

4 Cross-cutting policy areas for climate resilience and neutrality in the Latin America and the Caribbean region

Addressing climate change requires comprehensive, cross-cutting policies to ensure that government efforts are not isolated within a single sector. Climate change is a complex issue that affects multiple aspects of society, including the economy, education, health, and social equity. Governments in Latin America and the Caribbean (LAC) need to develop integrated strategies and a comprehensive and horizontal approach to address and enable synergies on issues such as climate governance, finance, and environmental information. Based on the discussions in a series of Regional Policy Dialogues and Workshops on these issues, this Chapter discusses critical policy priorities that can impact multiple sectors, providing a foundation for addressing immediate and long-term challenges ensuring that climate neutrality and resilience are incorporated in the region's development agenda.

Introduction

Current climate change mitigation and adaptation policies alone do not suffice to achieve net-zero emissions and climate resilience, neither globally, nor regionally, nor at the national and local levels. Climate change has an impact not only on environmental, but also economic and social issues. Therefore, introducing cross-cutting and horizontal policies with interlinkages to climate change, such as governance, financing, innovation, education, and gender equality, will help provide a more comprehensive policy framework to achieve net-zero emissions and climate resilience in the region; as well as support the green transition.

The Latin America and the Caribbean (LAC) region faces high vulnerability to the impacts of climate change and requires an increasing need to prioritise adaptation action. Decarbonisation plans and actions targeting the energy and transport sectors have been proposed by the governments and offer opportunities to cut the emissions. However, the challenge lies in translating these ambitions into measurable outcomes. Achieving full integration of climate policy, budgets aligned with the goals of the Paris Agreement, and developing project pipelines demands co-ordination across multiple ministries and the adoption of an effective whole-of-government approach. Additionally, it requires ensuring that national planning and budgetary allocations are aligned with each country's Nationally Determined Contributions (NDCs). Mainstreaming climate change implies that climate policy should no longer be confined to environmental concerns alone. Instead, sustainable policy responses must be systematically integrated into public and private planning and decision-making processes (OECD, 2015^[1]). Given the budget constraints in LAC countries, public spending must be optimised to focus on building resilient infrastructure and housing, as well as developing renewable energy sources. Furthermore, climate policies must take into account the unique context of high poverty and inequality levels in LAC. While there are no one-size-fits-all policy recommendations, it is possible to provide general guidelines to emphasise key priorities and next steps for future policymaking (Cárdenas, Bonilla and Brusa, 2021^[2]).

Incorporating cross-cutting policies ensures that climate change efforts are not isolated within a single sector. Climate change is a complex issue that affects multiple aspects of society, including the economy, education, health, and social equity. By integrating policies across different sectors, a holistic approach can be adopted to tackle the multifaceted challenges posed by climate change. For instance, addressing finance and investment policies can help mobilise resources for climate-friendly projects, while education policies can raise awareness and promote sustainable practices among the population.

Countries worldwide are actively implementing policies aimed at reducing their emissions, encompassing strategies like carbon pricing mechanisms and energy efficiency measures, alongside support for low-carbon technology research, development, and deployment. However, these measures must be expanded and deepened to effectively redirect investments away from fossil fuels towards a low-carbon energy mix. Unfortunately, global and regional policies often fail to align with climate objectives and sometimes even conflict with them. Fiscal systems inadvertently promote higher fossil energy consumption and production (OECD, 2015^[1]). Moreover, the investment climate does not consistently support long-term climate-focused infrastructure. Thus, countries must re-evaluate their policy frameworks to ease the transition to low-carbon economies, understanding that policy misalignments can undermine climate efforts while also recognising that resolving these misalignments can lead to other critical policy objectives such as increased infrastructure investment, more inclusive economic growth, enhanced energy security, and a healthier environment. Currently, existing policies and economic interests primarily favour fossil fuels and carbon-intensive activities, but aligning these policies with a low-carbon economy can drive a broader reform agenda for more sustainable, resilient, and inclusive growth. This includes adopting more progressive tax codes, promoting pro-growth long-term infrastructure investments, and developing energy and transport systems that prioritise cleaner air, better public health, and a diversified energy supply (OECD, 2015^[1]).

A comprehensive policy framework that incorporates cross-cutting policies can enhance the long-term sustainability and resilience of LAC. Climate change is an on-going and evolving issue, and policies need to be adaptable and responsive to changing circumstances. By examining the interlinkages of climate change with other policy areas, can provide the ground to design and address both immediate and long-term challenges, ensuring that climate action is embedded in the region's development agenda.

Securing environmental information and data is critical to help monitor the progress in implementing all policy measures, whether they cover mitigation, adaptation or a cross-cutting policy in the region. Environmental information can maximise the impact of future climate actions and help enhance long-term sustainability.

