Leveraging the just green transition to transform the production structure in Latin America and the Caribbean

Key highlights

- The green transition offers an opportunity to address one of the region's longstanding challenges: transforming the production structure to boost productivity and create quality jobs.
- The region has unique endowments: it is home to half of the world's biodiversity, it has a significant share of the world's reserves of critical minerals for the green transition, and it has a strong potential to tap into renewable sources of energy. Coupled with the growing global demand for critical minerals and low-carbon fuels, this presents a transformational opportunity to create jobs, develop sustainable infrastructure and diversify the economy through the development of regional low-carbon value chains such as battery storage, electric vehicle manufacturing and hydrogen.
- The region needs a renewed focus on enabling policies for a green production transformation. This includes pushing the circular and blue economies, higher levels of R&D investment and a strong focus on MSMEs. Done properly, such policies can help create quality jobs and diversify the energy and production matrix towards less resource-intensive sectors.
- The transition to a circular economy is expected to have net positive effects on GDP growth and employment while reducing GHG emissions. The blue economy can also be a driver of economic activity, employment, and other social benefits. In 2018, the total GDP contribution of ocean services was estimated at USD 25 billion for LAC and USD 7 billion for Caribbean countries alone.
- Natural gas will remain an important part of a sustainable, diversified, energy mix over the next few decades, therefore LAC governments should ensure that natural gas production is as low-carbon as possible to achieve both climate and development objectives.

Harnessing the potential of the green transition to transform the production structure

Productivity has remained stagnant in recent decades, with the productive structure biased towards activities with low value-added. Labour productivity in Latin America and the Caribbean (LAC) represents around 40% of the average labour productivity in the OECD, and the gap has been widening. Similarly, 75% of the region's total exports are primary products and natural resource-based manufactures (OECD et al., 2022).

Several LAC countries have significant oil and gas production, with fossil fuels remaining an important source of export earnings, as well as a dominant fuel for domestic power generation and source of heat for industry. Revenues from oil and gas, for instance, can account for more than 15% of total government revenue in Bolivia, Mexico and Trinidad and Tobago, and up to 24.2% in Ecuador (OECD et al., 2022). As the world moves gradually to a low carbon future, a global decline in demand for fossil fuels poses significant macro-fiscal risks for these countries; LAC producers could face a collective drop in revenues from oil and gas of 66% in a low carbon scenario (Carbon Tracker, 2021). Meanwhile, fossil fuel dependent LAC countries will also face profound disruptions in the labour market as fossil fuel jobs will be lost as the region transitions to a net zero economy.

The green transition represents an opportunity to transform and diversify the production structure and increase productivity.

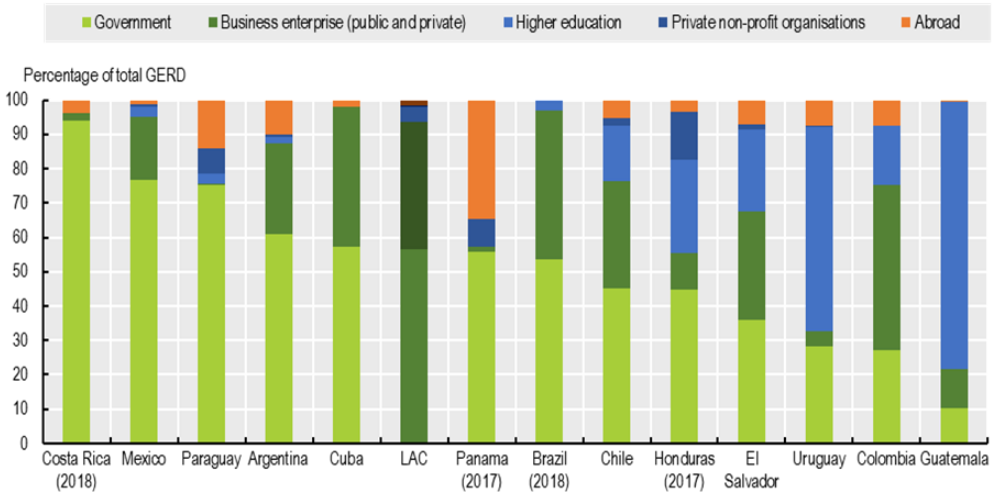
Investing in policies that place sustainability at the centre and tap into the unique natural endowments of the region can help in transforming production, boosting productivity, and creating quality jobs. LAC hosts more than 50% of the world's biodiversity, and it is home to a large share of global reserves of critical minerals for the green transition. As much as 61% of lithium global reserves, 39% of global copper, and 32% of global nickel and silver reserves are in LAC (OECD et al., 2022).

