



UNITED NATIONS
INDUSTRIAL DEVELOPMENT ORGANIZATION

Progress report on the implementation of SDG 9 in Latin America and the Caribbean

SUSTAINABLE
DEVELOPMENT
GOALS

Acknowledgements

This report was prepared by Carolina Tataje Gonzales under the general supervision of Diego Masera, Chief of UNIDO's Regional Coordination Division for Latin America and the Caribbean, and by Petra Kynclova under the general supervision of Fernando Cantu, Chief of UNIDO's Statistics Division. The report benefited from constructive comments provided by Barbara Boreta and Nelson Andres Correa Fernandez. The final editing of the report was done by Niki Rodousakis.

© UNIDO 2022. *Reproduction is authorized provided the source is acknowledged.*

DISCLAIMER

The designations employed and the presentation of the material in this publication do not imply the expression of any opinion whatsoever on the part of the Secretariat of the United Nations concerning the legal status of any country, territory, city or area, or of its authorities, or concerning the delimitation of its frontiers or boundaries. Views expressed in the case studies are those of the authors and do not necessarily reflect those of the United Nations or its Member States.

Designations such as “developed,” “industrialized” and “developing” are intended for statistical convenience and do not necessarily express a judgment about the state reached by a particular country or area in the development process.

The mention of firm names or commercial products does not imply endorsement by UNIDO.

This publication has been designed using free images from Freepik.com, Pixabay.com and Canva.com.

For additional information, please contact:

United Nations Industrial Development Organization

Vienna International Centre Wagramer Str. 5

P.O. Box 300

A-1400 Vienna - Austria

E-mail: iac@unido.org

Website: www.unido.org

TABLE OF CONTENTS

Table of Contents	1
About this publication	2
Regional context	3
SDG 9 progress in Latin America and the Caribbean	6
UNIDO’s SDG 9 Industry Index	9
Mid-term review: Is Latin America and the Caribbean on track to achieving the SDG 9 industry-related targets?	13
a. Inclusive and sustainable industrialization	15
b. Access of small-scale industrial and other enterprises to financial services, and integration into value chains and markets	22
c. Increased resource-use efficiency and greater adoption of clean and environmentally sound technologies and industrial processes	24
d. Domestic technology development, research and innovation, and industrial diversification and value addition to commodities	28
Key policy recommendations for a post-pandemic recovery in Latin America and the Caribbean	31
SDG 9 Accelerator – UNIDO’s new regional initiative for LAC	35
The SDG 9 Accelerator Platform	38
References	40





ABOUT THIS PUBLICATION

Sustainable Development Goal (SDG) 9 aims to build resilient infrastructure, promote sustainable industrialization and foster innovation. With manufacturing at its core, is key to the achievement of the 2030 Agenda for Sustainable Development. Manufacturing plays a fundamental role in supporting resilience and driving shared prosperity. The industrial sector generates jobs, income, and innovation, and influences other parts of the economy.

Industrialization has not, however, progressed uniformly across the world. The manufacturing sector in Latin America and the Caribbean (LAC), for example, has experienced a decline in relative economic significance in recent decades, and its value reached a historic low, accounting for only 12.6 per cent of gross domestic product (GDP) in 2021.

This report contributes to UNIDO's efforts to disseminate information on SDG 9 among its Member States and to support them in implementing the 2030 Agenda with a special focus on achieving the SDG 9 based on data-driven and evidence-based monitoring.

The purpose of this report is to present an overview of the progress countries in the Latin America and Caribbean region have made towards achieving SDG 9 on building resilient infrastructure, promoting sustainable industrialization and fostering innovation. Additionally, this report seeks to highlight the areas in which the region's countries have made progress to foster the exchange of knowledge and good practices based on the notion that industry has the potential of transforming the development model of Latin America and the Caribbean.

The aim of this publication is multi-fold:

- increase access to official data and reports while raising awareness of information related to the SDGs, in particular, SDG 9;
- describe the current state of Latin American and Caribbean countries in terms of SDG 9 indicators;
- highlight key actions and areas that contribute to a better post-pandemic recovery in the region; and
- introduce UNIDO's new regional approach to Latin America and the Caribbean.

1

REGIONAL CONTEXT



REGIONAL CONTEXT

The COVID-19 crisis has demonstrated that manufacturing remains the backbone of the economy and that industrial capabilities are fundamental for resilience. Industrialization has not, however, progressed uniformly across the world. Countries with stronger manufacturing capabilities and more diversified industrial sectors have weathered both the economic and health impacts of the COVID-19 pandemic better than others, confirming the existence of significant synergies and complementarities between public health and industrialization (UNIDO, 2021c).

Latin America and the Caribbean (LAC)¹ is trapped in a cycle of high inequality and slow growth. Despite a number of improvements, LAC remains the world's second most unequal region, with countries reporting more income disparity than those in other regions with similar levels of development (UNDP, 2021). The pandemic has further exacerbated the already high level of inequality, causing unprecedented social and economic impacts.

In 2020, LAC witnessed a historical downturn with GDP contracting by nearly 7 per cent. The COVID-19 crisis hit the region's labour markets the hardest, with the number of employed people dropping by 9 per cent in 2020. The pandemic also caused a sharp decline in labour force participation, especially among women and youth. The female labour force participation rate fell from 51.4 per cent in 2019 to 46.9 per cent in 2020, similarly to the 2001 level (ECLAC, 2021).

The poverty rate is estimated to have increased by more than 3 per cent in 2020, amounting to 33.7 per cent, while extreme poverty has increased by more than 1 per cent to 12.5 per cent of the population, resulting in the reduction of the middle class.

¹ List of countries and territories included in selected groupings:
Caribbean: Anguilla, Antigua and Barbuda, Aruba, Bahamas, Barbados, British Virgin Islands, Cayman Islands, Cuba, Curacao, Dominica, Dominican Republic*, Grenada, Haiti, Jamaica, Montserrat, St Kitts and Nevi, Saint Lucia, Saint Vincent and the Grenadines, Saint Maarten (Dutch part), Trinidad and Tobago*, Turks and Caicos Islands.
Central America: Belize, Costa Rica*, El Salvador*, Guatemala*, Honduras*, Mexico*, Nicaragua*, Panama.

Consequently, inequality (Gini coefficient) is estimated to have increased by 2.9 per cent (OECD et al., 2021).

LAC was already facing several pressing challenges even before the COVID-19 pandemic broke out. Between 2014 and 2019, the region grew at an average rate of 0.3 per cent. Investment declined steadily, reaching one of its lowest levels in the last three decades (17.9 per cent of GDP in 2020) (ECLAC, 2021). LAC also witnessed a substantial drop in fiscal revenues due to lower export commodity prices in 2015 (ECLAC, 2015).

"Latin America and the Caribbean is trapped in a cycle of high inequality and slow growth. The pandemic has further exacerbated the already high level of inequality, causing unprecedented social and economic impacts."

LAC's productive structure is weak. The region is characterized by low tech-content exports, which in turn limits the opportunities and incentives for technical improvements and diversification. The automobile industry in Brazil and Mexico, and to a minor extent in Argentina, are an exception. There is a small number of large companies in natural resource-intensive sectors, while the level of production of the many micro, small and medium-sized enterprises (MSMEs) is very low (OECD et al., 2021).

Latin America and the Caribbean: Caribbean, South America and Central America.

South America: Argentina*, Bolivia (Plurinational State of)*, Brazil*, Chile*, Colombia*, Ecuador, Guyana, Paraguay, Peru*, Suriname, Uruguay*, Venezuela (Bolivarian Republic of).

*Countries labelled with an asterisk report data on quarterly index numbers of industrial production.

Latin America has deepened a trend characterized by exporting primarily commodities with low added value. The region's integration in global value chains (GVCs) has been mainly associated with the extraction and processing of raw materials. South American countries mostly export primary commodities and natural-resource-based manufacturing, which account for 75 per cent of total exports: minerals from Bolivia (Plurinational State of), Chile and Peru; hydrocarbons from Colombia, Ecuador and Venezuela (Bolivarian Republic of); and agricultural products from Argentina, Paraguay and Uruguay. Brazil is a major exporter of primary goods; nevertheless, the country's export basket is more diversified and includes manufactured products of varying technological intensity, including motor vehicles.

Manufactured exports from Central American countries², which are mainly low-technology products, such as clothing, have increased. In this regard, the United States-Mexico-Canada Agreement (USMCA) and its predecessor, the North American Free Trade Agreement (NAFTA), have turned Mexico into an important player in regional value chains in North America and the technological intensity of Mexico's exports, which mainly target the U.S. market, has progressively increased (OECD et al., 2021).

Mexico's export manufacturing industry is the exception to the rule in the LAC region. According to the OECD, Mexico's automotive industry has recently accelerated its transformation process, its production chain becoming better integrated and diversified with higher technological sophistication. This has opened opportunities for specialization and higher technological content exports. Similarly, the Southern Common Market (MERCOSUR), characterized by its productive integration scheme and local market size, has led to significant investments in Brazil's automotive industry.

The Caribbean strongly relies on tourism and agriculture. Hence, its economy was severely impacted by movement restrictions imposed to mitigate the spread of COVID-19. Taken together, Caribbean economies contracted by an estimated 8.6 per cent in 2020, with the level of public debt in some countries rising to above 100 per cent of GDP. (World Bank, 2021a).

Although every country in the Caribbean region has distinct features, they share two challenges, namely: (i) most small economies rely on agricultural production (e.g. sugar cane), fishing and tourism, and (ii) the countries are subject to natural disasters, ranging from volcanoes to hurricanes (Cassel, W., 2022).

"Latin America has deepened a trend characterized by exporting primarily commodities with low added value. The region's integration in global value chains has been mainly associated with the extraction and processing of raw materials.."

Latin America and the Caribbean face a number of challenges that will shape the region's future, such as uncertainty about the development of the pandemic, the sharp slowdown in growth, continued low investment and productivity, the slow recovery of employment, the persistence of the social effects triggered by the COVID-19 crisis, the shrinking fiscal space, rising inflationary pressures and financial imbalances (ECLAC, 2022a).

Considering that we have only eight years left to achieve the 2030 Agenda and its SDGs, this progress report measures the SDG 9 performance of LAC countries, with a focus on the targets related to inclusive and sustainable industrialization.

² For the purpose of defining sub-regions, Mexico has been integrated in the aggregate for Central America throughout this report.

2

SDG 9 PROGRESS IN LATIN AMERICA AND THE CARIBBEAN

SDG 9 PROGRESS IN LATIN AMERICA AND THE CARIBBEAN

The Sustainable Development Goals constitute the core of the 2030 Agenda which guides all global, regional and national development efforts up to the year 2030. Inclusive and Sustainable Industrial Development (ISID) has been incorporated as SDG 9, which calls for building resilient infrastructure, promoting inclusive and sustainable industrialization and fostering innovation. ISID is a primary source of income generation and allows for rapid and a sustained increase in living standards. The role of industrialization in stimulating economic growth also supports the SDGs' socio-economic and environmental objectives directly and indirectly (UNIDO, 2020).



The links between industry, innovation and infrastructure are strong. Industry contributes to job creation and an improvement in working conditions. As an important source of innovation, industry provides technological solutions for environmentally sound development and the achievement of green objectives, such as increased resource and energy efficiency, low-carbon production, circular economy principles and climate action.

In developing economies, industrialization implies structural transformation of the economy from one based on a traditional agricultural model to a modern, industry-based one.

The expansion of the manufacturing sector generates jobs, reduces poverty, introduces and promotes new technologies and produces essential goods and services for the market. Manufacturing opens several paths for socio-economic development but also poses challenges in terms of the efficient use of natural resources (UNIDO, 2021a).

UNIDO has been contributing to the development of the global indicator framework for monitoring the progress made towards achieving the SDGs. As the custodian agency of six SDG 9 industry-related indicators, UNIDO is responsible for collecting, compiling and disseminating internationally comparable data on these indicators. UNIDO aims to strengthen countries' capacities for the production of SDG 9 and ISID statistics and supports Member States in formulating their development plans and programmes in the context of SDG 9 and ISID. The overview of SDG 9 targets and indicators under the responsibility of UNIDO as the custodian agency is presented in Table 1.

