



Annual Investment Report 2021

Climate Investment in Latin America

Summary Report

Sectoral policies for scaling
up low-carbon investments
in Argentina, Brazil and Peru
– Analysis of a dynamic and
ongoing process

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Sectoral policies for scaling up low-carbon investments in Argentina, Brazil and Peru – Analysis of a dynamic and ongoing process

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Summary Report

To strengthen the global response to climate change and to limit global temperature increase to below 1.5°C above pre-industrial levels, as agreed under the Paris Agreement, global CO₂ emissions need to fall to net zero by 2050, with other greenhouse gases on a similar trajectory shortly thereafter.

Achieving this goal requires a significant increase in low-carbon investments across all sectors of the economy, to initiate and sustain a rapid and unprecedented transformation of our economies and societies. In addition to unlocking and mobilising increased investments, it is important to shift investments from climate-damaging technologies and activities to climate-friendly alternatives. The message from science is clear: investments in new fossil fuel projects must end in order to maintain the temperature increase within

globally agreed limits to avoid catastrophic climate change. Electricity generation needs to be rapidly decarbonised and coupled with an electrification of end-use sectors, such as buildings, industry and transport. Net deforestation must be drastically reduced, and the emissions intensity of agricultural production needs to decline.

Following the agreed principle of common but differentiated responsibilities and respective capabilities, developed countries must provide significant technical and financial support (through capacity building and climate finance) to developing countries for them to achieve decarbonisation pathways similar to, or at least not significantly slower, than those of industrialised countries. To date, developed countries, however, have not complied with their commitments to lead climate

action and to make available adequate amounts of international public finance. Apart from ensuring that sufficient international climate finance is made available by developed countries, it is also essential to foster favourable conditions and absorption capacity in the recipient countries to catalyse public and private finance for the implementation of climate adaptation and mitigation activities.

There are a broad range of factors that determine the investment climate in a country and/or sector. This report, the first in a series of three, builds on the assumption that a long-term vision in line with the Paris Agreement, underpinned by a comprehensive policy framework and incentives, is crucial to provide investors with the planning certainty to mobilise private capital. The report therefore focuses primarily on the policy landscape using a standardised framework that includes a set of good practice policies at sectoral and national levels that have been successful in triggering sectoral transformations. This framework is used to analyse the policy landscape in the report's focus countries of Argentina, Brazil and Peru. While this approach facilitates a standardised assessment of the maturity of the policy landscape within the focus countries, it is also important to emphasize that the specific country context and development challenges in each country may influence the efforts of governments and other stakeholders to promote ambitious sectoral policies and initiatives for climate action. The report incorporates findings from the Latin American and the Caribbean (LAC) region to complement the analyses. It also provides a brief description of the current general investment environment and analyses factors that influence international climate finance flows.

As a region highly vulnerable to the impacts of climate change, Latin American countries have demonstrated their commitment to the goals of the Paris Agreement to reduce global greenhouse gas emissions. Most of the countries have formulated and updated NDCs and are working towards their mitigation and adaptation goals.

With respect to decarbonisation pathways, the LAC region has some key advantages over other regions. Its abundance of renewable energy resources, for instance, can not only support the energy sector transition but also facilitate the move towards decarbonisation across end-use sectors. Latin America is also home to around a third of the world's forests, half of the tropical forests and one fourth of mangroves, which act as major carbon sinks as well as biodiversity assets.

On the other hand, the region faces significant challenges to decarbonise. These include economic, political and social challenges to varying degrees in the region. The COVID-19 pandemic has hit the region hard, with some countries reporting an economic contraction of over 10% in 2020, which has exacerbated existing challenges, including an increase in poverty and income inequality in a region already the most unequal in the world before the pandemic.

Consequently, it is paramount to make sure that the transition to a zero emissions society is inclusive and aligned with the Sustainable Development Goals. The task in the coming years and decades, to which both the public and the private sectors must contribute, will be to stabilise and significantly reduce emissions while ensuring social and economic development.

The scale of investments needed can only be achieved through concerted actions of -and collaboration between- governments and the private sector as neither can shoulder or drive this alone. An enabling policy framework that fosters innovation, reduces risks and increases incentives to investment as well as disincentivises high carbon activities is crucial for the transformation. This is the main subject of this report, which in its first edition takes an economy wide and hence broader perspective. Future editions of the series will focus on investment conditions and opportunities that have the potential for transformational change to net zero emissions in specific sectors.

The Summary Report is divided into two main sections followed by concluding remarks. First, information on the status quo of low-carbon investments at the sector is presented. The second section provides, for each of the three focus countries, information on the general investment environment, the policy landscape and factors that influence climate finance. For the full detailed analysis please refer to the main report.



Low-carbon investments and key sector trends



Economy-wide

The region presents significant investment opportunities associated with abundant renewable energy sources and a need to drive sustainable agriculture and land use practices. While economic pressure to continue high carbon activities continues, it is important to highlight the transition risks associated with these investments as well as the positive impacts of low carbon development, including for example the potential creation of 15 million net jobs by 2030 as global research shows.

The emissions structure in the LAC region is very different compared to global emissions (Figure A). The agriculture, forestry, and other land use (AFOLU) sector plays a major role in the LAC region, whereas energy is the dominant source of GHG emissions at a global level. This is partly due to the power sector having a lower emissions intensity level in the LAC region, as a result of vast hydropower resources (now threatened by climate change), but also due to the important role of agriculture as the LAC region is one of the main exporters of agricultural products globally.

In particular the livestock sector is a major driver of emissions, contributing to high levels of deforestation in some countries.

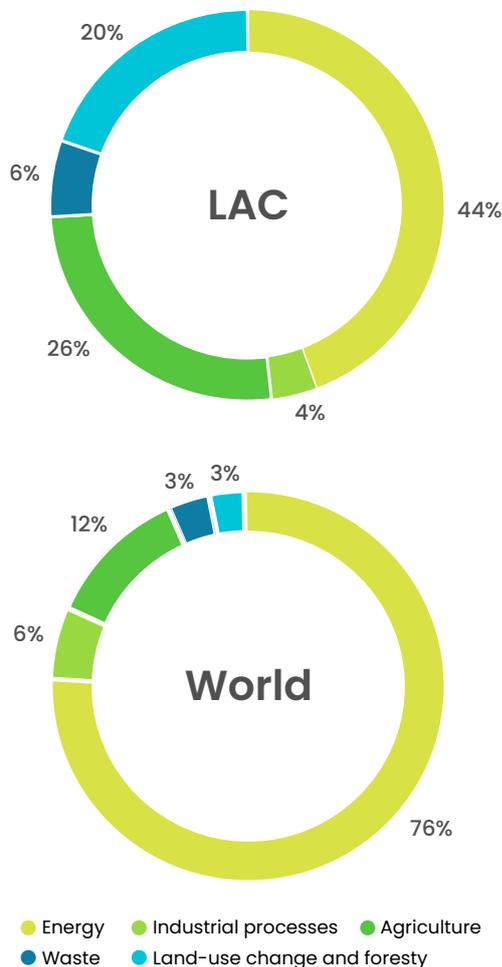


Figure A: Share of emissions across sectors in Latin America and the Caribbean and the world in 2018 (WRI, 2021)

There are a number of low carbon investment opportunities in the region. Many countries are endowed with abundant renewable energy resources, including wind and solar as well as hydropower and bioenergy. The high renewable energy availability and other enabling resources, including lithium for battery production for example, also create opportunities for an integrated energy transition in the power, transport, buildings, and parts of the industry sectors. This, combined with the vast potential for carbon sinks in the AFOLU sector, could enable decarbonisation across the region. On the other hand, the LAC region is also home to vast fossil fuel reserves, particularly oil and natural gas. Increasing energy consumption and the need for export revenues could put additional pressure

on exploiting these resources, albeit under Paris-compatible scenarios investment into new production of fossil fuels must be phased out.