Cross-cutting policies enable synergies and maximise the impact of climate change actions. By integrating policies on gender equality, for example, the unique vulnerabilities and capacities of women can be considered in climate action plans. This can lead to more inclusive and effective strategies that empower women to contribute to climate solutions and enhance their resilience to climate impacts.

For climate policies to be more effective, all relevant stakeholders should identify and address significant misalignments with the low-carbon transition in their respective portfolios. Additionally, beyond the national level, better alignment of policies across countries can enhance effectiveness and mitigate concerns related to potential distortions of competition. It is important that countries in LAC prioritise the scaling up of sustainable, low-carbon investment and finance. This includes developing taxation measures that go beyond the energy sector alone, fostering widespread low-carbon innovation, promoting climate-friendly international trade practices, and revisiting electricity markets to provide the necessary long-term price signals for investment in high capital cost, low-carbon technologies. Furthermore, a focus on sustainable urban mobility, especially in urban areas, should be a key consideration. Strengthening incentives for sustainable land use to reduce deforestation, restore degraded lands, adopt low-carbon agricultural practices, and enhance carbon sequestration in soils and forests is also important (OECD, 2015^[1]).

This chapter covers the above points, which were highlighted through a series of Regional Policy Dialogues and Workshops, with the participation of LAC and OECD experts. It focuses on cross-cutting policy areas, which are imperative for addressing climate change in a comprehensive manner.

Climate governance and policymaking

Climate change governance is complex, as it involves multiple actors and stakeholders, at the international, national and local levels. Action to address climate change requires co-operation among many governmental and non-governmental actors. Moreover, it requires multilevel governance due to the multilevel causes and impacts, as well as the participation of all social actors to provide an effective response.

Effective policy implementation is essential to achieve climate change mitigation and adaptation policy goals. One of its prerequisites is effective climate change governance, which encompasses interventions that target changes in environmental incentives, knowledge, institutions, decision-making processes and behaviours. It involves regulatory processes, mechanisms, and organisations, through which political actors influence environmental actions and outcomes (Lemos and Agrawal, 2006^[3]).

Understanding the nature of multilevel governance provides a base to strengthen and promote innovation, enhance problem-solving capacity, facilitate learning, and improve decision-making efficiency, while also enabling the creation of adaptable mechanisms tailored to specific contexts, topics, and sectors. Multilevel climate governance ensures coherence between local, national, and international plans and policies, fostering collaboration, innovation, and learning among actors and authorities at various

levels. This approach allows to establish shared objectives, mechanisms, policies and solutions, creating structures for information exchange, decision-making, follow-up, monitoring, and reporting, and ultimately enhancing collaboration between actors at different levels by defining clear roles, relationships, and responsibilities (Cognuck González and Numer, 2020^[4]).

Committing to international partnerships

International partnerships and co-operation play a crucial role in addressing global challenges, particularly in the context of climate change. The LAC region, with its diverse ecosystems and vulnerable populations, is particularly susceptible to the impacts of climate change. Committing to international partnerships and fostering co-operation is of utmost importance for the region to effectively tackle climate policies and ensure a sustainable future.

International partnerships can enhance capacity in the region. By joining forces, countries can pool their resources, expertise, and knowledge to address climate change challenges more effectively. They can share experiences, best practices, and research, enabling each country to learn from others' successes and failures. Knowledge sharing can also foster innovation and promote the adoption of sustainable practices across the region.

The Amazon Cooperation Treaty Organisation (ACTO) provides a platform where countries share commitments to promote and co-ordinate the sustainable development and conservation of the Amazon Rainforest. This intergovernmental organisation was established in 1978 by Bolivia, Brazil, Colombia, Ecuador, Guyana, Peru, Suriname, and Venezuela, which collectively signed the Amazon Cooperation Treaty (ACT), with the primary aim of providing a legal framework that acknowledges the significance and cross-border nature of the Amazon ecosystem. During the most recent Amazon Summit, held in August 2023 in Belém do Pará, attending countries endorsed the Belem Declaration, which, among other key points, acknowledges the invaluable contributions of indigenous peoples, local communities, women, and youth in tropical forest conservation efforts. The declaration reaffirms a shared commitment to forest preservation, the mitigation of deforestation drivers, biodiversity conservation, and the pursuit of an equitable ecological transition. It emphasises the importance of international co-operation as the most potent means to uphold commitments aimed at reducing deforestation and forest degradation and highlights the need for developed countries to fulfil their commitments over climate financing (Government of Brazil, 2023^[5]). The Leticia Pact for the protection of the Amazon Forest, also adopted through the ACTO, and the Escazú Agreement for the fair integration of local communities and indigenous peoples are additional examples of multilateral co-operation whose implementation will allow the comprehensive consolidation of achievements at the national level in the long term.