Four targets building on seven indicators are directly linked to the process of industrialization. These indicators refer to all three dimensions of ISID – economic (9.2.1, 9.3.1, 9.3.2, 9.b.1), social (9.2.2) and environmental (9.4.1).

Table 1: SDG 9 Industry-related targets and indicators monitored by UNIDO as a custodian agency

SDG 9 INDUSTRY-RELATED TARGETS AND INDICATORS			
	Targets	Indicators	Influence on the three dimensions of ISID
9.2	Promote inclusive and sustainable industrialization and, by 2030, significantly raise the industry's share of employment and gross domestic product, in line with national circumstances, and double its share in least developed countries.	9.2.1. Manufacturing value added as a share of GDP and per capita	Economic
		9.2.2. Manufacturing employment as a share of total employment	Social
9.3	Increase the access of small-scale industrial and other enterprises, in particular in developing countries, to financial services , including affordable credit, and their integration into value chains and markets .	9.3.1. Percentage share of small-scale industries in total industry value added	Economic
		9.3.2. Percentage of small-scale industries with a loan or a line of credit	Economic
9.4	By 2030, upgrade infrastructure and retrofit industries to make them sustainable, with increased resource-use efficiency and greater adoption of clean and environmentally sound technologies and industrial processes , with all countries taking action in accordance with their respective capabilities.	9.4.1. CO ₂ emissions per unit of value added	Environmental
9.b	Support domestic technology development research and innovation in developing countries, including by ensuring a conducive policy environment for, inter alia, industrial diversification and value addition to commodities .	9.b.1. Percentage of medium- and high-tech manufacturing value added in total value added	Economic

Adapted from UNIDO (2021a).

UNIDO'S SDG 9 INDUSTRY INDEX

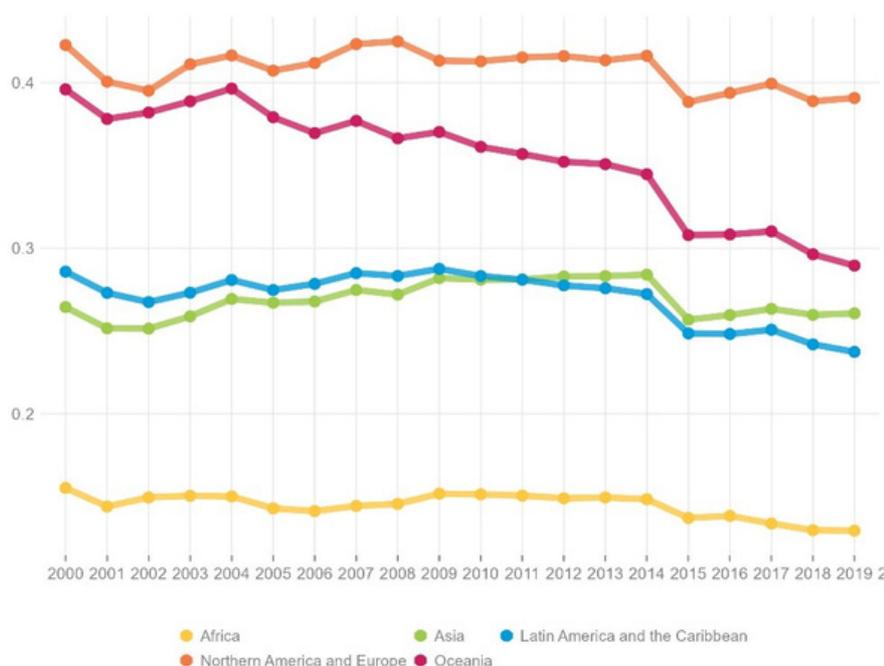
Selected SDG 9 indicators display the progress countries have made towards achieving the respective SDG targets.

UNIDO has developed data-driven tools for monitoring the performance and progress of countries towards the achievement of SDG 9 industry-related targets of the 2030 Agenda, and thus support countries in the successful implementation of ISID. The SDG 9 Industry Index is a comprehensive yet straightforward approach to assess the level of countries' industrialization while promoting social inclusiveness and minimizing both natural resource use and environmental impacts. The indicators are based on the global indicator framework for the SDGs developed by the Inter-Agency and Expert Group on SDG Indicators (IAEG-SDGs). The SDG 9 Industry Index scores indicate the dimensions in which countries lead or lag behind other economies (Kynclova et al., 2020). Together with tools for tracking progress

made since 2000 and indicating the prospects of achieving SDG 9 targets by 2030, the SDG 9 Industry Tracker was developed to help countries assess their progress.

According to the SDG 9 Industry Index scores, the average score for the LAC region decreased from 0.286 in 2000 to 0.237 in 2019, indicating LAC countries' reversing progress in SDG 9 targets compared to the rest of the world. Figure 1 shows that the LAC region's overall performance significantly lags behind North America and Europe. While Asia's SDG 9 Industry Index scores had followed a similar trend as Latin America and the Caribbean's since 2000, their development trajectories reversed after the 2008 global financial crisis, with Asia surpassing the LAC region, whose position has been deteriorating.

Figure 1: SDG 9 Industry Index average scores by region, 2000 - 2019



Source: UNIDO SDG 9 Industry Index 2022

The best-performing country in the region in 2019 was Mexico, with 0.399 at rank 30 (Figure 2). Mexico is followed by Trinidad and Tobago with 0.343 (rank 39), Argentina with 0.315 (rank 46), Paraguay with 0.298 (rank 51) and Uruguay with 0.278 (rank 53). On the other hand, countries with the weakest performance are Venezuela (Bolivarian Republic of) (rank 100), Panama (rank 102) and Haiti (rank 124). Overall, a deterioration is visible in countries' performance as well. Among the twenty-one countries ranked by the SDG 9 Industry Index, seventeen recorded a decline in their ranking and only four succeeded in improving their position (Table 2).

The dimensions of manufacturing value added (MVA) drive the region's overall performance in terms of value-added share in GDP and manufacturing employment. This implies that the manufacturing sector plays an important role in the region, especially compared to other regions. The manufacturing sector's sustainability and technological intensity faces a number of challenges which could be addressed through regional industrial development to help improve the region's overall performance in the SDG 9 Industry Index.

Figure 2: SDG 9 Industry Index scores by country, 2019



Source: UNIDO SDG 9 Industry Index 2022³

³ The map only presents LAC countries and territories for which all SDG 9 data series are available for constructing the SDG 9 Industry Index.

SDG 9 INDUSTRY INDEX

Table 2: SDG 9 Industry Index scores and ranks by country, 2000 and 2019

Country	SDG 9 Industry Index score 2019	Rank 2000	Rank 2019	Change in rank 2000 - 2019
Mexico	0.399	24	30	-6↓
Trinidad and Tobago	0.343	52	39	13↑
Argentina	0.315	37	46	-9↓
Paraguay	0.298	62	51	11↑
Uruguay	0.278	59	53	6↑
Chile	0.268	42	59	-17↓
Brazil	0.267	46	60	-14↓
El Salvador	0.258	58	62	-4↓
Costa Rica	0.258	44	63	-19↓
Guatemala	0.251	64	66	-2↓
Colombia	0.249	66	67	-1↓
Ecuador	0.241	69	72	-3↓
Cuba	0.230	68	75	-7↓
Peru	0.224	76	78	-2↓
Suriname	0.214	79	82	-3↓
Honduras	0.197	83	88	-5↓
Jamaica	0.168	87	98	-11↓
Bolivia (Plurinational State of)	0.164	104	99	5↑
Venezuela (Bolivarian Republic of)	0.161	32	100	-68↓
Panama	0.147	88	102	-14↓
Haiti	0.057	118	124	-6↓

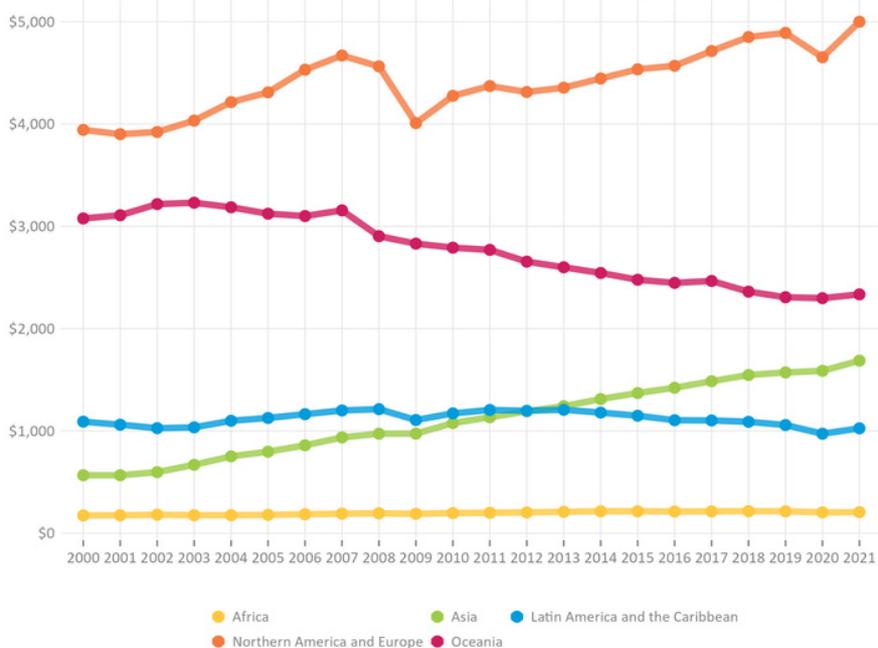
Source: UNIDO SDG 9 Industry Index 2022⁴

⁴ The table only presents LAC countries and territories for which all SDG 9 data series are available for constructing the SDG 9 Industry Index.

Overall, major disparities remain between the LAC region and other regions of the world. The gap is particularly visible for MVA per capita (Figure 3). While Asia's MVA per capita expanded from USD 567 in 2000 to USD 1,687 in 2021, the LAC region's MVA per capita stagnated, accounting for USD 1,025 in 2021.

Moreover, the LAC region's MVA remains low compared to that of North America and Europe. LAC countries also lag behind other regions in terms of share of MVA in GDP per capita and share of medium- and high-tech industry in total MVA.

Figure 3: MVA per capita by region, 2000 – 2021 (constant 2015 USD)



Source: UNIDO National Accounts Database, 2022



3

**MID-TERM REVIEW:
IS LATIN AMERICA AND THE CARIBBEAN
ON TRACK TO ACHIEVING THE SDG 9
INDUSTRY-RELATED TARGETS?**

MID-TERM REVIEW: IS LATIN AMERICA AND THE CARIBBEAN ON TRACK TO ACHIEVING THE SDG 9 INDUSTRY-RELATED TARGETS?

With the objective of monitoring countries' progress towards the achievement of the SDGs, a mid-term review of the performance of LAC countries in SDG 9 indicators has been carried out. This section presents a descriptive analysis of LAC countries' performance in the four ISID targets based on official data compiled by the UNIDO Statistics Division, namely on:

1. Inclusive and sustainable industrialization;
2. Access of small-scale industrial and other enterprises to financial services, and integration into value chains and markets;
3. Increased resource-use efficiency and greater adoption of clean and environmentally sound technologies and industrial processes, and
4. Domestic technology development, research and innovation, and industrial diversification and value addition to commodities.



INCLUSIVE AND SUSTAINABLE INDUSTRIALIZATION



SDG Target 9.2 promotes ISID and aims to significantly raise industry’s share of employment and GDP by 2030, in line with national circumstances, and to double its share in least developed countries (LDCs).