Power

Latin America has one of the world's lowest emissions intensities in the electricity sector. In a context of rising demand, the challenge will be to ensure that new investments support further decarbonisation, as power-related emissions need to decrease to zero before other, harder to abate, sectors.

In Latin America, the power sector is less emissions-intensive than in many other parts of the world, due to a large share of renewable energy (particularly hydropower) and a relatively low share of coal. Natural gas also plays an important role, making up around a fifth of electricity production, and to a lesser extent, oil.

Electricity demand is expected to grow significantly over the coming decades. This presents an important opportunity for new investments, but also a challenge to increase capacity while continuing to decrease the emissions intensity of the sector. While part of this increase is expected to come from renewable energy, major investments are also planned in conventional technologies and thermal power plants.

Investments in renewable energy systems have grown considerably in Argentina and Brazil, and, to a lesser extent, Peru, largely triggered by government-initiated auctions. Most of the investment in the past decades has flowed into capital intensive hydropower, and more recently also into other renewable energy technologies, such as solar, wind and bioenergy. In 2019, USD 18.5 billion was invested in renewable energy (excluding large hydropower) in the region, which represented an all-time high. In addition to the renewable energy capacity, major investments are also needed in grid upgrades and interconnection capacity to integrate renewable energy to the grid. As the share of variable renewable energy increases, investment in storage capacity will also be required.

However, there are a number of challenges to scaling up renewable energy investment. The cost of capital remains

high in most countries in the region, increasing the financing cost of projects and thereby also the levelized cost of electricity (LCOE), a key metric in investment decisions. In some countries, hydrocarbon production, particularly natural gas, competes with the development of renewable energy.

In response to these challenges, the governments in the three focus countries have introduced renewable energy targets and implemented a series of successful policies as well as financial instruments, such as energy auction schemes. In order to further develop a stable framework for renewable energy investments, existing efforts need to be paired with credible and transparent sector planning, both in the short- and long-term. This includes a plan to phase-out coal and oil, or policies to promote system integration of variable renewable energy.



Transport

Despite favourable preconditions to reduce emissions, transport continues to be the sector with the highest fossil energy consumption in the region. This indicates that initial efforts and technology uptake, for example for electric vehicles, are not yet sufficient, and significant public and private investment is needed.

The region has seen a strong shift to individualised transport in recent decades, and historically strong rail networks (especially in Argentina and Brazil) have been neglected over time, resulting in a reduced share of rail in passenger and freight transport. The transport sector also has the highest fossil fuel consumption of all sectors in the region. Consequently, emissions in the transport sector in Latin America have grown and accounted for 15% of all regional GHG emissions in 2018.

At the same time, due to a lower emission intensity of the power sector, the region has favourable conditions to reduce emissions from the transport sector by switching to electrified modes. While most of the countries in the region have started to acknowledge the importance of electrified transport, penetration of electric vehicles still lags far behind that of other regions of the world. The situation is different with regard to the biofuel development, where the region has been traditionally more advanced than other regions, particularly in Brazil

where around three quarters of all cars utilise biofuel. There are, however, serious sustainability concerns of biofuels related to deforestation and competing land use where arable land is removed from food production.

Investments in low carbon transport in Latin America have historically focused on increasing the share of biofuels and, more recently, on strengthening public transport options, such as BRT, MRT or railways. The latter is predominantly financed with public funds, for example from national or regional governments. Considerable additional investment is needed however, to develop safe and modern public transport options as well as rail infrastructure, thus avoiding further passenger shifts to individualised transport. Another area financed primarily with public funds, but still insufficiently developed, is the expansion of charging infrastructure for electric vehicles. Generally, electrification of passenger transport is accompanied by the provision of new services and technologies, presenting opportunities for the private sector. The fact that there is a relatively large informal transport sector in the countries within the region, usually consisting of small vehicles owned and operated (or leased) by a single person, also poses a challenge for investment in the sector. This should be considered by governments when implementing sector-specific policies.

Governments in the focus countries have already launched key policies such as financial support schemes for the purchase of electric vehicles (EVs), public transport and railway infrastructure investment programs. In order to encourage further necessary investments, it is important to expand these efforts in the near future, for example by introducing national EV targets, plans to phase out the sale of new internal combustion engine vehicles or minimum efficiency standards for light- and heavy-duty vehicles.



Buildings

Investment in green buildings has so far been limited and is mostly driven by voluntary labelling schemes. Governments need to introduce and enforce mandatory building standards to avoid stranded assets and to ensure that the large amounts of capital that will flow into the fast-growing construction sector in the future are invested in sustainable

(zero emission) buildings.

In 2018, buildings accounted for 24% of total final energy consumption in Central and South America, and 21% of total process-related CO₂ emissions. The main drivers for building-related emissions in the region are urbanisation, with over 80% of the population living in cities, and a continuous expansion of the middle class, representing one-third of the population. Most of the future building stock has yet to be built with total floor space in LAC expected to grow by 65% by 2050 (3-5% per year). Without expanding the currently low coverage of mandatory building codes, 98% of the floor area expected to be built through 2050 would not be regulated by mandatory buildings standards. The very low turnover rate of the buildings sector exacerbates the risk of locking in investments for decades to come.

Due to the high demand for new construction in the region, a shift to sustainable building construction would not require large additional capital flows. In addition, the majority of low-carbon investments in the sector show net economic benefits, largely due to significant energy savings.

Although, the green building market in the three focus countries has grown in recent years, it is still in an early stage of development. Consequently, a significant investment gap remains. Private capital is required to fill this gap, which is expected mainly from real estate investors and developers with the exception of publicly funded buildings.

Challenges that have prevented investments at the required scale include long payback periods and a deficit of upfront investments, combined with high interest rates. Also, split incentives between building owners and tenants and limited visibility and awareness of actual costs for heating, cooling, or electricity have hindered investments into energy efficiency measures in the sector.

Some important policy measures have already been implemented in the three focus countries. These include, for example, financial support schemes for renewable energy diffusion in buildings or minimum energy performance standards for appliances. However, to complement the policy framework, and thus steer investments to low-carbon construction, zero emissions targets for buildings and renovation, as well as ambitious mandatory building codes would still need to be introduced.



Industry

Current investments, largely driven by the private sector, have only led to incremental changes and have not yet resulted in large improvements in reduced energy intensity levels. This is also a consequence of limited policies and incentives to reduce emissions in the industry sector and to foster the development and deployment of new technologies. Significant innovation potential remains.

Latin America comprised 6% of global industrial emissions in 2010, and industry represented 24% of the region's GDP in 2018. Emissions grew at a relatively slow pace in recent years, at around 2% yearly between 2000 and 2018.

There are two main sources of emissions in the industry sector: energy use and industrial processes. As is the case at the global level, energy use in the industry sector among Latin American countries is spread across a broad set of industrial sub-sectors. The largest industry sub-sector in Latin America in terms of energy use is the 'food and tobacco' sector, and in particular the food processing sector, followed by the 'iron and steel' and 'paper, pulp and printing' sub-sectors. These three sub-sectors alone diverge in the type of mitigation measures to be deployed and hence the type of policy needed.

The production of iron and steel is the most emission and energy-intensive sub-sector in the region and is generally considered one of the 'hardest to abate' sub-sectors. Major investment opportunities in this sub-sector, both globally and in the region, include Research, Development and Deployment (RD&D), recycling of steel, carbon capture and sequestration or utilisation (CSS/U) or hydrogen-based steel production. Initiatives to reduce emissions in the sector, develop new technologies and stimulate investments for low-carbon solutions are currently largely driven by the private sector. However, these initiatives have only led to incremental changes.