LAC is also endowed with high potential for renewable energy resources and the region can become a global renewable energy hub. With the right policy instruments and incentives, some LAC economies can leverage abundant renewable energy potential to produce green hydrogen for export or to establish green industrial hubs to attract investment in hard to abate sectors. This can establish a virtuous cycle between decarbonisation efforts and sustainable industrial development, and in the right conditions leverage blue hydrogen production from abated gas to drive down technology costs to eventually improve the feasibility of green hydrogen production (OECD, 2022). Several LAC extractive-based economies are already well advanced on this path. Chile, which launched its green hydrogen strategy in 2020, aims to produce the world's cheapest hydrogen by 2030 and become one of the world's top three hydrogen exporters by 2040. Meanwhile, Colombia's National Hydrogen Strategy and Roadmap, launched in 2021, outlines a strategy to produce cost competitive green hydrogen by 2030, also considering blue hydrogen as a potential stepping-stone to green (OECD, 2022).

Industrial, circular and blue policies to support a green production transformation in LAC

Horizontal policies are fundamental to drive a sustainable production transformation in LAC. Investment in innovation is key for industrial policies and a green innovation ecosystem in LAC. Nonetheless, the region's gross domestic expenditure in research and development (GERD) has been only 0.3% of GDP in 2018 (vs. 2% of GDP in the OECD) and remains highly government-driven (56.5% of the total) (Figure 1). Further strategic investment in R&D could boost the transformation of the production structure.

Figure 1. Share of gross domestic expenditure in research and development (GERD) by source of funds, selected LAC countries



Source: OECD et al. (2022) Latin American Economic Outlook 2022: Towards a Green and Just Transition https://doi.org/10.1787/3d5554fc-en

The **circular economy** can further boost productivity. At the global level, it can help eliminate up to 45% of total GHG emissions generated by the way goods are manufactured and used (Ellen MacArthur Foundation, 2019). The potential impact of the circular economy is particularly promising given that, by 2060, materials management activities are expected to represent two-thirds of GHG emissions, mainly coming from the combustion of fossil fuels for energy from agriculture, manufacturing and construction (OECD, 2019). The transition to a circular economy is expected to have net positive effects on GDP growth and employment while reducing GHG emissions. For example, the net effects expected for Chile, Colombia, Mexico, and Peru are increased GDP (from 0.82% in Chile to 2.4% in Peru) and job creation (from 1.1% in Chile and Colombia to 1.9% in Peru) (OECD et al., 2022).

The **blue economy** can also be a driver of economic activity, employment, and other social benefits. In 2018, the total GDP contribution of ocean services was estimated at USD 25 billion for LAC and USD7 billion for Caribbean countries alone. In terms of employment, fishery and aquaculture employed more than 2.5 million people. Moreover, the blue economy approach has two complementary goals: it protects marine and coastal ecosystem assets and services, while simultaneously addressing the economic challenges of coastal countries (OECD et al., 2022).

Selected strategic sectors to advance a green and just transition in the region are: Sustainable agriculture and livestock; transport, industry and trade; bioeconomy and regenerative food systems; sustainable tourism and mining; water and waste management; and renewable energy. Yet, going "sector-by-sector" will not work. Policy makers need to apply a systemic approach that includes cross-cutting aspects such as production transformation, digitalisation, and boosting targeted green investments (OECD et al., 2022).

Moreover, **policies should support MSMEs** to increase their participation in regional and global value chains and to support their transition to greener production practices. Specific support to MSMEs should include promoting innovation, disseminating new knowledge and production linkages, and creating and strengthening clusters around the production of renewable sources of energy. In LAC, several countries have been advancing in this direction. For instance, as part of the efforts to recover from the pandemic, in late 2020 Colombia set up a credit line to promote green industrial sectors by offering credits to SMEs to reduce greenhouse gas emissions and to scale up financing to SMEs' investments in energy-efficient projects (UNIDO, 2021).

Examples from LAC countries

Circular Economy: The circular economy is gaining momentum in LAC, with more than 80 circular economy public policy initiatives being implemented, and an increasing number of national circular economy roadmaps and strategies under development. Examples of national circular economy policy strategies include the Roadmap for a Circular Chile by 2040 (2021), the Circular Economy National Strategy of Colombia (2019), Ecuador's Law for an Inclusive Circular Economy (2021), Mexico's General Circular Economy Law (2021), Peru's Circular Economy Roadmap for Industry (2020), and the Circular Economy Action Plan of Uruguay (2019). Moreover, the Circular Economy Coalition for LAC was launched in February 2021 to accelerate the circular transition in the region (OECD et al., 2022).