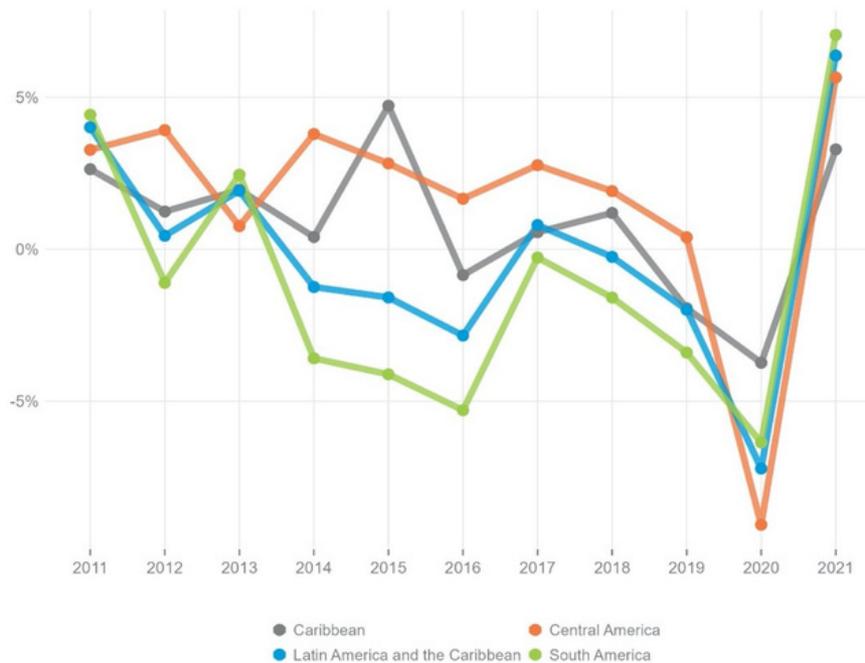
Target 9.2 comprises three indicators: i) MVA per capita, ii) MVA as a share of GDP, and iii) manufacturing employment as a share of total employment.

Due to its productivity advantage, manufacturing is considered to be the economy’s “engine of growth”, especially in developing countries. As countries industrialize, their productivity advantage fades as they develop into a service-based economy. The share of manufacturing in GDP is therefore

lower in high-income economies, on average, than in upper middle-income countries.

At the global level, all regions and country groups have experienced a slowdown in manufacturing output since 2017, which has meant an overall economic slowdown and a reduction in employment, living standards and commodity trade. In the context of the LAC region, manufacturing has stalled since 2011, driven mainly by a declining trend in South American countries (Figure 4). A diverging trend has been observed in Central America, largely influenced by the performance of Mexico, where manufacturing started growing in 2009, after the global financial crisis, until the COVID-19 pandemic broke out in 2020. Although the Caribbean contributes the least to regional manufacturing, its MVA has remained stable since 2009⁵.

Figure 4: MVA growth rates by sub-region, 2011 – 2021



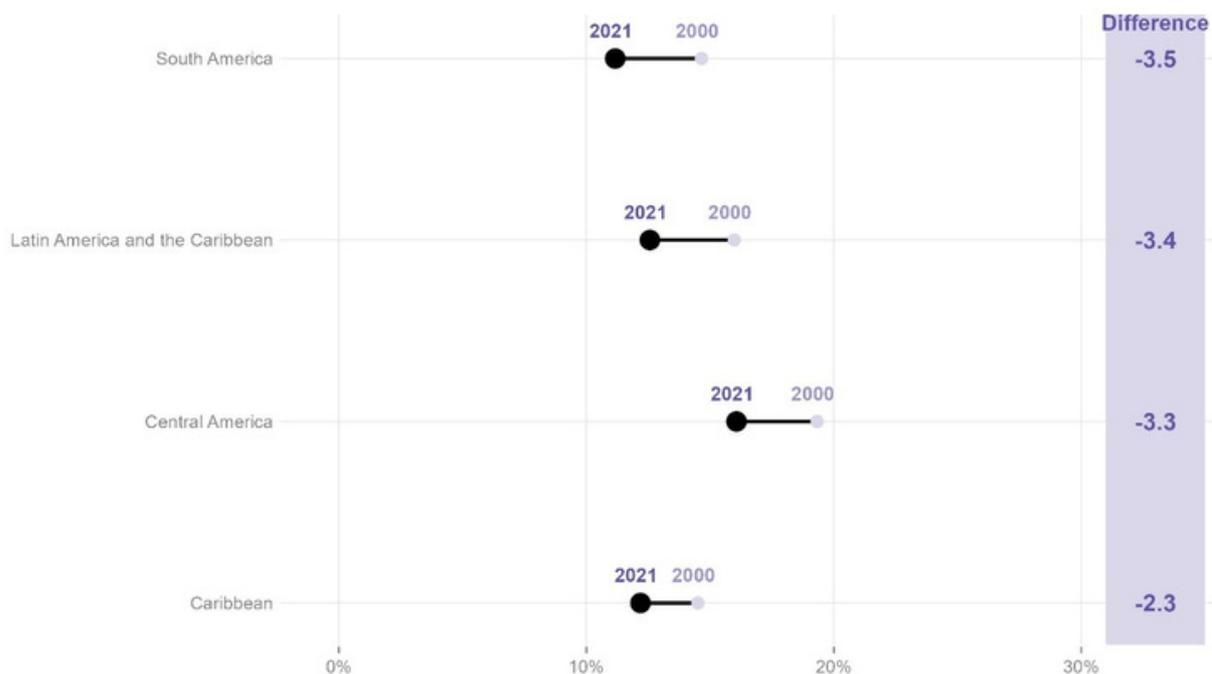
Source: UNIDO National Accounts Database, 2022

⁵ Puerto Rico is more frequently associated with North America given its economic and political links to the United States, and it is therefore not included in the aggregates throughout this report.

The COVID-19 outbreak in 2020 hit the LAC region particularly hard as it became the global epicentre of the pandemic. Manufacturing was one of the sectors most affected by the shutdown of economic activity. MVA slumped in all LAC sub-regions in 2020 compared to 2019, namely by 9.1 per cent in Central America, by 6.4 per cent in South American and by 3.7 per cent in the Caribbean. Although the LAC region's manufacturing sector experienced a significant recovery in 2021, it has not yet bounced back to its pre-pandemic level.

Despite the various development patterns in respective LAC sub-regions, the share of manufacturing in GDP declined everywhere in the last two decades (Figure 5). Among the LAC sub-regions, South America recorded the largest decline, namely by 3.5 per cent in 2000–2021, followed by Central America (by 3.3 per cent) and the Caribbean (by 2.3 per cent) over the same period. Despite its significant downturn in terms of MVA share in GDP, Central America reported the highest share of MVA in GDP in the LAC region at 16.1 per cent in 2021. This share is mainly attributable to Mexico's strong manufacturing sector.

Figure 5: MVA share in GDP by sub-region, 2000 and 2021 (constant 2015 USD)



Source: UNIDO National Accounts Database, 2022

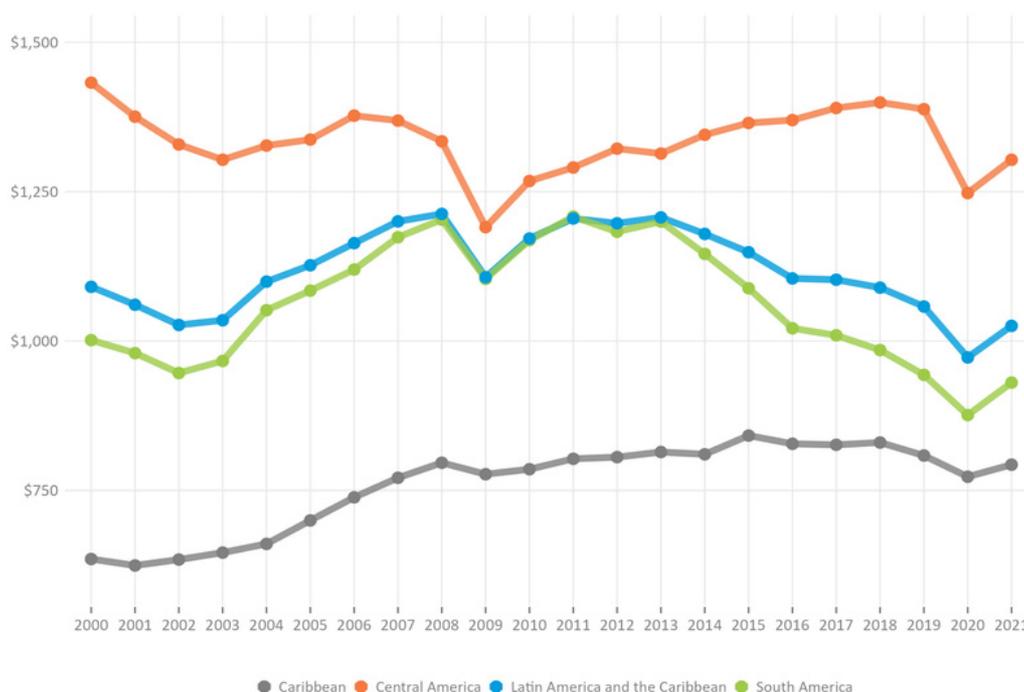
MVA per capita—similar to GDP per capita at the level of the economy—serves as a basis for comparing countries’ level of industrialization. The LAC region’s MVA per capita has experienced a decline in the last decade due to the 2008 global crisis. The overall regional downturn was mainly induced by countries in South America. By contrast, Central America’s MVA per capita registered stable growth since 2009, even surpassing pre-crisis levels (Figure 6), driven primarily by manufacturing growth in Mexico and Costa Rica.

The performance of the Caribbean has stagnated since the 2008 global financial crisis. Diverging manufacturing development trends are also observed at the country level. Figure 7 shows that the annual average growth rates of MVA per capita differed considerably by country in 2015 – 2021. While countries such as Suriname and Bolivia (Plurinational State of) managed to expand their MVA per capita, Venezuela (Bolivarian Republic of) witnessed the collapse of its manufacturing sector, which was also reflected in the country’s MVA per capita.

In 2020, when manufacturing sectors around the world were heavily impacted by government restrictions imposed to contain the spread of COVID-19, including isolation measures and quarantines, the LAC region’s MVA per capita suffered a further decline. While trade plunged during the early months of the pandemic, it quickly recovered, with a significant growth observed in domestic e-commerce and the manufacturing of products to respond to the health emergency (OECD et al., 2021).

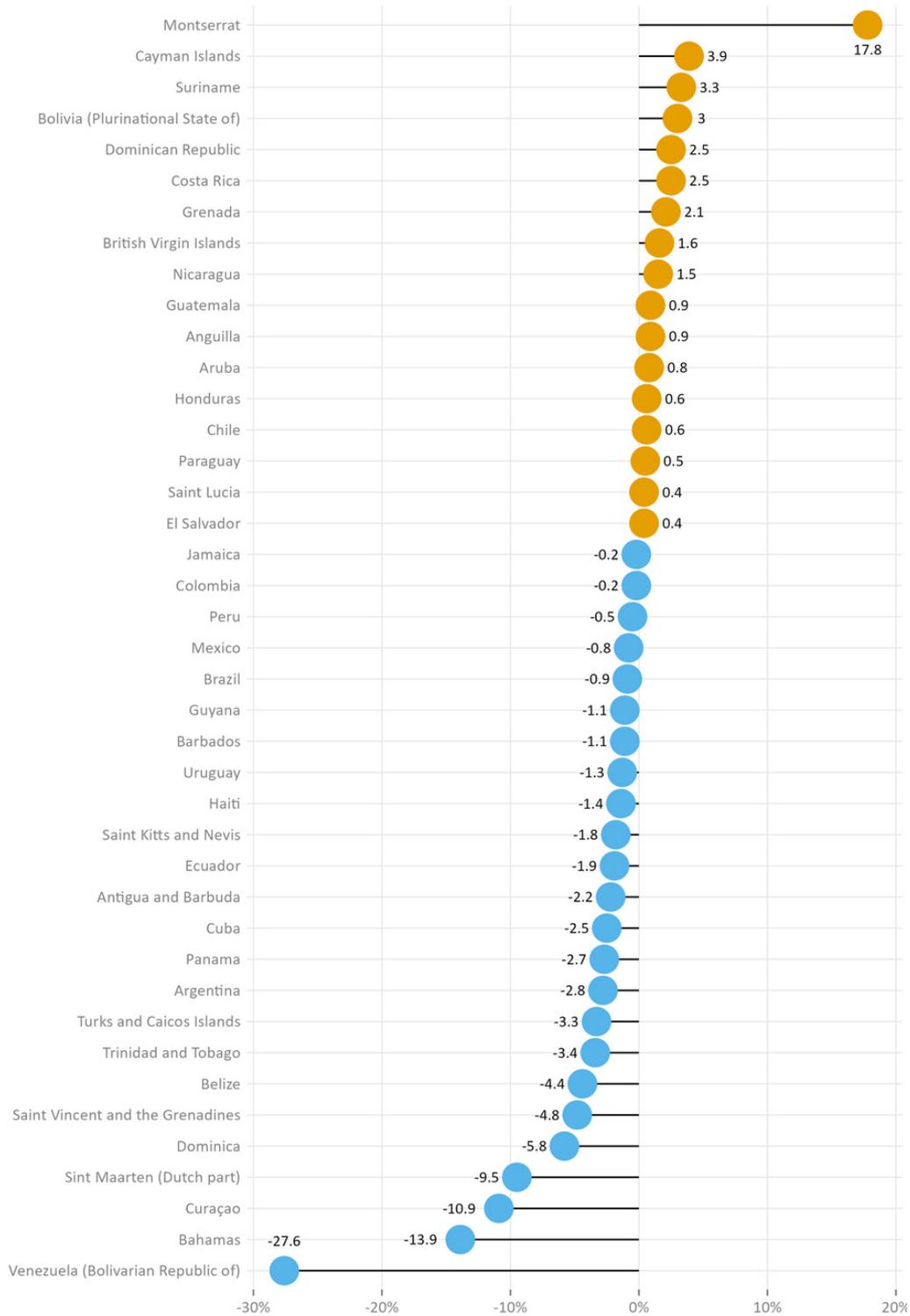
At the global level, the full impact of containment measures remains unclear. Moreover, a redistribution of global manufacturing output towards industrialized economies seeking to reduce import dependence after years of outsourcing their production activities abroad could accelerate (UNIDO, 2021a). In LAC, a downward trend in MVA per capita is evident. If the trajectory we have seen since 2013 continues, further progress might only be achieved in Central America and the Caribbean.