There are isolated policy measures in place in the three focus countries, such as financial incentives for energy efficiency measures in industrial production or support schemes for renewables. However, to mobilise the necessary investments, especially in the early stages of technology development, a long-term vision towards net-zero emissions is needed. For emissions-

intensive sub-sectors it is of utmost importance to avoid investments that lead to a lock-in in high-carbon technologies that exacerbate transition risk and are likely to lead to stranded assets and a loss of competitiveness. To drive investments in innovation and the development of new technologies such as novel cement, CCS/U or green hydrogen, more support is needed from both national governments and international donors. Measures that governments should take to this end include, for example, the implementation of RD&D support schemes for hard to abate sub-sectors, the development of a strategy for material efficiency or the introduction of minimum energy performance and equipment standards.



AFOLU

The AFOLU sector plays a critical role for sustainable development in the LAC region and in reaching global climate goals. Efforts to halt deforestation, protect and restore critical landscapes as well as to promote sustainable agricultural practices and food systems need to be scaled up significantly. This requires a major shift in investments from carbon intensive practices to sustainable and climate-resilient ones.

The LAC region is home to around a third of the world's forests, half of its tropical forests and one fourth of its mangroves, and hence represents an important global carbon sink and store of biodiversity. At the same time, agriculture is a key pillar of national economies in the region, supporting millions of livelihoods as well as providing one fourth of the world's food exports. With growing populations and growing food demand, already high demand for arable land is set to further escalate tropical deforestation. The critical role of the AFOLU sector to achieving sustainable development as well as global climate goals requires a significant shift in the way land is used and invested in. In essence, in order to achieve the goals of the Paris Agreement the sector needs to become a major net sink before 2050 to compensate for residual emissions in other sectors while maintaining food security and livelihoods.

The governments of Argentina, Brazil, and Peru have all invested in afforestation and reforestation programmes, but despite this, on balance, there is still significant net deforestation in all three countries, particularly in Brazil in

recent years. The expansion of agricultural land is one of the main causes of deforestation, particularly of tropical forests. Investments need to shift away from activities that lead to increased deforestation, including agriculture as well as other industries such as mining and timber.

Whilst some investments have been made to reduce direct emissions from agricultural activities there are opportunities to increase their scope and reach. These include investments into sustainable agricultural practices to improve crop efficiency, decrease livestock emissions and further increase carbon sequestration. Agroforestry, silviculture and silvopasture present significant sustainable development benefits. Also, there are important opportunities to take advantage of the rapid growth in demand for plant-based meat alternatives and food waste reduction strategies.

Some progress has been made in this area in the focus countries, for instance, policies to support sustainable forest management and incentives to reduce GHG emissions from agricultural activities exist. Beyond this, however, it is important that governments scale up efforts to turn the AFOLU sector into a net sink and communicate a clear timeline for achieving net-zero deforestation, supported by sound policies and systems to halt deforestation.



Waste

Existing policies and incentives have led to investments and positive developments in certain areas of the sector, including waste collection, but other areas such as recycling of waste or prevention of open dumping are not yet sufficiently developed and need increased attention.

The waste sector in LAC is responsible for 6% of total GHG emissions in the region, which is a higher share of total emissions than the world average. The region generates approximately 10% of all global waste. The main drivers for a persistent increase of waste generation in the region are population growth, an increasing trend towards urbanisation, economic growth, a growing middle class and unsustainable consumption and production patterns.

Although waste collection and management systems have progressively improved in recent decades, more

than 40 million people in the region still lack access to a basic collection service, and about a third of all waste generated ends up in open dumps, causing serious impacts on health and the environment.

To date, only a few countries in the region have the formal infrastructure required to sort and recycle municipal solid waste, and the recovery of recyclable materials is mostly performed by the informal sector. Recycling rates in the region are therefore still low, with approximately 90% of the recovered municipal waste ending up in landfills.

Due to decades of investment and development backlog in waste and water management, there is a great need for modernisation and expansion of numerous technologies and services. In particular, investments are required to modernise landfills and construct treatment plants for household waste and hazardous waste, coupled with improving waste management systems at subnational and national level. While both private and public capital providers play a role in the sector, waste management, including collection and disposal, is mostly undertaken by public actors, while private investors are predominantly involved in waste to energy projects.

The challenges leading to insufficient investment levels in the sector across the region include prevailing financially unsustainable management schemes, uncertainty about direct and indirect costs of waste management, limited diversification of delivery models and difficulties in the service charging schemes.

Existing policy frameworks and implementation strategies for integrated waste management in the three focus countries have led to investments and positive developments in certain areas of the sector, such as the collection of waste, as evidenced by the relatively high proportion of the population with access to these services (Peru 84%, Brazil 98% and Argentina 99%). The fact that areas such as the recycling of waste or the avoidance of open dumps are not yet sufficiently developed suggests that existing policy approaches are either not ambitious enough, not fully enforced or do not cover these areas adequately.





Climate investment in Argentina

An already challenging investment environment in Argentina is exacerbated by the COVID-19 pandemic affecting investment activity and access to finance, particularly for the private sector.

As the third largest economy in the region in terms of GDP and member of the G20, Argentina plays a key role in driving transformation in the region and beyond. Before the COVID-19 pandemic, however, the Argentinian economy intermittently experienced years of negative growth and never fully recovered after the economic crisis and default two decades ago. In 2019 GDP contracted by 2.1% and inflation reached 54%. The macroeconomic difficulties have contributed to

a challenging investment environment. Of the three focus countries in this report, Argentina has the lowest sovereign credit, which is indicative of the country's high investment risk profile and translates into low investment activity and difficulty for companies to access finance. Private sector loans have been increasing, however, they remain insufficient, in particular for small and medium sized companies.

Investment into low emission infrastructure and activities have so far been focussed on renewable energy and improvement in public transportation infrastructure as well as afforestation and reforestation. However, total investment levels remain low compared to continued

investments into high carbon activity, particularly in the energy sector, rather than into activities needed to drive the transformation of these key sectors of the economy. In the finance space, green debt markets are emerging, and there have been some nascent steps to

increase the awareness of the private sector and capital markets about integrating environmental and climate risks into investment decisions. However, overall green and climate risk awareness in the investment community is still limited.

Table A: Overview of macroeconomic and investment-related indicators in Argentina

Indicator	Unit	Value in 2019	Difference to 2018
1 Population	Million	45	⬆️
2 GDP level	USD billion (current)	445	⬇️
3 GDP growth	Average annual growth rate of GDP	-2.1%	⬇️
4 Inflation (historical)	Average change in consumer price index	54%	⬆️
5 Sovereign credit rating	Rating	CCC	⬅️ ¹
6 Ease of Doing Business	Ranking	126 / 190	⬇️
7 FDI restrictiveness	Index 0 (open) 1 (closed)	0.03	⬅️ ²
8 Corruption perception index	Ranking	66 / 180	⬆️
9 Political stability index	Percentile rank among all countries, ranges from 0 (lowest) to 100 (highest) rank	43	⬇️
10 Regulatory quality index		34	⬇️

¹ For the sovereign credit rating the latest value is from 2021 and is compared to a previous assessment by Fitch Ratings in 2020.

² Please note that a lower value for this indicator represents an improvement.

National policies and targets needed to create the enabling environment to guide and mobilise low carbon investments are emerging, however, continued public support for fossil fuels conveys mixed signals to investors.

At the economy wide level, the updated NDC and the climate neutrality target announced by the President, and expected to be formally communicated in the country's Long-term Strategy (LTS) later in 2021, provides a general framing and perspective for investors on the direction of travel. To serve as a sufficiently strong signal, this will need to be underpinned by concrete and decisive policy action. While the carbon pricing scheme introduced by the government is a laudable first step it only covers 20% of

the country's GHG emissions and exempts key activities, in particular natural gas, aviation and shipping. Argentina has not announced that it will phase out of fossil fuels. On the contrary, recovery measures to stimulate the economy have focussed on high carbon activities in the form of direct subsidies to the oil and gas sector as well as monetary transfers to households and companies.

Fragmented policies and incentives at the sector level improve the investment situation for certain technologies and activities but lack the ambition and scope, particularly with regard to long term investor signals, to steer investments from high to low carbon practices across all sectors.

