscal consolidation and conservation outcomes, a mechanism that could inspire replication elsewhere in Latin America.

The region's comparative advantages also lie in its natural capital and strategic resources. Chile and Peru are among the world's main copper producers, while Argentina, Chile and Bolivia together possess a large share of global lithium reserves — key minerals for the energy transition. Harnessing these assets through transparent and socially inclusive governance will be essential to avoid perpetuating dependency on extractive industry. Likewise, the region's biodiversity offers vast potential for nature-based solutions: Panama's commitment to expand its forest carbon sinks and Costa Rica's forest restoration experience demonstrate how ecosystems can underpin both mitigation and adaptation. Argentina's agrotech ecosystem and its potential contribution to climate-smart practices exemplify the region's capacity for clean innovation and sustainable growth.

Strengthening institutions and socio-environmental safeguards is essential to ensure that extractive revenues finance sustainable development, such as grid modernisation, green jobs and just transition programmes. The absence of strong institutions hinders the development of necessary long-term policies for capitalising on the opportunities that arise from the green transition. This is particularly noteworthy in relation to mining, where activities are not always aligned with the socio-environmental development of communities, often generating conflict, as in Peru.

Finally, growing South-South cooperation and regional coordination, through shared platforms, financial facilities and policy dialogue, could amplify these clean economic opportunities. Mechanisms such as Brazil's partnership with GFANZ, the expansion of regional climate finance initiatives led by MDBs, and emerging alliances among subnational governments reflect an evolving landscape of collaboration. Strengthening these partnerships, while aligning fiscal, environmental and industrial policies, will be key for Latin America to transform its abundant potential into lasting, inclusive and climate-resilient development.

Achieving NDC targets while avoiding greater inequality and fostering development will require a virtuous cycle: strong institutions, stable macroeconomic conditions and predictable climate policy are all key elements in delineating a green path that can attract climate finance. Support from developed countries remains central, such as through catalytic finance provided by MDBs. These efforts should focus on what really moves the needle: tackling the most emissions-intensive sectors and where adaptation needs are most pressing. Each country's challenges and opportunities will require a well-tailored set of policies that properly align with their sustainable development pathways, ensuring climate governance is strengthened.

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