Figure 6: MVA per capita by region, 2000 – 2021 (constant 2015 USD)



Source: UNIDO National Accounts Database, 2022

Figure 7: Average annual growth rate of MVA per capita by country, 2015 – 2021 (constant 2015 USD)



Source: UNIDO National Accounts Database, 2022⁶

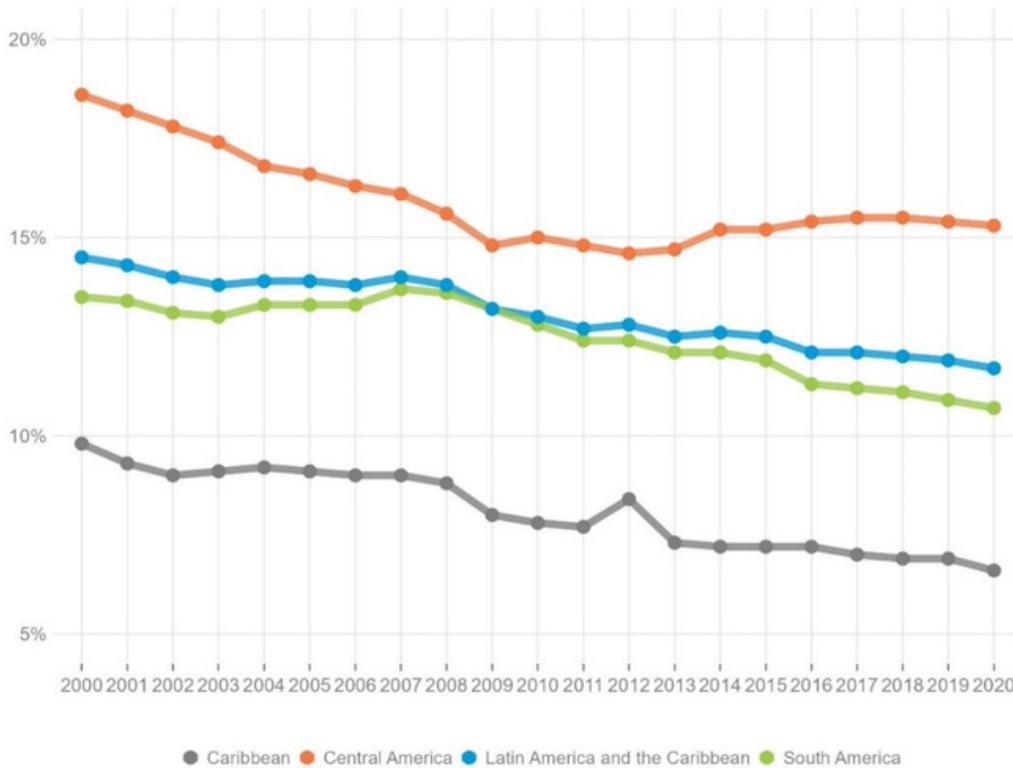
⁶ The figure only displays LAC countries and territories with available data for indicator 9.2.1.

According to available data from 2000 until 2020, manufacturing employment in the region decreased (ECLAC, 2022b). While manufacturing jobs began diminishing in South America after 2008, Central America witnessed a significant expansion following the global financial crisis. Similar trends have been observed in manufacturing employment as a share of total employment.

Manufacturing employment in the LAC region dropped from 14.5 per cent in 2000 to 11.7 per cent in 2020 (Figure 8). Central America, driven by Mexico and El Salvador, has witnessed a slow but continuous growth since 2012. Figure 9 depicts the share of manufacturing employment by country based on the most recent available year.

The level of informality is high in Latin America, hence, the available data should be viewed with caution. Furthermore, the majority of workers are employed in low-technology manufacturing industries (Figure 10). The pandemic, which has had a negative impact on production, sales and employment in nearly all value chains, especially in the manufacturing and energy sectors, has opened up opportunities for structural change, accelerating the automation of processes and the digitalization of operations which were in an incipient stage.

Figure 8: Manufacturing employment as a share of total employment by country, 2000 – 2020



Source: ILOSTAT employment by sex and economic activity, ILO modelled estimates, November 2020

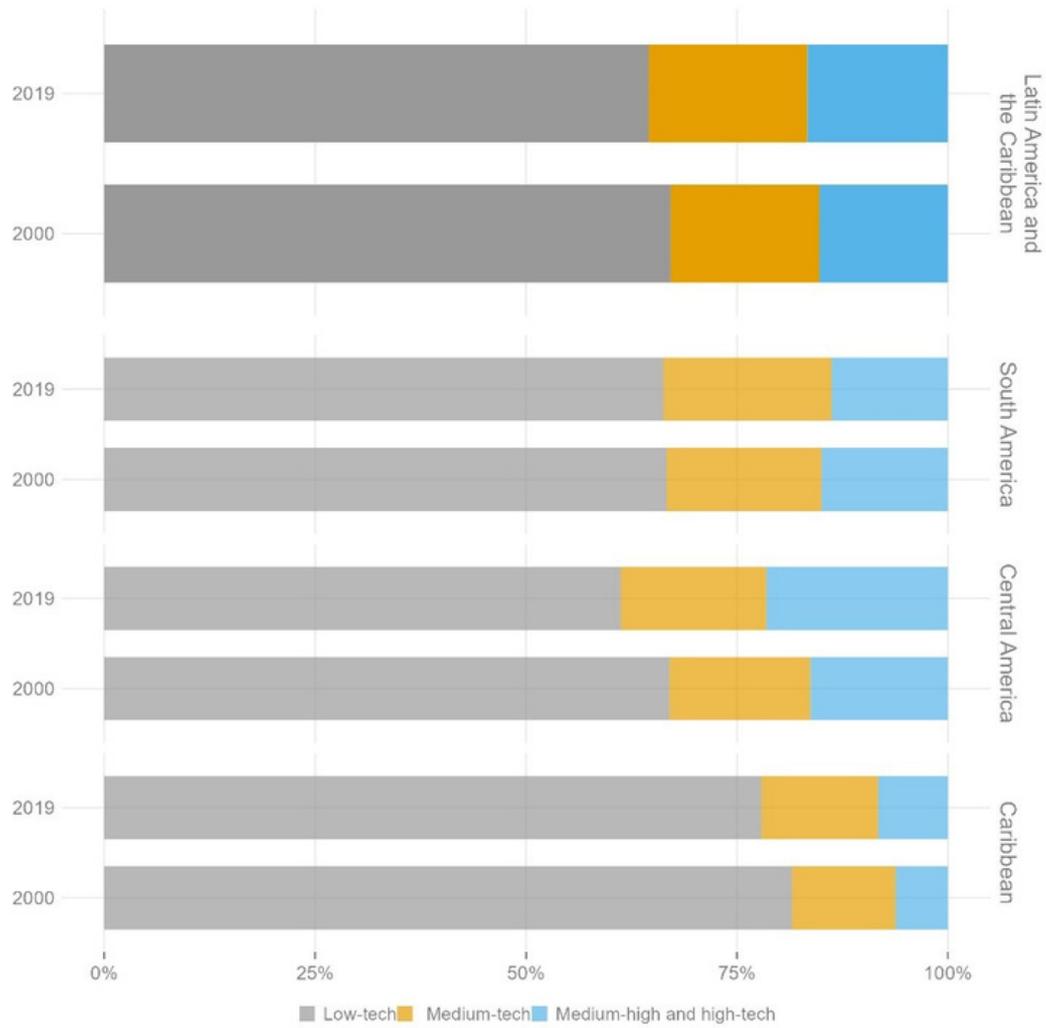
Figure 9: Manufacturing employment as a share of total employment by country (the most recent available year is depicted)



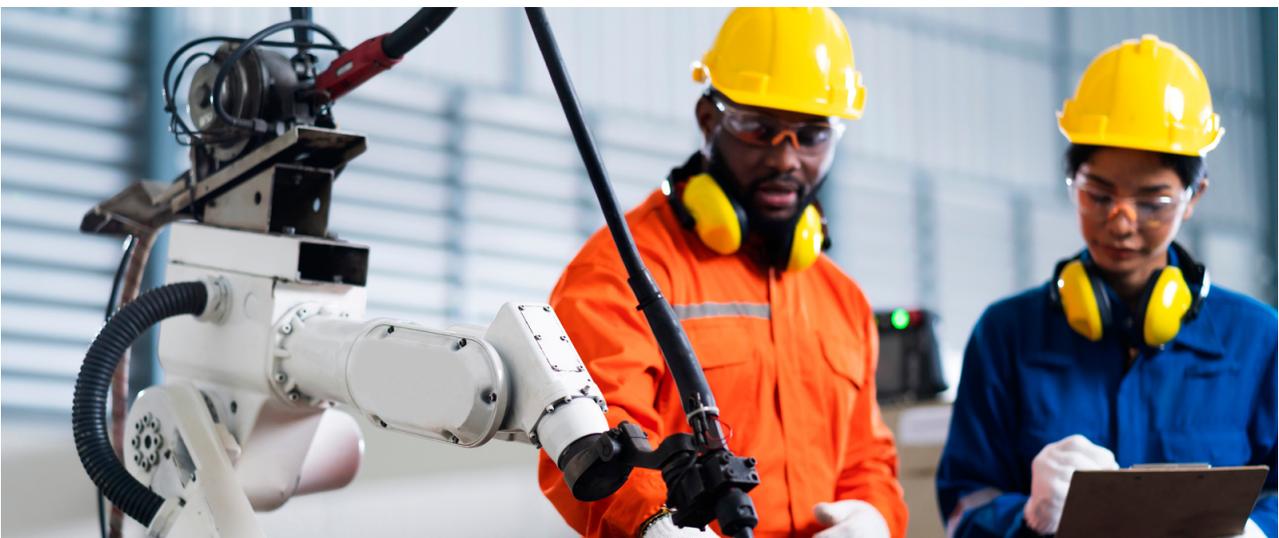
Source: UNIDO elaboration based on ILOSTAT employment by sex and economic activity, 2022⁷

⁷ The map only displays LAC countries and territories with data available for indicator 9.2.2.