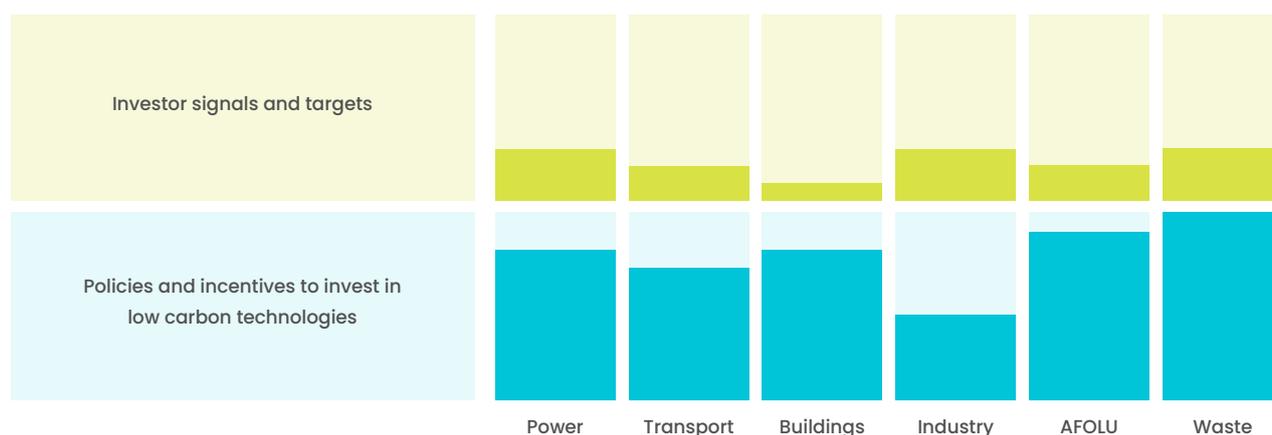


Figure B: Overview of the coverage of targets as well as policies and incentives for low-carbon investment in Argentina

Note: A full bar implies that the targets and policies considered in this assessment framework are fully (100%) covered. For more details, see the relevant sector section in Chapter 3 of the main report.

In the **power** sector, short and medium-term targets as well as schemes to incentivise renewables, including an auction scheme, have driven investments into these key decarbonisation technologies and associated infrastructure. To enable a decarbonisation of the economy, the targets would have to become more ambitious. Also, the reversal in the support scheme and continued public support for fossil fuel exploration exacerbate transition risks and are a source of uncertainty for low carbon investors affecting their appetite and ability to commit finance. Due to their competitiveness, renewables, especially onshore wind and utility scale PV, are poised to expand rapidly on a level playing field.

Despite a large railway network which has seen a resurgence of investments and plans for extension, in particular for freight, **transport** is dominated by road both for passenger and freight. There has been some investment into urban public infrastructure (e.g. BRT) and support schemes to incentivise the purchase of low emission and e-vehicles. However, for a full transformation, these approaches would need to be significantly scaled up. The introduction of long-term targets, which are currently mostly missing, would also send clear signals to investors. This includes, for example, the phase out of internal combustion engines as well as a comprehensive policy and public investment scheme that shifts towards no- and-low carbon modes and electrification.

Although during the pandemic activity in the **building** sector contracted by 23% in Argentina significant investment activity in the future can be expected in

new construction driven by population growth and urbanisation. The building stock efficiency, which is twice as high as the global average per capita, and the very low share of green new buildings (2%) could be increased by introducing comprehensive building codes for all segments as well as energy efficiency requirements. There are already some approaches to incentivise building integrated renewables, such as soft loans for materials, appliances and refurbishments or net metering. In order to more effectively mobilise finance, comprehensive regulatory measures as well as long term targets and policies are needed. Known barriers to investment in the sector, including split incentives, access to capital and awareness, are not sufficiently addressed through the existing schemes.

Albeit only small contributors to emissions in Argentina, the **industry** and **waste** sectors play a key role for the overall decarbonisation of the economy. At present, policies and plans have been rather scarce resulting in low climate related investor activity. The waste sector lacks clear emission reduction and waste management targets. A strategy for material efficiency in industry is included in the Climate Change Action plan and some energy efficiency and waste to energy support schemes are in place, however, there are no RD&D schemes, for example, for CCS/U technologies or novel cement and steel technologies. Ultimately in industry, technology transformation will be driven by international developments, however, a strategic approach can present economic opportunity. The recently launched hydrogen plan for the country is a move in this direction, although if not clearly

limited to green hydrogen may counteract long term decarbonisation efforts and investments.

As one of Argentina's main source of emissions, the **land-use** sector is critical to achieve the long-term climate neutrality goal. Whilst some policy efforts have been made to reduce deforestation and support afforestation and reforestation, there is no zero-deforestation target in place, and enforcement of existing laws and regulations can be improved. The **agriculture** sector, with its decreasing but still high emission intensity at twice the global average, has seen the implementation of some RD&D initiatives to reduce emissions as well as measures to increase soil carbon sequestration and reduce food waste. In order to incentivise a low carbon transformation of the sector and drive associated investments, long-term comprehensive plans need to be introduced. Given its critical role for the economy and export orientation, a longer-term climate aligned strategy would help to safeguard investments and future proof revenues in the sector.

The emerging climate finance governance framework and strategy needs to be underpinned by capacity and knowledge development in key institutions as well as clearly formulated investment needs in different sectors to attract international support and complement domestic resources.

Argentina's climate change law and related structures, including the creation of the National Climate Change Cabinet, contribute to the establishment of a comprehensive governance framework to coordinate, monitor and foster climate finance. These developments are likely to contribute to further aligning climate finance with development priorities; likewise, improving the mainstreaming of climate considerations in the budget planning of line ministries and access to climate finance. However, additional efforts are needed to operationalise newly formed institutions and build associated capacities, knowledge and awareness amongst relevant actors, for which financial and technical support is needed.

Argentina has a long history of accessing international climate finance from a variety of sources. These include international climate funds, multi- and bi-lateral agreements, which have supported climate action at project level. The country would benefit from a more strategic approach to access the larger volumes of climate finance needed to support the country's transition to a low carbon economy.

Argentina's latest NDC and biennial update report (BUR) submissions provide generic guidance on how the country plans to meet its climate target. Relevant ministries and secretariats are currently engaged in the drafting of more detailed mitigation measures, including the definition of implementation plans and investment needs. Argentina has not yet communicated information about the level, type and purpose of climate finance; however, a climate finance strategy is soon to be released and should provide more clarity once launched.



Climate investment in Brazil

As one of the largest economies in the world, Brazil is an important player in combating climate change regionally and globally. Economic recessions and a difficult macroeconomic investment environment, coupled with a lack of concerted policy action, has hindered low carbon investments and led to a backsliding in climate change efforts.

Brazil is not only the largest and most populous country in the LAC region. It is also the world's ninth largest economy, and its GDP represents a third of the LAC region. However, Brazil's GDP has shrunk since it reached an all-time high at USD 2.6 trillion in 2011. Brazil's economic recession in 2014 to 2016 has accentuated the decline in GDP, and the

COVID-19 pandemic led to a contraction of the economy by around 4% in 2020. This figure is lower than in other countries in the region, due to a relatively large stimulus package and limited restrictions in response to the virus.

Although Brazil has a large and diverse economy, it is heavily dependent on commodity exports, and economic productivity has declined in the past. Brazil's macroeconomic and investment environment has been negatively impacted by political uncertainty, relatively high levels of corruption, legal insecurity, social inequality, and high debt levels. This is also reflected in the country's credit rating ("elevated vulnerability to default risk"). Private sector investment has declined in

recent years, due to high debt interest rates from private banks, limited access to long term capital for small and medium enterprises (SMEs) and high competition barriers due to subsidies.