Blue economy: There is potential to tap into the opportunities of the blue economy in LAC in sectors like fishery and aquaculture, sustainable tourism, and renewable energy generation. Some relevant initiatives in LAC are: 1) For fishery, the smartphone app PescaData in Mexico, which enables local fishermen to manage overfishing by monitoring populations of birds, sea mammals, fish and crustaceans; 2) Regarding sustainable tourism: Costa Rica has earned an international reputation for its unique marine natural assets and has managed to boost coastal and biodiversity-based tourism; 3)For renewable energy, Argentina Brazil and Chile, particularly, have a high technical potential for offshore wind energy generation (OECD et al., 2022).

Nature-based solutions and forestry preservation: in Costa Rica and Mexico, applying payments for the Ecosystem Services Programme to help conserve land and biodiversity; and in Paraguay, thanks to the National Strategy of Forests for Sustainable Growth (2019) and the national forest monitoring system which enabled the quantification of emissions reduction and generated reliable data on changes in forest areas (OECD et al., 2022).

Sustainable agriculture and livestock: in Brazil, thanks to innovative sectoral plans on adaptation and low-carbon emissions in the sector, in particular the Sectoral Plan for Adaptation to Climate Change and Low Carbon Emissions in Agriculture. Brazil has implemented different types of innovations to promote more sustainable agricultural and livestock sectors through different stages, from technological innovation to the production of data and the creation of monitoring capacity through the Observatory of Brazilian Agriculture; programmes for social innovation with local communities and public-private collaboration experiences (e.g. the Integrated Crop-Livestock-Forestry System) (OECD et al., 2022).

Water management: In Uruguay, the technological centre for water development (CETAGUA) uses incorporated digital technologies to help companies, technical institutes and universities address the country's main water challenges. In Peru, the Lacomes Project provides potable water and sanitation systems, powered by solar energy and built with local materials, in accordance with the dry forest climate (OECD et al., 2022).

Plastic management: Chile's Plastic Pact committed (by 2025) to eliminating unnecessary and problematic single-use plastic packaging, ensuring that 100% of plastic packaging is reusable, recyclable, or compostable and incorporates 25% recycled content. Colombia has launched a national plan for single-use plastics, all of which should be reusable, recyclable, or compostable and have a minimum average recycled content of at least 30% by 2030. Mexico is collaborating with Canada and the United States in a project to transform recycling and solid waste management, reduce waste (particularly plastics), close material loops and help minimise environmental impacts throughout value chains (OECD et al., 2022).

Sustainable mining: Chile has implemented a number of policy and investment measures to develop its local lithium value chain in response to the predicted 85% increase in the lithium battery industry over the next 20 years. For example, the Ministry of Mining has set out provisions to incentivise downstream industries and clarify existing policies to encourage public and private investment to double Chile's lithium carbonate production to 230,000 metric tons per year by 2023 (Toledano et al., 2020). At the same time, Chile has taken steps to facilitate the uptake of renewable energy generation in existing mining operations. However, due to the increasing competitiveness of solar and wind power solutions, utility-scale renewable energy projects have become increasingly attractive in the Chilean mining sector.

Suggested policy actions

- Promote R&D investment to foster innovation to increase the competitiveness of industrial sectors, enabling solutions in products, services, business models and behaviour (consumption/use) with lower emissions and resource intensity.

- Encourage and attract investments in green innovation, while taking advantage of new trade opportunities, both to foster regional integration and to join higher-value segments of global chains, ensuring environmental criteria in exports, and sustainable and responsible sourcing.

- Capitalise on the increasing global demand for the resources of the future, including critical minerals and green hydrogen, through sustainable mining development, underpinned by inclusive circular economy principles, and alternative low-carbon fuels, to diversify revenue away from oil, gas, and coal.

- Unlock the blue economy potential for the green transition by adopting an ecosystem-based approach that manages trade-offs and pays particular attention to fishery and aquaculture, sustainable tourism, renewable energy generation, integrated management of river basins and lakes, and marine ecosystem protection.

- For the service-based economies of the Caribbean, adopt a circular economy strategy that minimises material and energy use and promotes sustainable tourism models that generate quality formal jobs, and reduce emissions and negative externalities.

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