Figure 10: Share of employment in manufacturing industries by technological intensity and region, 2000 and 2019



Source: UNIDO elaboration based on ILOSTAT employment by sex and economic activity — ISIC level 2, 2022





ACCESS OF SMALL-SCALE INDUSTRIAL AND OTHER ENTERPRISES TO FINANCIAL SERVICES, AND INTEGRATION INTO VALUE CHAINS AND MARKETS



SDG Target 9.3 aims to increase the access of small-scale industrial and other enterprises, particularly in developing countries, to financial services, including affordable credit, and their integration into value chains

and markets. Target 9.3 entails two indicators: i) the share of small-scale industries in total industry value added (9.3.1); and ii) the share of small-scale industries with a loan or line of credit (9.3.2).

The role of small enterprises in job creation, especially in low- and lower middle-income countries, is important because of their high absorption of surplus labour from traditional sectors such as agriculture. Small enterprises can meet domestic demand for essential goods such as food and beverages, clothing, furniture, etc., and are important suppliers of intermediate goods to other manufacturing firms (UNIDOa, 2021). Moreover, they can become a major source of employment and income for women and youth.

Nevertheless, data are very sparse, and substantial statistical capacity-building is needed in LAC to collect evidence on value added by enterprise size. Moreover, there are problems estimating small- and medium sized enterprises' (SMEs) weight in output and employment due to the different definitions used in the region's countries. According to ECLAC, micro and SMES in LAC have a share of 25% of the total GDP (M. Dini and G. Stumpo, 2020), which means that manufacturing activities contribute in around 20-25%.

The COVID-19 pandemic hit all entrepreneurs as lockdowns and workspace closures were imposed to contain the spread of the virus. Small businesses were hit much harder, however, as they are generally more vulnerable to economic downturns than larger ones. This typically stems from their smaller scale, limited financial resources and greater supply chain dependencies. Small enterprises in low- and lower middle-income countries—operating outside manufacturing activities, especially in services—are particularly vulnerable, as they benefit less from government assistance programmes.

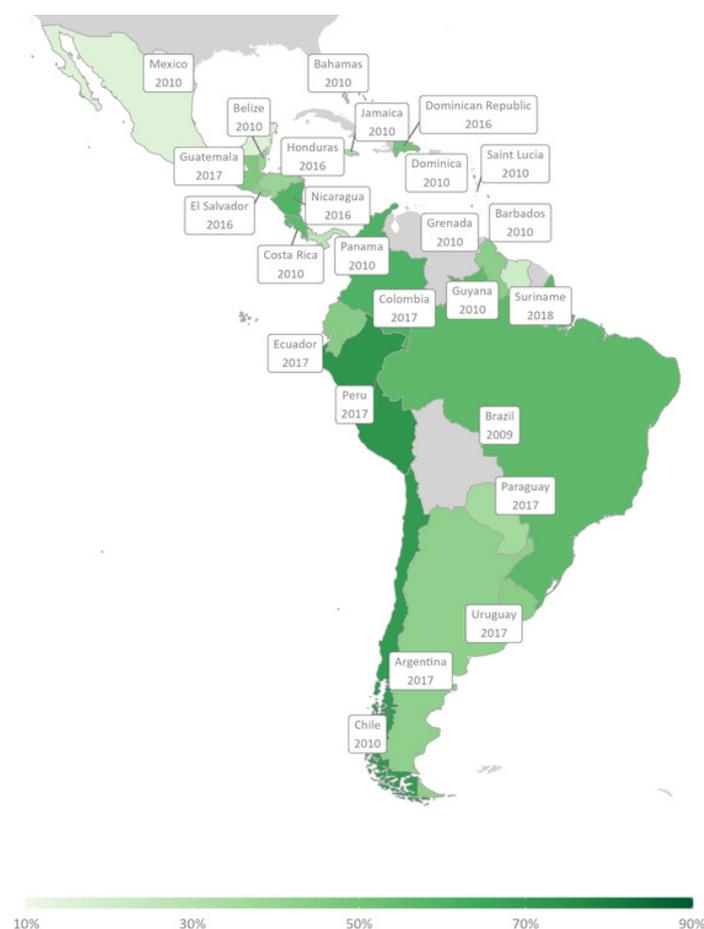
Moreover, small informal enterprises⁸ have fared even worse in the pandemic than formal ones, partly because they were unable to access formal lines of credit or COVID-19-related government support.

According to the latest available data (Figure 11), small enterprises in Peru took the highest share of loans and lines of credit (72.2 per cent) in 2017, an increase of 7 per cent since 2010. In Colombia, this share increased by 2 percentage points to 59.7 per cent. An increase in loans and credit of approximately 20 per cent compared to 2010 was observed in Guatemala (46.6 per cent) and Uruguay (43.5 per cent).

A slight decrease was observed in Ecuador (44.9 per cent) and Argentina (42.2 per cent), while the share of loans and lines of credit fell in Paraguay from 70 per cent to 35.7 per cent. The region generally has a much higher share of small enterprises with access to finance than other regions.

Compared to sub-Saharan Africa, where in 2022, 15.7 per cent of small firms have a loan or line of credit, in the LAC region, 44.2 per cent of SMEs, namely South America with 47.0 per cent, the Caribbean with 44.0 per cent and Central America with 40.4 per cent.

Figure 11: Share of small-scale enterprises with a loan or line of credit by country (the most recent available year is depicted)



Source: World Bank Enterprise Surveys, 2022⁹

⁸ Firms and workers outside the line of sight of governments in emerging market and developing economies (World Bank, 2021b).

⁹ The map only displays LAC countries and territories with data available for indicator 9.3.2.



INCREASED RESOURCE-EFFICIENCY AND GREATER ADOPTION OF CLEAN AND ENVIRONMENTALLY SOUND TECHNOLOGIES AND INDUSTRIAL PROCESSES

TARGET 9-4



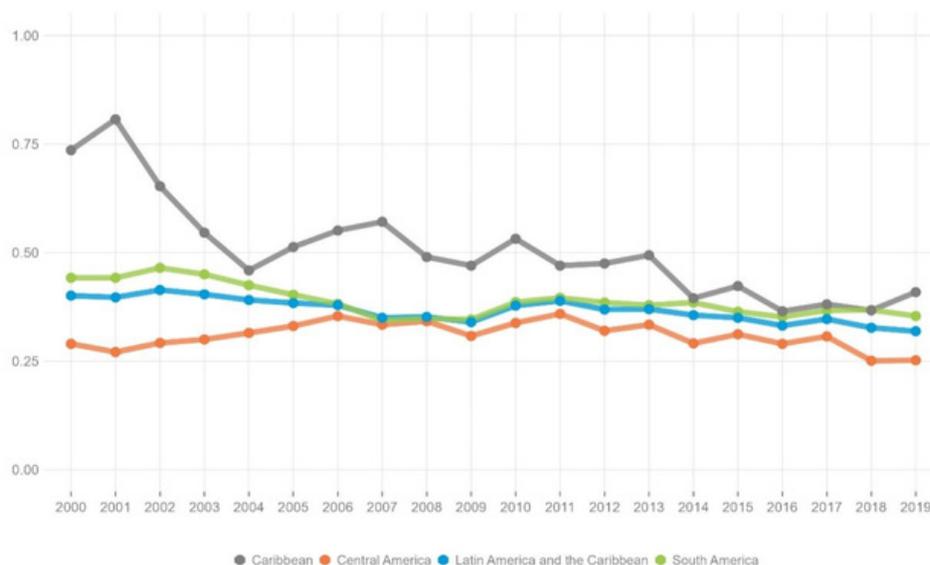
SDG Target 9.4 calls for upgrading infrastructure and retrofitting industries to make them sustainable, with increased resource-use efficiency and greater adoption of clean and environmentally sound

technologies and industrial processes by 2030, with all countries taking action in accordance with their respective capabilities.

Countries' industries must become less energy- and fuel intensive and must introduce cleaner technologies to generate sustainable industrialization. A higher deployment of clean technologies increases the likelihood of modernizing infrastructure and adapting industries to make them sustainable, with increasingly efficient use of resources.

The manufacturing sector's carbon dioxide (CO₂) intensity is measured using CO₂ emissions from manufacturing industries per unit of MVA as the indicator. Over the last decade from 2010 to 2019, the region experienced a decline in the manufacturing sector's CO₂ intensity (Figure 12). This might be the result of national efforts to pursue greener investments or to use renewable or low-carbon energy technologies. In 2019, the highest CO₂ intensity by manufacturing sector per unit of MVA was observed in the Caribbean with 0.41 kg/USD, followed by South America with 0.35 kg/USD and Central America with 0.25 kg/USD. It is worth noting that the aggregate in the Caribbean may largely be driven by Trinidad and Tobago, one of the largest oil and natural gas producers in the region, with CO₂ emissions per capita significantly above the regional average (World Bank, 2018).

Figure 12: CO₂ emissions from manufacturing industries per unit of MVA (kg/USD) by region, 2000 –2019



Source: IEA Greenhouse gas emissions from energy 2021, UNIDO National Accounts Database, 2022

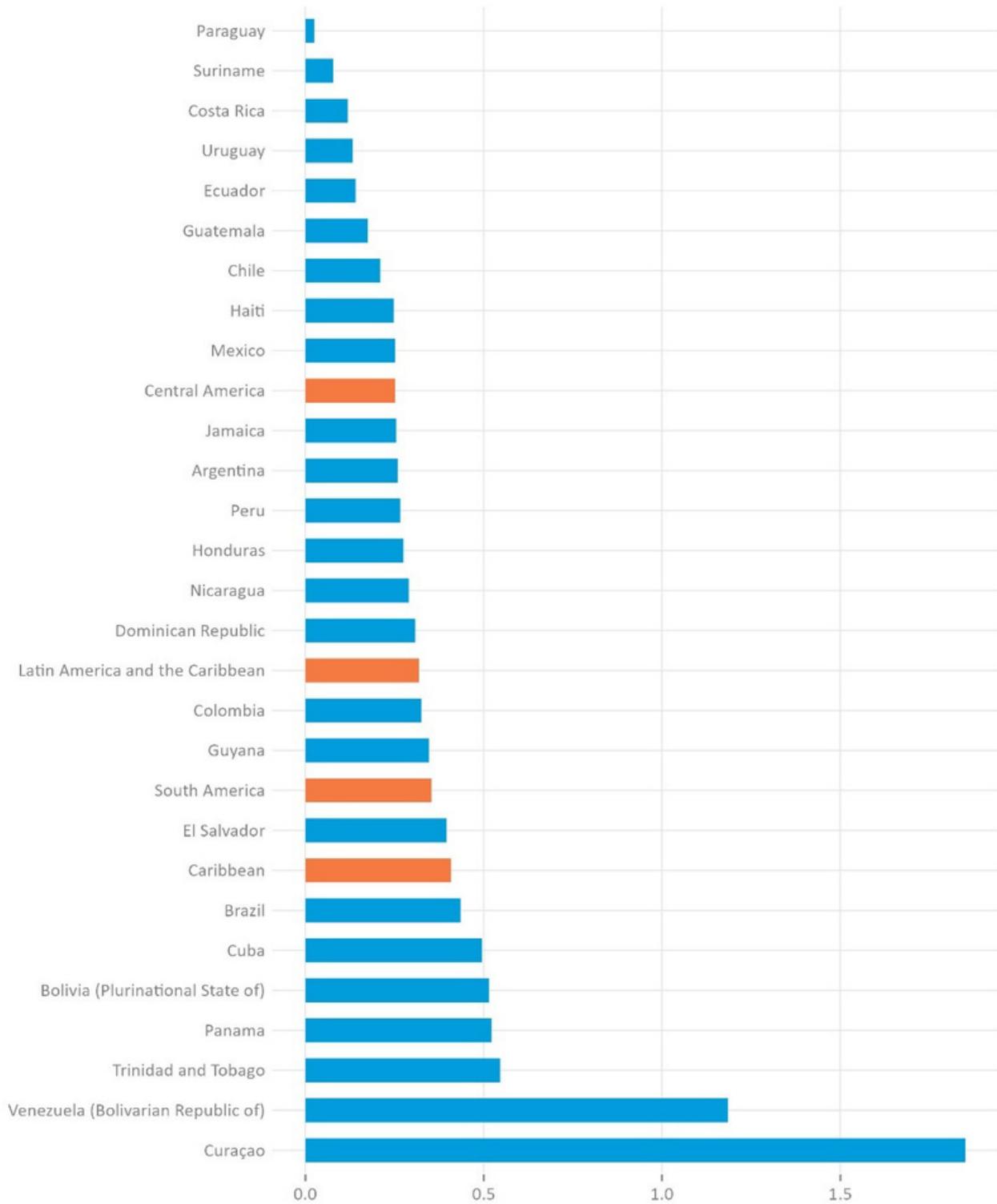
Paraguay has by far the least CO₂ emissions per unit of MVA, followed by Costa Rica, Guatemala and Mexico (Figure 13). By contrast, Venezuela (Bolivarian Republic of) has the highest level of emissions due to its strong reliance on fossil fuels.