Low-emission investments in Brazil have mainly focused on the uptake of renewables in the energy sector, with a booming corporate procurement market for renewables and the support of targeted instruments such as capacity auctions in the power sector and the ethanol or biodiesel mandates in the transport sector. The approach of the current administration, which has opposed several existing climate policies and weakened the legal and institutional framework to address climate change,

has not helped to ensure that further investments in climate-friendly measures in other sectors are made to the necessary extent.

However, several initiatives have been in place for some time in the Brazilian financial sector that have the potential to steer investment decisions towards low-emission alternatives. Financial institutions and the Brazilian pension fund, for instance, are required to publish environmental, social and corporate governance (ESG) strategies and incorporate climate change-related criteria and risk assessments into decision-making processes for investments.

Table B: Overview of macroeconomic and investment-related indicators in Brazil

Indicator	Unit	Value in 2019	Difference to 2018
1 Population	Million	211	
2 GDP level	USD billion (current)	1840	
3 GDP growth	Average annual growth rate of GDP	1.1%	
4 Inflation (historical)	Average change in consumer price index	3.7%	
5 Sovereign credit rating	Rating	BB-	 ¹
6 Ease of Doing Business	Ranking	124 / 190	
7 FDI restrictiveness	Index 0 (open) 1 (closed)	0.08	 ²
8 Corruption perception index	Ranking	106 / 180	
9 Political stability index	Percentile rank among all countries, ranges from 0 (lowest) to 100 (highest) rank	25	
10 Regulatory quality index		48	

¹ For the sovereign credit rating the latest value is from 2020 and is compared to a previous assessment by Fitch Ratings in 2018.

² Please note that a lower value for this indicator represents an improvement.

With a few exceptions, the government has not set adequate national policies and targets that could guide and incentivise low-carbon investment.

Brazil is the only one of the three focus countries where the updated NDC does not include an increase in

ambition levels compared to its previous submission. On the contrary, it has effectively weakened its climate action targets for 2025 and 2030. Apart from non-binding announcements to achieve climate neutrality by mid-century, there is no sign of a long-term strategy, underpinned by concrete policies, being developed in

Brazil. This creates considerable uncertainty for investors about the future direction of the Brazilian economy.

Based on past performance, it appears likely that the current Federal Government will continue to disregard the urgent need for climate action in Brazil. Although the government has reduced fossil fuel subsidies, no clear phase-out plan has yet been formulated. The government has also not pursued a green economic recovery in response to the COVID-19 pandemic. While this can be seen as a missed opportunity to channel public funds from the large stimulus package into climate-friendly

investment opportunities, private investors can benefit from a comparatively wide range of public leverage instruments, including green debt and equity instruments as well as risk transfer instruments. As one of the first countries in the region to publish green bond guidelines, Brazil is now the largest green bond market in the region.

At sector level, low-emissions targets and plans exist for some but not all sectors. Correspondingly, policies to incentivise investments in low-carbon alternatives are patchy, with some sectors well covered yet others leaving room for further action.

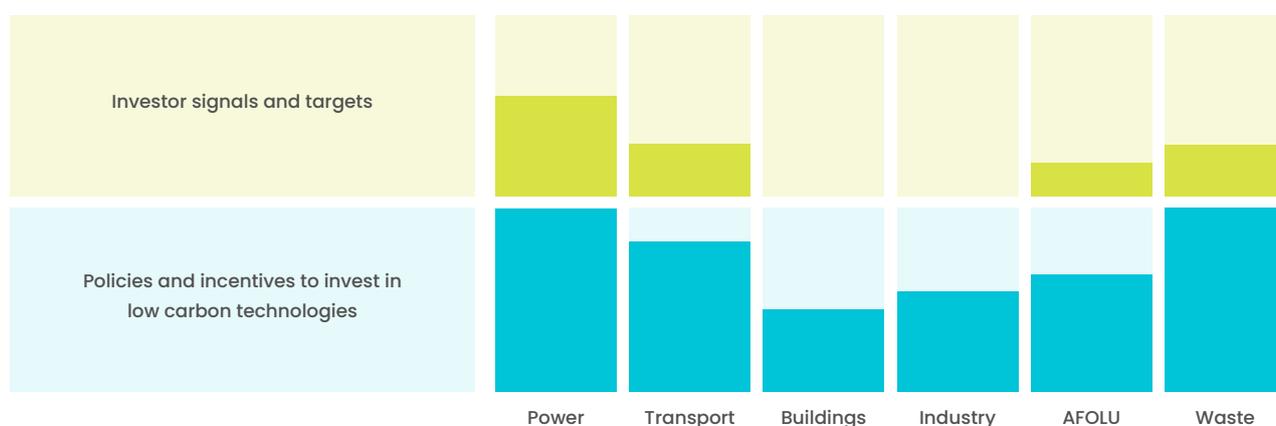


Figure C: Overview of the coverage of targets as well as policies and incentives for low-carbon investment in Brazil

Note: A full bar implies that the targets and policies considered in this assessment framework are fully (100%) covered. For more details, see the relevant sector section in Chapter 3 of the main report.

Market trends in Brazil's **power** sector are heading in the right direction, with a steady increase in renewable power generation (82% of the generation mix). This is also reflected in the latest Renewable Energy Country Attractiveness Index, in which Brazil moved up from 15th place in 2020 to 11th place of the world's most attractive markets for renewable energy. Key for this development have been clear investor signals, including a long-term emissions reductions and renewable energy target. There is also relatively stable support for renewable energy. The latter includes policies to incentivise large scale renewable energy installations (such as energy auctions, tax benefits, etc.) and incentives to promote distributed renewable energy generation as well as the integration of variable renewable energy (VRE). These policies are complemented by dedicated funding mechanisms, such as investor guarantees for renewable energy projects. On the other hand, Brazil is an important exporter of fossil fuels, mainly crude oil, and the government has

announced plans to expand the extraction of fossil fuels in the future.

The **transport** sector in Brazil is dominated by road transport. Car ownership increased significantly in recent decades and the role of public transport has decreased. Although both passenger and freight transport have increased in recent years, railways play a minor role. The historically strong rail networks have been neglected. With the exception of a medium-term emissions reduction plan, important investor signals such as a target for EVs, a plan to phase out the sale of internal combustion engine vehicles or binding emissions performance standards are largely missing. On the other hand, there are financial incentives in place to support the purchase of low emissions vehicles, and there are a number of public transport as well as railway infrastructure investment programmes. Even though sustainability issues exist, it is worth mentioning that

support programmes for biofuels, such as RenovaBio and the former Proálcool programme, have been successful.

Brazil can be considered a regional leader in terms of voluntary green **buildings** certification. Corresponding governmental support, for example through policy measures or incentives, can be significantly improved. Consequently, the overall share of green buildings of all new buildings in 2019 was still very low, at around 5%, and investments in green buildings account for a relatively small share of total projected investments in the building sector in 2025 (between 8% - 10%). To be able to further attract low-carbon investments in the sector, clear targets should be set for zero emissions buildings or the renovation of the existing building stock. In addition, introducing and enforcing an ambitious and mandatory building code that covers all building types, as complement to existing minimum energy performance standards for appliances, is essential to ensure the sector becomes more sustainable and climate future proof. To counteract investment barriers in the sector, these policies should be complemented by financial support schemes. With few exceptions, such as a net metering scheme for distributed power generation, these are largely missing.

To date, investments in the **industry** sector in the LAC region have not led to a reduction of energy intensity levels. This is also the case in Brazil, where, for instance, the emission intensity per output of cement has increased since 2005. Reducing current emissions intensity levels cannot be addressed exclusively by relying on fuel switch, such as to bioenergy, but will require clear signals and incentives to trigger transformational investments. The absence of clear emissions targets and mitigation plans – currently only available for the mining sector – led to few investments and as a result only incremental improvement. Support schemes have contributed to a displacement of fossil fuels by biomass to a considerable extent in the sector. Isolated policy measures can, however, not hide the fact that a long-term vision towards net zero emissions is lacking and that there is therefore still a considerable lack of investment.