In terms of total manufacturing CO₂ emissions in 2019, the largest amount was produced by South America with 142 million tonnes, followed by Central America with 62 million tonnes and the Caribbean with 13 million tonnes (Figure 14). Figure 15 illustrates the relationship between MVA per capita and manufacturing’s CO₂ intensity. Countries with a higher MVA per capita, which possess advanced industrial capacities, have lower CO₂ emission rates, i.e. lower manufacturing intensity, regardless of population size. The case of Paraguay is worth highlighting in this regard.

The country’s electrical power production is one of the cleanest in the world. Electricity is almost entirely (99.7 per cent) generated by hydropower, with zero CO₂ emissions (Pappis et al., 2021).

The 2020 COVID-19 outbreak also had an impact on how energy is produced, supplied and consumed around the world. Global CO₂ emissions declined considerably by 5.2 per cent in 2020 due to the drop in energy demand. The gradual phasing-out of restrictions and widespread vaccination campaigns boosted economic recovery, resulting in increased energy demand in 2021. Global energy-related CO₂ emissions rose by 6 per cent as demand for coal, oil and gas rebounded along with the economy. This rapid increase catapulted energy-related CO₂ emissions above their pre-pandemic level (IEA, 2022).

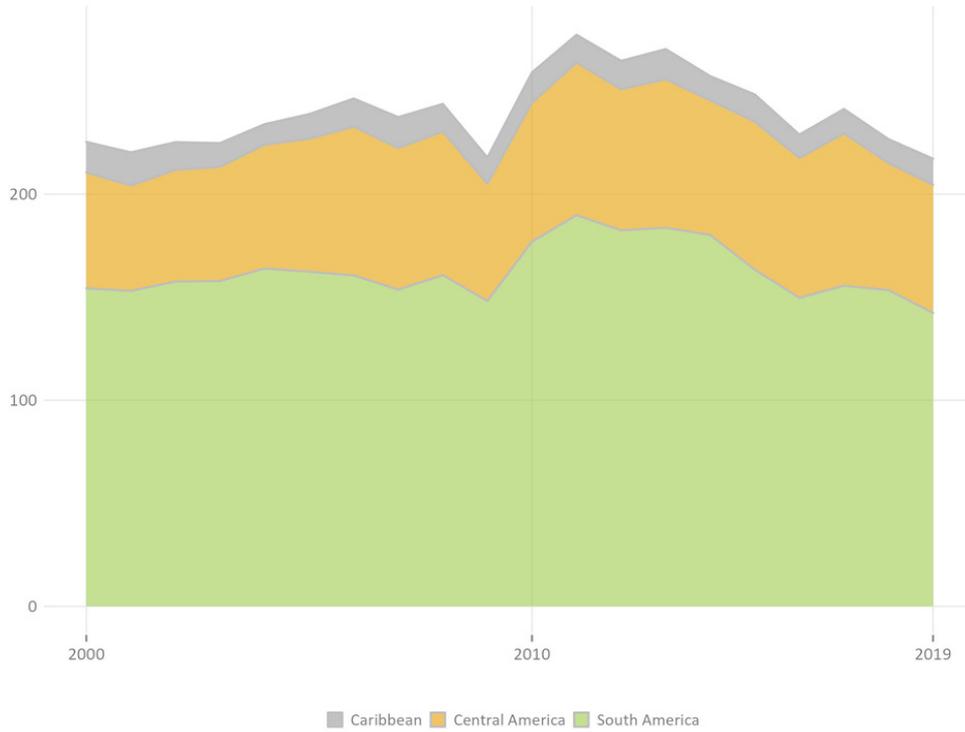
Figure 13: CO₂ emissions per unit of MVA in 2019 by country, including regional values



Source: IEA Greenhouse gas emissions from energy 2021, UNIDO National Accounts Database, 2022¹⁰

¹⁰ The figure only displays LAC countries and territories with data available for Indicator 9.4.1.

Figure 14: CO₂ emissions from manufacturing industries (million tonnes) by region, 2000 – 2019

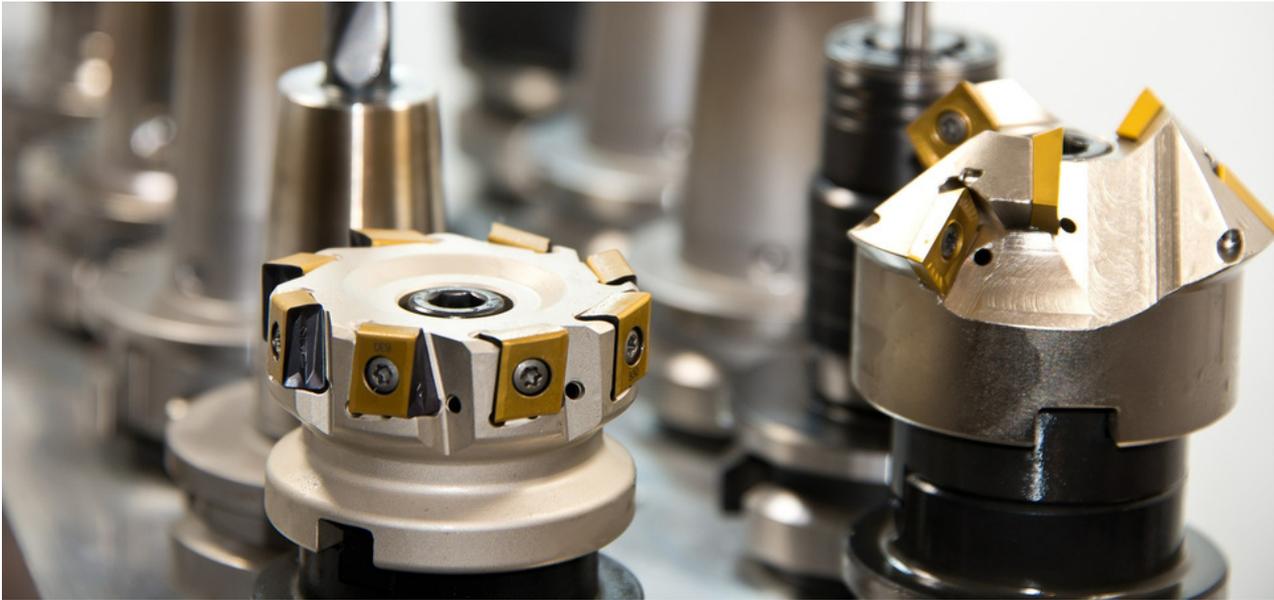


Source: IEA Greenhouse gas emissions from energy 2021

Figure 15: CO₂ emissions from manufacturing industries per unit of MVA and MVA per capita by country, 2019 (MVA is in constant 2015 USD). Size of bubbles represents country size by population



Source: IEA Greenhouse gas emissions from energy 2021, UNIDO National Accounts Database, 2022



DOMESTIC TECHNOLOGY DEVELOPMENT, RESEARCH AND INNOVATION AND INDUSTRIAL DIVERSIFICATION AND VALUE ADDITION TO COMMODITIES



SDG Target 9.b supports domestic technology development, research and innovation in developing countries by ensuring a conducive policy environment for, inter alia, industrial diversification and value addition to commodities.

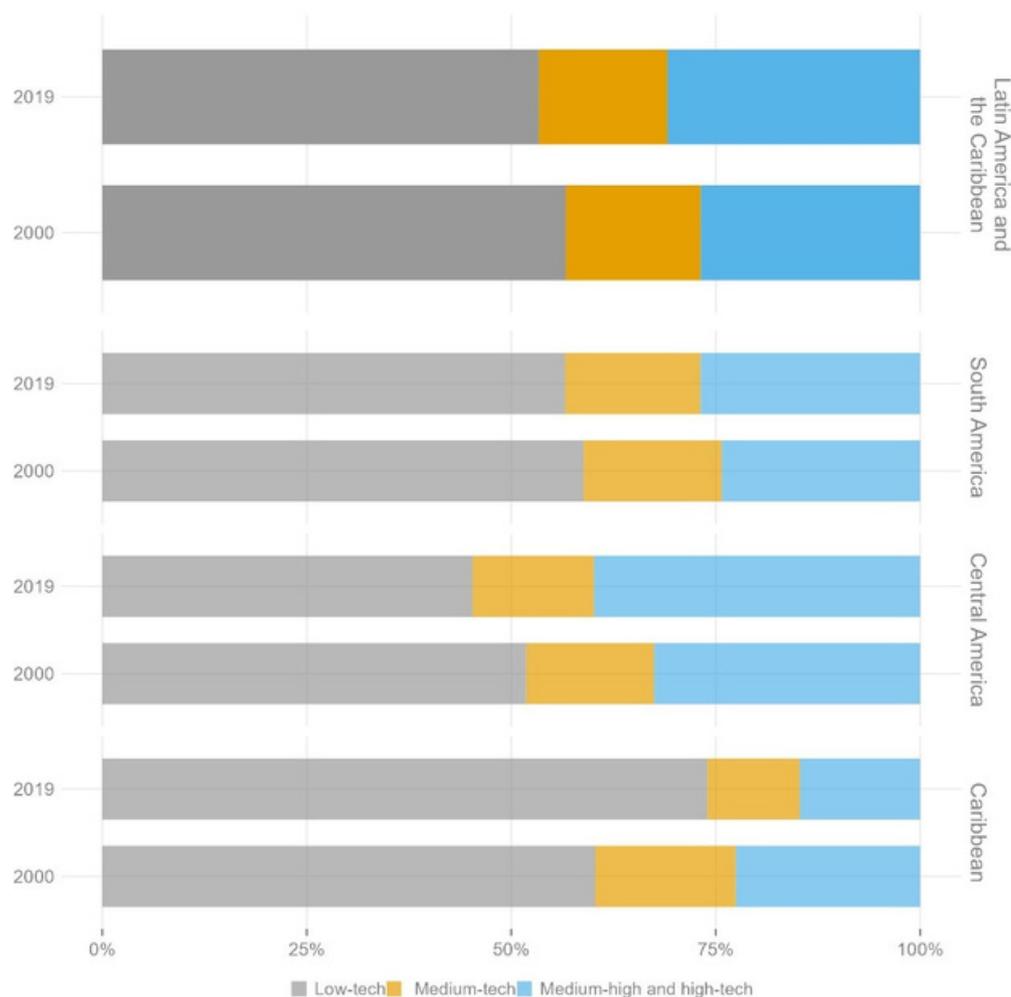
The industrial technology structure of a country and its diversification is key to sustaining economic growth and achieving greater inclusiveness and sustainability. As countries industrialize, their manufacturing sector usually undergoes a structural transition from resource-based, low-tech activities to medium- and high-tech activities. This successful shift increases productivity and generates higher-wage jobs.

Figure 16 shows that manufacturing production in the LAC region is still dominated by low-technology industries, 53.4% compared to medium-high and high technology with 30.9% in 2019.

Central America has the highest share of medium high- and high-technology value added (39.9 per cent in 2019), with production dominated by high-tech industries in Mexico. By contrast, the percentage of medium high- and high-technology value added in total manufacturing in South America accounted for 26.8 per cent compared to 14.7 per cent in the Caribbean in 2019.

The COVID-19 pandemic did not have the same effect on all manufacturing industries. Globally, higher technology industries showed better resilience against the economic shock and recovered faster. Higher technology manufacturing industries, primarily attributable to the output of computers, electronics and optical products, electrical equipment and pharmaceuticals, have been the drivers of recovery.

Figure 16: Value added shares in manufacturing industries by technological intensity and region, 2000 and 2019

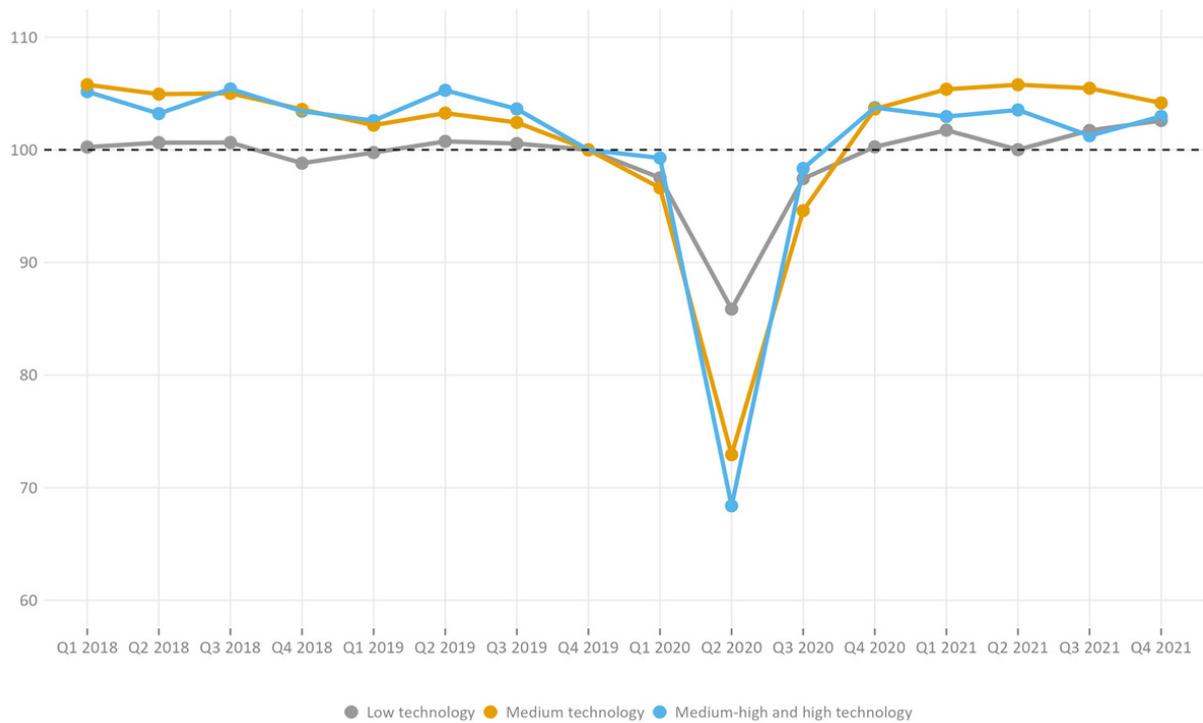


Source: UNIDO elaboration based on INDSTAT2 Database, 2022

Figure 17 illustrates the development of manufacturing output by technology in the LAC region from the first quarter of 2018 to the last quarter of 2021. In the second quarter of 2020, all industries experienced a sudden drop, regardless of technological intensity as the coronavirus hit the region and containment measures were introduced. In general, the manufacturing of basic consumer goods, such as food products, has followed a stable growth trajectory, with limited losses since the onset of the pandemic.

There is evidence that higher technology industries are driving recovery in the LAC region and across the world. However, since the LAC region relies heavily on the production of motor vehicles, which is facing major challenges due to supply chain disruptions of resources and intermediate goods, manufacturing recovery in the LAC region remains challenging and unequal.

Figure 17: Index of manufacturing production by technological intensity in Latin America and the Caribbean, first quarter of 2018 to the last quarter of 2021 (Index Q4 2019=100)



Source: UNIDO QIP Database, 2022



4

KEY POLICY RECOMMENDATIONS FOR A POST-PANDEMIC RECOVERY IN LATIN AMERICA AND THE CARIBBEAN

KEY POLICY RECOMMENDATIONS FOR A POST-PANDEMIC RECOVERY IN LATIN AMERICA AND THE CARIBBEAN

It is of utmost importance to address vaccine rollout and access in the short term, ensuring global protection against COVID-19. In the medium term, efforts must focus on expanding the policy space and strengthening government capabilities. In the long term, ensuring sustainable development, by tackling digital divides, fostering a green transition and promoting local industrial resilience will be a priority.

Countries will need to invest in production capabilities within a diversified manufacturing sector to benefit from the changes triggered by the pandemic. A productive transformation based on technological upgrading and diversification can benefit the region. Promoting greener investments, a circular economy and adopting new technologies can upgrade the economic structure and attract sustainable investments. Stronger regional integration could boost formal jobs, environmental resilience and long-term sustainability.

Investment in technologies and innovation will play a key role in the LAC region's manufacturing sector and open opportunities for greater integration into regional and global value chains. The role of small enterprises as drivers of innovation is also crucial, since they can introduce new products and technologies at the lowest level of industrial production. Therefore, an innovation environment for SMEs to adopt digital applications and access to finance is crucial. SMEs' competitiveness would increase and they would be able to integrate into local and global value chains.

The greening of industries should be the cornerstone of national post-COVID-19 recovery plans. This can be accomplished by establishing

sustainability criteria for the manufacturing of industrial goods, introducing low-carbon technology, and enacting policies that promote demand for low-carbon technologies and "green skills" more broadly (UNIDO, 2021c).

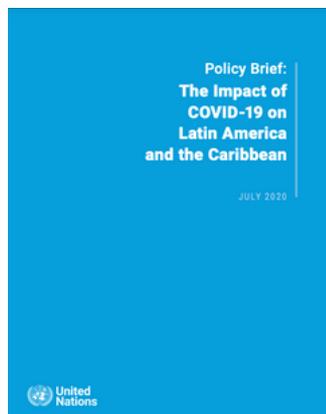


"Countries will need to invest in production capabilities within a diversified manufacturing sector to benefit from the changes triggered by the pandemic."

Socially inclusive development should also be a priority in national industrial policies. In the current context, this includes devoting special attention to the most vulnerable enterprises, assisting them in their recovery in the short term and supporting them in building resilience in the medium- to long-term. Socially inclusive industrial strategies in the manufacturing sector should aim to create jobs, formalize informal workers and increase the engagement of informal workers, and increase the participation of youth and women (UNIDO, 2021c).

Industrial policies should support the digitalization of manufacturing, particularly across sectors using of digital technologies, such as agro-industry, consumer goods, chemicals and pharmaceuticals, and information and communication technologies (ICTs) (UNIDO, 2021c).

Post-pandemic industrial policy must incorporate resilience and risk management planning. The greatest threat is that years of industrialization efforts will be undone by a single major external shock (UNIDO, 2021c).



"Regional economic integration to support productive diversification, economic resilience, and regional cooperation."

The United Nations' Policy Brief: The impact of COVID-19 on Latin America and the Caribbean, published in July 2020, stressed that the post-pandemic recovery represents an opportunity to transform the development model of Latin America and the Caribbean. Among the recommendations for a recovery based on equality are the promotion of sustainable industrial and technological policies (SDG 9), including measures that promote low-carbon growth, a reallocation of workers from the informal sector to decent jobs, fostering the transition to renewable energy, capacity-building in health, digital and green technologies, and reducing vulnerability to new crises. Investment in research and development and cooperation with universities, the scientific community and the private sector are also crucial for resilience and recovery. Similarly, regional economic integration to support productive diversification, economic resilience and regional cooperation is also highlighted (United Nations, 2020).

In the Preliminary Overview of the Economies of Latin America and the Caribbean (2022), the United Nations Economic Commission for Latin America and the Caribbean (ECLAC) has proposed channelling investment towards industries that promote a new pattern of

development and that can boost competitiveness and employment and reduce the environmental footprint through the transition to renewable energy; sustainable mobility in cities; the digital revolution, universalizing access to technology; supporting the healthcare manufacturing industry; the bioeconomy and ecosystem services; the care economy; the circular economy; and sustainable tourism. ECLAC further noted that fiscal policy should accelerate public investment and encourage and attract private investment. To make fiscal policy sustainable, strengthening tax revenues and reducing tax evasion are a priority.



"Channeling investment towards sectors that promote a new pattern of development and that can boost competitiveness and employment and reduce the environmental footprint."

Additionally, greater access to international liquidity and multilateral mechanisms were marked as tools to facilitate debt management and expand the region's fiscal and monetary policy space. Development financing is also key to supporting policy space and investment (ECLAC, 2022a).



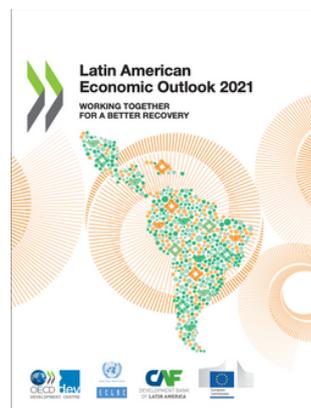


The Organisation for Economic Co-operation and Development (OECD), ECLAC and the Development Bank for Latin America (CAF), with support from the European Commission, in the Latin American Economic Outlook 2021: Working Together for a Better Recovery highlighted investment in key sectors that have the potential to transform the productive structure as the most important driver of sustainability in the region. The key sectors include the automotive, pharmaceutical and renewable energy industries, the circular economy and sustainable agriculture. The report argues that the production structure must shift towards more technology-intensive industries with higher rates of demand and skilled employment, taking natural resources, biodiversity and the environment into consideration. Seven industries were identified by the OECD as representing the basis for a big push towards sustainability in the region: (i) non-conventional renewable energy; (ii) electromobility; (iii) digitization; (iv) the healthcare manufacturing industry; (v) the bioeconomy; (vi) the circular economy; and (vi) tourism.

Coordinated investment and industrial policies around these industries provide ample scope to generate better quality jobs, pursue innovation,

make technological progress, diversify exports, adapt to and mitigate climate change effects and undertake regional integration efforts.

The OECD emphasized that innovative practices in international cooperation should continue, such as technical, South-South, triangular and even South-North cooperation, given the structural shortcomings in support for the region. Specifically, it pointed out that current international financial mechanisms are still insufficient for middle-income countries, which the majority of LAC countries are. (OECD et al., 2021).



"The production structure must shift towards more technology-intensive sectors with higher rates of demand and skilled employment, taking into consideration natural resources, biodiversity and the environment."

5

SDG 9 ACCELERATOR - UNIDO'S NEW REGIONAL INITIATIVE FOR LAC

SDG 9 ACCELERATOR - UNIDO'S NEW REGIONAL INITIATIVE FOR LAC

To increase cooperation among LAC countries while avoiding a duplication of efforts, UNIDO has recently launched a regional initiative focused on accelerating the implementation of the SDG 9 in Latin America and the Caribbean through South-South and triangular cooperation, networking, and partnerships.

The project is rooted in the fact that regional cooperation and integration are key for recovery. Regional initiatives will support and complement national efforts toward new development models for recovery and create resilience in the face of future crises.



LAC countries face similar challenges; therefore, best practices and knowledge exchange on designing policies and comparing results has gained greater relevance. Collaboration across the region can also help shape a regional vision for action to effectively address regional and global challenges (OECD et al., 2021).

The countries of the Group of Latin America and the Caribbean (GRULAC) requested UNIDO's support to accelerate the implementation of SDG 9, particularly considering their status as middle-income countries sharing the same challenges.

The region highlighted the need to include a new and dynamic role for regional integration, to fully participate in the technological revolution, promote a sustainable environmental model, eliminate poverty and strengthen equality, mobilize financial resources with a focus on middle-income countries, build new capacities and broaden the participation of all actors in society.

As a result, an agreement was reached to establish the SDG 9 Accelerator as a regional platform to speed up the implementation of SDG 9 in the region.

The main purpose of this regional project is to assist the LAC countries in accelerating SDG 9 implementation through South-South and triangular cooperation, networking, and partnerships.