In the **forestry and other land-use** sector, the government has basically dropped all reference to stopping illegal deforestation, restoring forests and enhancing native forest management. Consequently, Brazil remains by far the country with the largest tropical forest loss worldwide.

The Brazilian **agricultural** sector is also of great importance beyond the national level, as it is heavily

geared towards exports, making Brazil the leading exporter of agricultural goods and food in the region. While there is a medium-term plan to reduce emissions in the sector, there is none for the long-term. National plans, such as the Low-Carbon Agriculture (ABC) Plan, which includes various measures to reduce emissions from agriculture and R&D programmes to stimulate emission reductions in the sector, are expected to have a positive impact on investments in the sector. Areas where policy support could be improved include, for instance, the creation of incentives to reduce post-harvest loss and food waste.

In Brazil, emissions from the **waste** sector are higher than emissions from the power sector. Main drivers for the continuous increase of waste generation are population growth, increasing urbanisation, economic growth, and unsustainable consumption and production patterns. To give clear investor signals an emissions reduction target or a national target for recycling municipal waste should be established. Some policies to incentivise investments in a low-emissions waste sector exist, such as the National Policy on Solid Residues or the National Zero Dump Programme, which include several financial support schemes. To trigger additional investments in the sector, these need to be scaled up and existing implementation issues resolved.

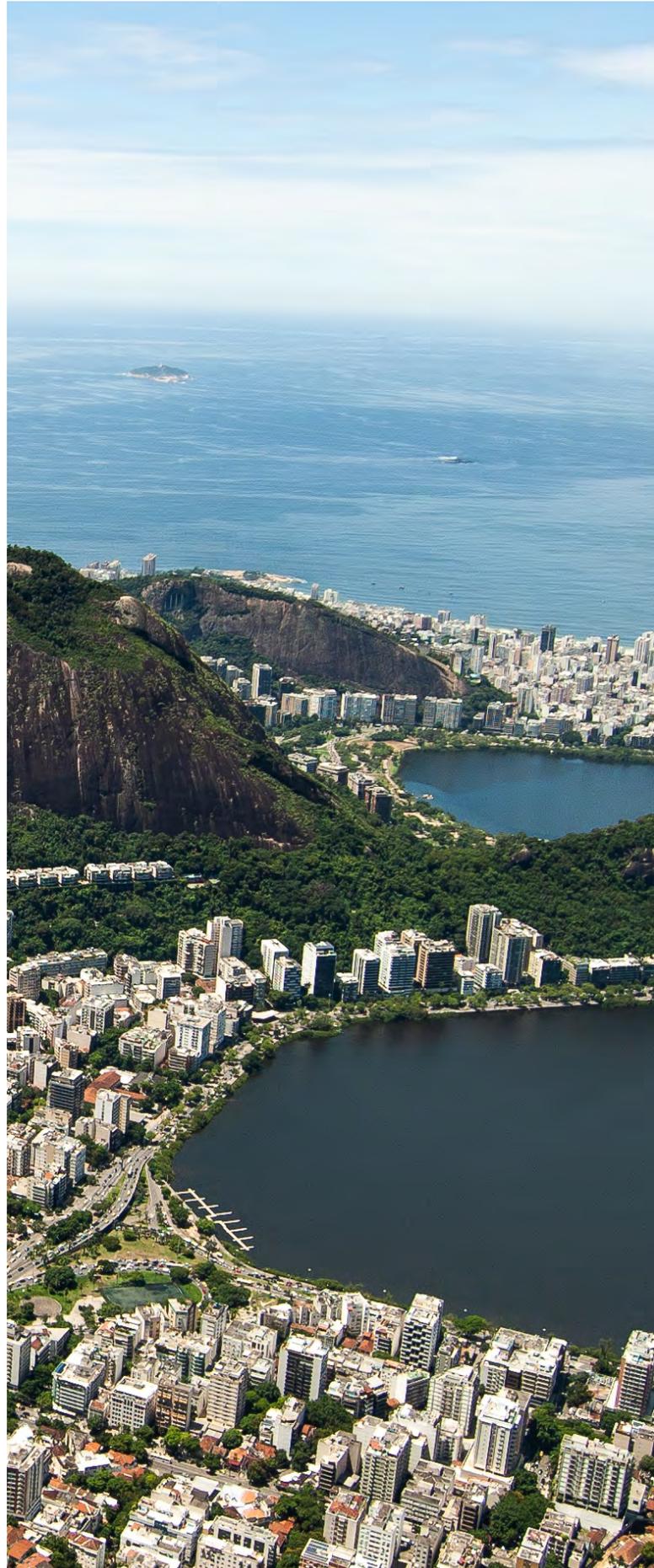
While Brazil established a governance structure around climate action and, more specifically, climate finance as early as 2007, the current government has continuously weakened these structures in recent years.

Brazil introduced a climate change law as early as 2007, and it has a significant track record of channelling climate finance in recent decades from various sources. These include international climate funds, and bilateral or multilateral support initiatives. Notably, the country channels climate finance through its National Climate Fund and the Amazon Fund. Brazil's development bank, BNDES, leverages significant investments for low-carbon development through green credit lines as well as green bonds.

However, climate finance channels have decreased and spending on climate mitigation has generally been cut sharply in recent years. The former is, in part, due to the Amazon Fund being largely inactive as some of the largest contributors to the fund have halted their support since 2019, due to concerns over forest management as well as a change in the fund's governance structure.

There is also limited evidence that climate finance is

integrated into sectoral climate change plans or the national budget. The government has not presented clearly defined NDC mitigation measures at the sector level and, accordingly, there is limited information on how individual mitigation measures will be financed. In the absence of governmental guidelines, some private sector stakeholders have committed to voluntary climate action such as through the Brazil Green Finance Initiative (BGFI).





Climate investment in Peru

Peru has been one of the fastest growing economies in Latin America in recent decades and is set to recover GDP growth in 2021 after the recent pandemic-induced economic dip. Generally, an investor friendly regulatory framework and a relatively stable macroeconomic situation have led to high private sector participation in climate related investments. However underlying issues of political instability, corruption and challenges for SMEs to access credit, prevent the capital markets from reaching their full potential to drive low carbon investments.

Peru has been one of the fastest growing Latin American economies in the past twenty years with GDP per capita

rising steadily until the onset of the coronavirus crisis. As a result of the COVID-19 pandemic's economic impacts, Peru's GDP declined by 11% in 2020. However, with an estimated GDP growth of around 5% in 2021, Peru is expected to be the country with the second highest growth rate in the region. The country's economic development in recent decades and positive prospects for a recovery from the pandemic can be attributed to its relatively stable macroeconomic situation, robust levels of international currency reserves, and a controlled fiscal deficit. This is also reflected in the positive assessment of government debt, where Peru scores best of the three focus countries. Peru is also relatively open to trade with its neighbours, and the rest of the world, and is the fourth

largest recipient of foreign direct investment (FDI) in Latin America. This relatively investor-friendly environment has also led to private investment accounting for two-thirds of all investment in Peru. At the same time, significant barriers to investment in Peru remain, such as a high vulnerability to commodity prices, a growing informal sector, political instability, corruption and obstacles to accessing credit, especially for SMEs, which play a crucial role in the economy. Overcoming these barriers is a prerequisite for the capital market to reach its full potential and tap into opportunities related to low-carbon and resilient investments.

Low-emissions investments have traditionally focused on renewable energy although these have started

stagnating since 2018. Some investments were also made to improve public transport and rail infrastructure as well as increased afforestation and reforestation measures. However, to achieve an economy-wide transformation towards climate neutrality, both private and public investments in climate-friendly technologies need to be scaled up significantly. Positive developments in the financial sector that may contribute to the transition include the take-off of the green bonds market in recent years and the introduction of mandatory ESG reporting for all listed companies. To date, however, climate-related criteria and risk assessments are still not sufficiently incorporated into financial modelling and decision-making processes for investments.