THE 3 COMPONENTS OF THE REGIONAL INITIATIVE:

1. A regional network for multistakeholder exchange on SDG 9



2. A Knowledge exchange platform: SDG 9 Accelerator



3. Pilot experiences of partnerships, South-South and triangular cooperation



SDG 9 Accelerator →



The image features the SDG 9 Accelerators.

KEY BENEFITS OF THE SDG 9 ACCELERATOR

The project will create and strengthen an interregional network, which combined with a knowledge exchange platform – www.sdg9accelerator.org – will promote strategic partnerships for ISID in the LAC region and leverage support for the implementation of the 2030 Agenda.

The SDG 9 Accelerator Platform builds upon the successful implementation of UNIDO’s Industrial Knowledge Bank, based on a knowledge transfer mechanism aimed to foster partnerships and South-South cooperation in the LAC region, by scaling up the existing infrastructure of networks.

The SDG 9 Accelerator will support national efforts towards the achievement of SDG 9 by, inter alia:

- Creating a one-stop shop for SDG 9 for LAC countries;

- Supporting monitoring and evaluating efforts to achieve SDG 9;
- Identifying successful practices, mechanisms and cases in the private sector that contribute to the achievement of SDG 9 targets;
- Identifying stakeholders in the private, public and academic sectors to implement SDG 9 targets at the national and regional level;
- Developing increasing participation in technical cooperation projects according to national needs, and
- Providing services, knowledge and technology exchange among countries.

"LAC countries face similar challenges; therefore, best practices and knowledge exchange on designing policies and comparing results has gained greater relevance. Regional cooperation will be a key to the recovery."

THE SDG 9 ACCELERATOR PLATFORM

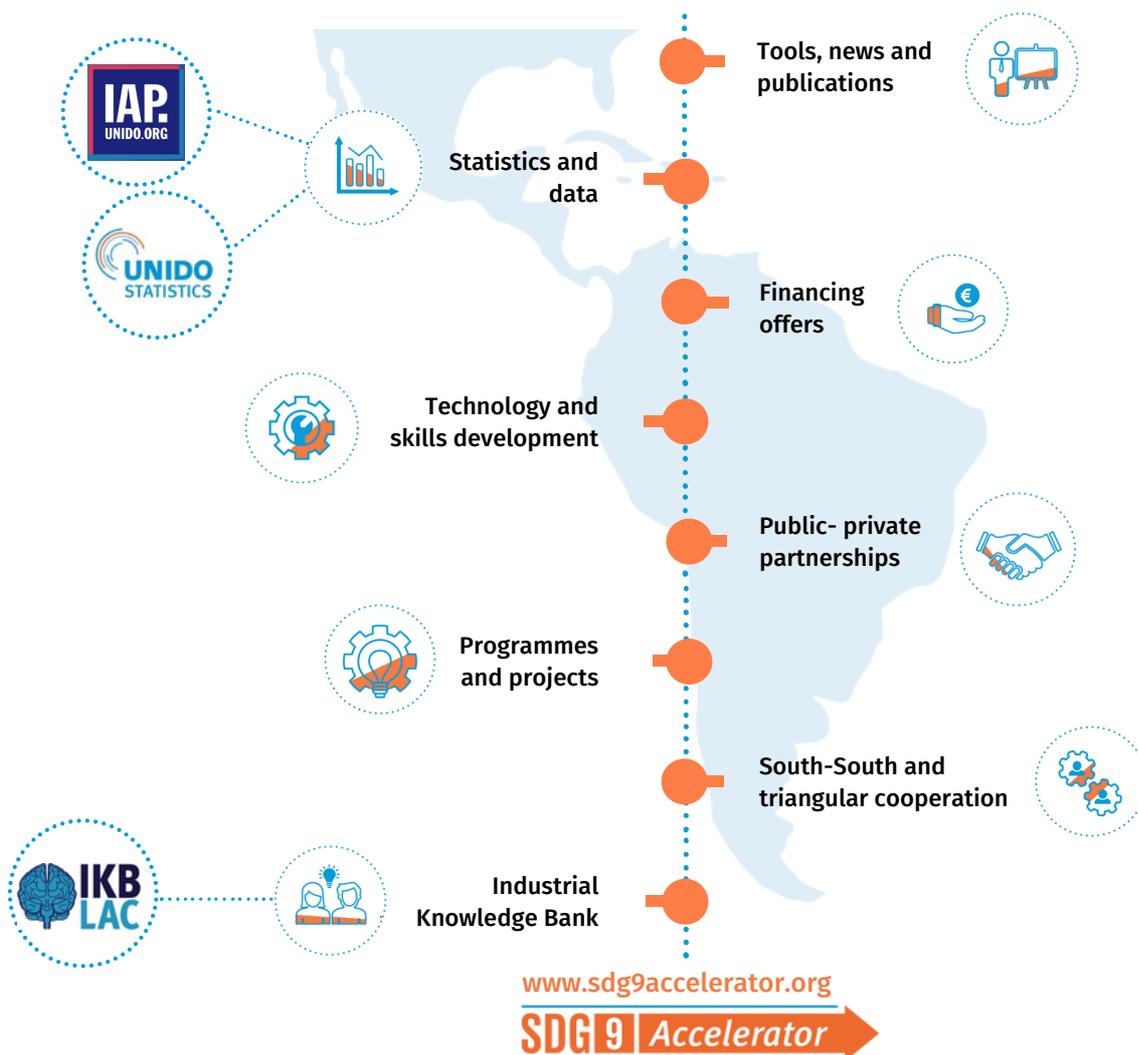
As the second of the three components of the SDG 9 Accelerator project, UNIDO has developed a platform in Spanish to support countries in knowledge sharing, in promoting ISID, and in building and expanding South-South and triangular cooperation networks.

The SDG 9 Accelerator Platform is the largest knowledge network on sustainable industrial development in Spanish and serves to build partnerships between actors and reduce the duplication of efforts. The Platform is available at <https://ods9.org/> in Spanish and <https://sdg9accelerator.org> in English.

The SDG 9 Accelerator Platform presents an opportunity to unify efforts in technical cooperation and harmonize data collection practices as part of a South-South and

triangular cooperation and partnership approach. The innovative tool is based on the use of accelerators. These are key policy and programmatic areas identified to allocate efforts and channel investment towards industries that promote a new development style, enhance competitiveness and employment, and lower the environmental footprint.

The Platform organizes the resources according to their respective accelerator. Users will find training and funding offers, publications, news, announcements of face-to-face and online events, a network of experts in the thematic areas of SDG 9, resources from UNIDO and other development institutions, inter alia, in a single, easily accessible source in Spanish and English.



REFERENCES

- Cassell, W., 2022. 3 Characteristics of Caribbean Economies. Available at: <https://www.investopedia.com/articles/investing/082015/3-characteristics-caribbean-economies.asp>
- ECLAC. 2015. Preliminary Overview of the Economies of Latin America and the Caribbean. Santiago. Available at: https://repositorio.cepal.org/bitstream/handle/11362/39559/94/S1501386_en.pdf
- ECLAC, 2020. Building a New Future: Transformative Recovery with Equality and Sustainability, United Nations, ECLAC, https://www.cepal.org/sites/default/files/publication/files/46226/S2000665_en.pdf.
- ECLAC, 2021. Economic Survey of Latin America and the Caribbean 2021: Labour dynamics and employment policies for sustainable and inclusive recovery beyond the COVID-19 crisis. Available at: <https://www.cepal.org/en/publications/47193-economic-survey-latin-america-and-caribbean-2021-labour-dynamics-and-employment>
- ECLAC, 2022a. Preliminary Overview of the Economies of Latin America and the Caribbean 2021. Santiago. Available at: <https://www.cepal.org/en/publications/47670-preliminary-overview-economies-latin-america-and-caribbean-2021>
- ECLAC, 2022b. Regional data bank for statistical follow-up to the SDGs in Latin America and the Caribbean. Available at: <https://agenda2030lac.org/estadisticas/regional-data-bank-statistical-follow-up-sdg-1.html?lang=en>
- IEA, 2022. Global Energy Review: CO2 Emissions in 2021, IEA, Paris. Available at: <https://www.iea.org/reports/global-energy-review-co2-emissions-in-2021-2>
- ILO, 2022. World Employment and Social Outlook: Trends 2022. Geneva. Available at: https://www.ilo.org/global/research/global-reports/weso/trends2022/WCMS_834081/langen/index.htm
- Kynclova, P., Upadhyaya, S. and Nice, T., 2020. "Composite index as a measure on achieving Sustainable Development Goal 9 (SDG-9) industry-related targets: The SDG-9 index," Applied Energy, Elsevier, vol. 265©. Available at <https://www.sciencedirect.com/science/article/abs/pii/S0306261920302671>
- M. Dini y G. Stumpo (coords.), "Mipymes en América Latina: un frágil desempeño y nuevos desafíos para las políticas de fomento", Documentos de Proyectos (LC/TS.2018/75/ Rev.1), Santiago, Comisión Económica para América Latina y el Caribe (CEPAL), 2020. Available at: https://repositorio.cepal.org/bitstream/handle/11362/44148/1/S1900361_es.pdf
- Ministerio de Industria y Comercio de Paraguay, 2021. Available at: <https://www.uip.org.py/wp-content/uploads/2020/03/perfil-pais.zip>
- OECD/CAF, 2019. Latin America and the Caribbean 2019 Policies for Competitive SMEs in the Pacific Alliance and Participating South American countries. Paris. Available at: <https://www.oecd.org/development/latin-america-and-the-caribbean-2019-d9e1e5f0-en.htm>
- OECD et al., 2021. Latin American Economic Outlook 2021: Working Together for a Better Recovery. Available at: <https://www.oecd-ilibrary.org/docserver/5fedabe5-en.pdf?expires=1649086014&id=id&accname=ocid57015273&checksum=87C08F75624619EC33BE35AE5D28771A>
- Pappis, I., Centurion, C., Ramos, E.P. et al. Implications to the electricity system of Paraguay of different demand scenarios and export prices to Brazil. *Energy Syst* 12, 911–939 (2021). <https://doi.org/10.1007/s12667-020-00420-w>
- United Nations (2020). Policy Brief: The impact of COVID-19 on Latin America and the Caribbean. Available at: <https://unsdg.un.org/resources/policy-brief-impact-covid-19-latin-america-and-caribbean>
- UNIDO, 2020. Industrialization as the driver of sustained prosperity. Vienna. Available at https://www.unido.org/sites/default/files/files/2020-04/UNIDO_Industrialization_Book_web4.pdf
- UNIDO, 2021a. Statistical Indicators of Inclusive and Sustainable Industrialization: Biennial Progress Report 2021. Vienna. Available at https://www.unido.org/sites/default/files/files/2021-09/SDG_report_2021_final.pdf

- UNIDO, 2021b. UNIDO Industrial Analytics Platform. Available at: <https://iap.unido.org/data/sdg-9-industry>
- UNIDO, 2021c. Industrial Development Report 2022. The future of industrialization in a post-pandemic world. Available at: <https://www.unido.org/sites/default/files/files/2021-11/IDR%202022%20-%20EBOOK.pdf>
- UNDP, 2021. Trapped? Inequality and Economic Growth in Latin America and the Caribbean. Available at: <https://www.undp.org/latin-america/publications/trapped-inequality-and-economic-growth-latin-america-and-caribbean>
- World Bank, 2018. CO2 emissions (metric tons per capita) - Trinidad and Tobago vs same region. Available at: <https://data.worldbank.org/indicator/EN.ATM.CO2E.PC?contextual=region&locations=TT>
- World Bank, 2021a. “The World Bank in the Caribbean. April 2021”. Available at: <https://www.worldbank.org/en/country/caribbean/overview#1>
- World Bank, 2021b. Ohnsorge, Franziska, and Shu Yu, eds. 2021. The Long Shadow of Informality: Challenges and Policies. Advance Edition. License: Creative Commons Attribution CC BY 3.0 IG



Vienna International Centre
Wagramerstr. 5, P.O. Box 300,
A-1400 Vienna, Austria



+43 1 26026-0



www.unido.org



lac@unido.org



UNITED NATIONS
INDUSTRIAL DEVELOPMENT ORGANIZATION