Table C: Overview of macroeconomic and investment-related indicators in Peru

Indicator	Unit	Value in 2019	Difference to 2018
1 Population	Million	33	
2 GDP level	USD billion (current)	227	
3 GDP growth	Average annual growth rate of GDP	2.2%	
4 Inflation (historical)	Average change in consumer price index	2.1%	
5 Sovereign credit rating	Rating	BBB+	 ¹
6 Ease of Doing Business	Ranking	76 / 190	
7 FDI restrictiveness	Index 0 (open) 1 (closed)	0.08	 ²
8 Corruption perception index	Ranking	101 / 180	
9 Political stability index	Percentile rank among all countries, ranges from 0 (lowest) to 100 (highest) rank	42	
10 Regulatory quality index		48	

¹ For the sovereign credit rating the latest value is from 2020 and is compared to a previous assessment by Fitch Ratings in 2018.

² Please note that a lower value for this indicator represents an improvement.

National policies and targets needed to create the enabling environment to guide and incentivise low carbon investments are emerging but could be strengthened and extended to incorporate a long-term perspective.

Peru updated its NDC strengthening the 2030 target compared to the previous NDC and providing more insights into government priorities for the short to medium-term. A long-term strategy, including a net-zero commitment for mid-century, is being developed

and is expected to be published before the end of 2021. This could, if underpinned by policy packages in the individual sectors, make an important contribution to providing investors with the certainty they need to plan future activities and investments.

Although only a small proportion of Peru's recovery spending in response to the COVID-19 pandemic can be considered 'green', it is one of the few countries in the region where government officials referred to a 'building back better' approach, taking sustainability and climate

change concerns into account. These positive efforts could be significantly strengthened by, for example, a commitment to phase out fossil fuel subsidies or introducing a carbon pricing scheme.

At sectoral level, medium-term targets and incentives exist for a few sectors; to give clear signals to investors, however, corresponding policy measures need to be introduced consistently for all sectors and complemented by long-term targets and plans.

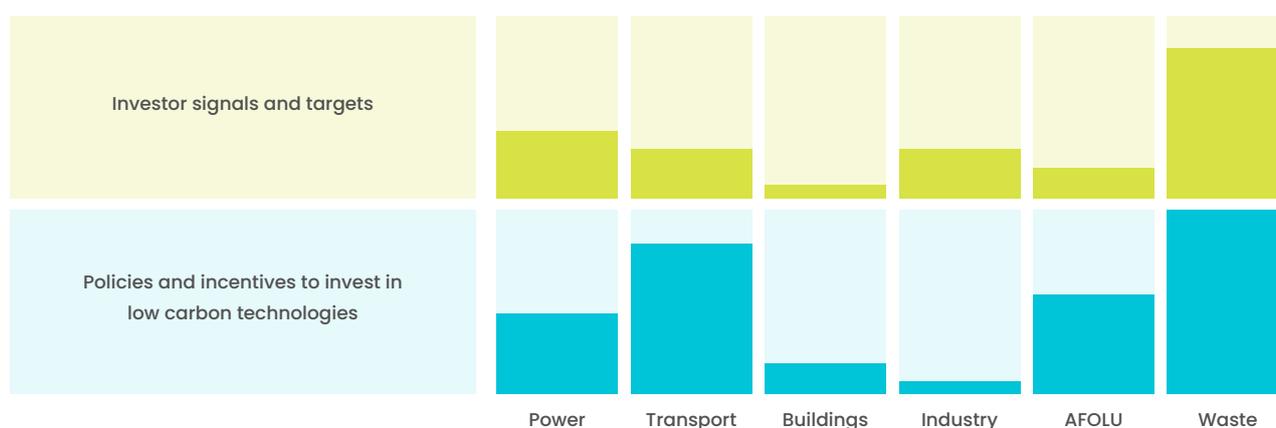


Figure D: Overview of the coverage of targets as well as policies and incentives for low-carbon investment in Peru

Note: A full bar implies that the targets and policies considered in this assessment framework are fully (100%) covered. For more details, see the relevant sector section in Chapter 3 of the main report.

In the **power** sector, Peru has formulated specific plans for the period until 2030, such as an emission reduction plan as part of its NDC and a renewable energy target. However, there is limited certainty for the period beyond. A draft law foresees that the share of renewables in the energy mix should be 50% by 2040, which would not be enough to successfully decarbonise the economy, in particular given the need to electrify demand sectors. A series of renewable energy tenders have attracted nearly USD 2 billion in investment over the past decade, which is reflected in a steady increase in capacity through 2018. In the absence of further auctions, virtually no new solar and wind capacity has been added in recent years, keeping total capacity at relatively low levels. A further expansion of these efforts, which has already partly taken place again in 2020, is as important for promoting further investments in renewables as the creation of incentives to promote decentralised systems as well as technologies and infrastructure to enable the integration of variable renewable energy sources.

Peru's **transport** sector is dominated by road transport in terms of both traffic volume and public investment. On a positive note, medium-term emission reduction targets have been formulated and a goal has been set for 5% of light vehicles and buses to be electric by 2030. In support of the latter, the government has put in place tax incentives to promote the purchase of hybrid or electric vehicles, and some public investment went into improving public transport and railways. A tax on fuels and restrictions on vehicular traffic in metropolitan areas can have a positive impact on the sectoral transformation. The Peruvian Government, led by its Ministry of Transport and Communications, is also developing the TRANSPerú NAMA with a broad range of measures designed to reduce greenhouse gas emissions in the transport sector. For all the aforementioned measures to bear fruit, and for a transport sector transition to be possible, investments need to be redirected and increased significantly. The share of public investment in the sector is currently only about 1%, with three quarters of the funds going to road transport. A phase-out plan for the sale of vehicles with

combustion engines could also be considered to give the industry and investors more planning certainty.

Even though economic growth has driven constant investment in the **building** sector over the past decades, green buildings represent only a fraction of the total building stock in Peru (around 2%). This could be improved through the introduction of clear signals and policies to promote low-carbon investments in the sector. As part of the recovery from the economic impact of the pandemic, which is expected to significantly shrink Peru's construction output in 2020, the share of green buildings should be increased quickly and steadily. For this, the voluntary Code for Sustainable Construction could be complemented by an ambitious and mandatory building code covering all building types and by minimum energy performance standards for appliances. Furthermore, financial and regulatory measures could be implemented to counteract investment barriers in the sector such as split incentives and longer payback periods. Concessional loans for the renovation or construction of houses that are linked to certain sustainability criteria (such as those from Fondo MiVivienda) can be seen as a step in the right direction. Given the large investment gap in green buildings, such initiatives need to be significantly expanded and scaled up.

Despite its important role in decarbonising the economy and its complex structure with a wide range of technologies and sub-sectors, the **industry** sector in Peru has so far received little attention in the implementation of climate-friendly regulatory and policy measures. Although the country's NDC includes individual mitigation measures in the industry sector, adequate incentives or policy measures are limited. Key instruments such as support schemes for renewable energy or a strategy for material efficiency (steel, cement, aluminium, etc.) should be introduced alongside financial incentives for energy efficiency measures in industrial production as well as for CCS and low-carbon hydrogen. A nationally appropriate mitigation action (NAMA) on cement has been helpful to support the development and deployment of some technical solutions in this hard-to-abate sub-sector, with more of these initiatives being needed.

As in the entire region, the **AFOLU** sector plays an important role in the Peruvian economy, which is reflected, for instance, in its contribution to the national GDP and employment but also in its higher share of emissions compared to world average levels.

Although there are some policy measures in place to support sustainable forest management (restoration,

reforestation, afforestation), emissions from deforestation are still projected to increase by more than 80% between 2012 and 2030, a growth rate not seen before in Peru's history. This expected development does not seem to be in line with the government's goal of reducing deforestation in the Peruvian Amazon by 30% by 2030.

Investment in **agriculture** is likely to increase in the coming decades, due to an expected population increase and the country's role as an exporter of agricultural products. Government action and resources in the form of policies and regulations, monitoring and enforcement, as well as financial incentives are key to steer capital flows in the right direction. Some elements like incentives to reduce GHG emissions from agricultural activities and policies to reduce post-harvest loss already exist, however, these could be complemented by additional measures, including RD&D support for sustainable low-emissions agricultural practices or incentivise to promote agricultural practices that increase soil carbon sequestration.

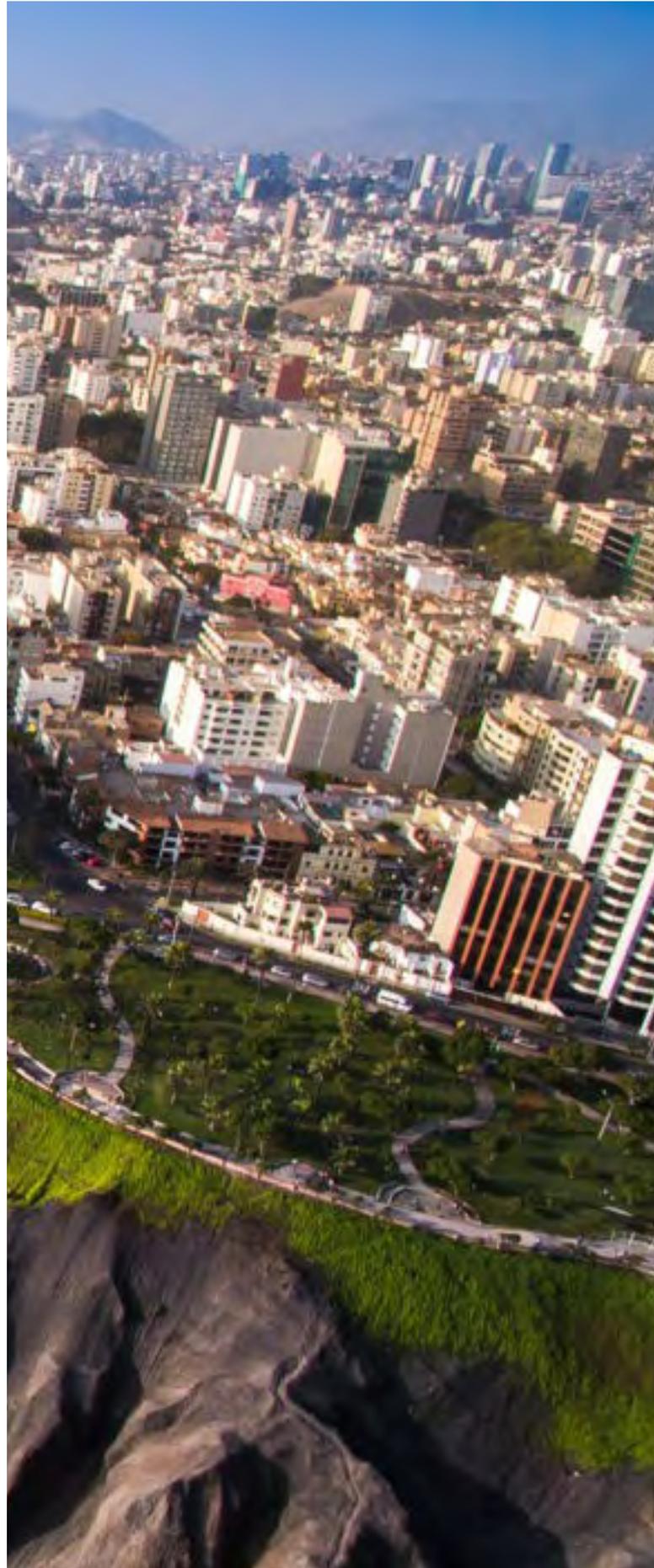
Similar to the other countries in the region, the recycling rate of municipal **waste** in Peru is still comparatively low and a significant share of waste ends up in open dumps causing serious impacts on health and the environment. In response to this, Peru has identified the waste sector as one of the priority sectors in its updated NDC and established a clear national target (100% recycling of reusable waste by 2024) for the management of solid waste, accompanied by an integrated solid waste management strategy. Financial incentives such as those offered through the National Solid Waste Investment Fund, and other tax incentives that have been introduced, will be key to stimulate the significant amount of investments needed to achieve this ambitious target and thus contribute to the protection of soil, air, water and human health.

Peru has taken important steps towards establishing comprehensive governance and planning structures to coordinate and foster climate finance; whether the expected results will materialise will only become clear when these are fully implemented.

The Peruvian government has taken important steps in the field of climate finance governance, particularly with regard to legislation and institutionalisation. However, the structures have not been in place long enough to assess whether the expected results will materialise, for example, with regard to aligning and mainstreaming climate finance considerations into sector plans and budgets or increasing private sector engagement.

In the past, Peru has catalysed significant climate finance volumes through a range of channels, including multi- and bilateral agreements, international climate funds, as well as alternative funding sources such as a voluntary carbon credit agreement.

With clearly defined measures for individual sectors, Peru has laid an important foundation for successful climate finance planning. In addition, the Peruvian government is working on a national strategy for climate finance, which, together with sector roadmaps, should provide more clarity regarding the financing of individual mitigation measures.





Key messages

In the near future, it will be important for governments to follow their national climate plans, including updated NDCs, with clearly defined mitigation measures and sector-level targets that are aligned with medium- and long-term decarbonisation goals. This will help to define financial support needs and budget implications (important to attract international financial flows), and it will provide both public and private finance providers with clear investment signals and predictability.

Sector-specific plans need to be embedded and aligned with an economy wide, long-term vision to reach national objectives and those of the Paris Agreement, including as part of the long-term

strategies communicated to the UNFCCC. This will help to ensure that short-term policies and investments are in line with long-term objectives, thereby decreasing the risk of stranded assets and enabling a smoother transition. An economy-wide perspective can also help to highlight synergies and linkages between sectors; for example, the coupling of energy supply and increased electrification of end-use sectors, and practices such as agroforestry.

Constrained domestic budgets and public support measures need to be aligned with climate goals to send clear signals to investors and incentivise decarbonisation rather than counteract ongoing

climate efforts. The allocation of public funding to high carbon activities is a missed opportunity. Governments should ensure that domestic budget and investments, for example to lift countries out of economic recession, are spent in a way that aligns with sustainable development and climate change goals. Out of the three focus countries, only Peru has earmarked a small proportion of its recovery spending for climate-friendly measures, while the recovery measures in Argentina and Brazil have been rather high-carbon weighted.

Clearly communicated commitments by governments to phase-out high carbon technologies and harmful policies, including, fossil fuel subsidies, give planning certainty to investors and can act as a stimulus for innovation and new business models. None of the focus countries has made a clear commitment, for example, to phase out fossil fuels, end deforestation or declare a moratorium on conventional engines. Fossil fuel subsidies, although declining in recent years, continue to be part of the policy mix in Argentina and Brazil and counteract positive developments towards decarbonisation in key sectors. Developments in other countries suggest that clear and robust phase out goals and targets do not hinder but stimulate economic activity and innovation.

The public and private sectors need to work hand in hand. Governments play a key role to create a stable enabling environment to steer and foster private sector investment as well as protect investments from future risks. The private sector is crucial in its role as provider of technology and services, as well as source of investment and employment. Improving sectoral policy packages and strengthening the capacity to implement them, promotes innovation and development to tap into the vast number of investment opportunities in low-emission areas; and simultaneously avoid investments into less efficient, more expensive and polluting technologies or industries. In many areas, international market dynamics have already led to increasing sustainability and emissions standards, and as the sectoral transformations required to meet the Paris Agreement become more evident, such dynamics should then become increasingly common. It is in the interest of all involved to help shape the transformation and work together to promote solutions to a net zero future.