International partnerships also strengthen countries collective bargaining power. By forming partnerships, countries can present a united block in international climate negotiations, prioritise their joint challenges and advocate their specific needs. International partnerships address current implementation shortcomings of multilateral agreements and instruments, align national and regional priorities with multilateral sustainability goals, and facilitate technology transfer and capacity building. This is achieved through policy dialogues and the exchange of experiences through peer learning. Furthermore, international partnerships can play a crucial role in assisting LAC countries in addressing trade challenges when adapting to new international green norms and regulations (OECD et al., 2022^[6]).

Developing climate change policies at the national level [top-down and bottom-up approaches]

Considerations and benefits of a top-down approach

In some respects, a top-down approach is necessary as it emphasises the need for governments to formulate policies with well-defined targets, establish robust laws, regulations and standards, and develop guidelines for national and sub-national governments. Sectorial institutional arrangements can support relevant stakeholders to reduce greenhouse gas (GHG) emissions, particularly in hard-to-abate-sectors such as cement, steel, and petrochemicals, as well as areas like construction and power generation, while also reducing dependence on fossil fuels. A top-down approach also facilitates engagement from a range of stakeholders and enables seamless integration across policy realms, spanning energy, transport, agriculture, urban planning, and economic development, with due consideration for social and economic consequences, especially among vulnerable communities. High-level inter-ministerial committees and working groups are mechanisms that can foster co-ordination, integrate climate change mitigation and adaptation efforts across different sectors and levels of government, and involve external stakeholders to enhance the inclusiveness of the policy-making process (UNFCCC, 2019^[7]); (OECD, 2021^[8]). Simultaneously, these mechanisms offer a comprehensive means to holistically address environmental concerns, set priority actions, allocate vital financial resources, and implement monitoring, reporting, and evaluation (MRV) systems for assessing policy effectiveness, to enhance accountability and help identify areas for improvement.

Political will and leadership play a crucial role in achieving effective legal and institutional co-ordination in LAC, as well as in progressing towards climate-resilient, low-carbon economies, and heightened climate ambitions. The political leadership within each country must show its dedication to both the development and execution of climate change policies. Bridging the gap between global expectations and political commitments is crucial, along with elevating ambitions in mitigation, adaptation, and climate finance.

Such a top-down approach to climate change mitigation policies could address a number of challenges in LAC. It could: i) set specific emission reduction targets, as well as financial regional commitments; ii) facilitate the development of internal market mechanisms, as well as MRV systems, along with compliance regimes that ensure the achievement of goals and targets; iii) help prevent carbon leakage; and iv) provide countries with the necessary information to develop effective, efficient, and evidence-based policies (Marr, Marett and Wohlgemuth, 2018^[9]); (IEA, 2020^[10]). It is important to note that while both top-down and bottom-up approaches are necessary in addressing the complexity of climate change, a top-down approach is particularly crucial for climate change mitigation policies due to these particularities.

At the same time, countries must acknowledge the importance of balancing top-down initiatives with a bottom-up approach involving local communities (explained in the bottom-up approach section of this chapter). Combining both approaches can lead to more effective and efficient climate policy progress (Hermansen and Sundqvist, 2022^[11]). Limiting consideration to only top-down or bottom-up approaches could result in sub-optimal solutions for the communities most affected by, but least resourced to adapt to climate change (Qamar and Archfield, 2022^[12]). Top-down actions establish overall goals and targets, while bottom-up actions provide specific and concrete solutions to achieve those targets. This combination can result in more effective climate change mitigation policies by providing a legal framework, financial resources, and global or national co-ordination, while empowering local communities to take action and address local needs and priorities.

Box 4.1. Examples of top-down policy approaches and inter-ministerial groups in LAC

Costa Rica's *2019 National Decarbonisation Plan*, which aims to make the country carbon neutral by 2050. The plan includes measures to reduce GHG emissions, such as promoting renewable energy sources, implementing energy efficiency measures, and expanding carbon sequestration efforts.

In 2020, Peru established a High-Level Commission on Climate Change, with the responsibility for proposing climate change mitigation and adaptation actions, aiming to achieve net-zero GHG emissions by 2050 and progressively increasing Peru's NDCs. Additionally, it prepares technical reports and proposes updates to align the country's NDC with global climate objectives. It is led by the President of the Council of Ministers; and it includes ministers from various sectors and government institutions.

The Dominican Republic set the National Council for Climate Change and Clean Development Mechanism in 2008. This government institution co-ordinates and promotes the implementation of mitigation and adaptation policies and actions in the country. It formulates and approves the investment strategy for Clean Development Mechanism projects. The Council is chaired by the President of the Republic; other members are the Ministers of Environment and Natural Resources, Economy, Planning and Development, Agriculture, Foreign Relations, Finance, Industry and Commerce, Public Health and Social Assistance and Tourism. Other stakeholders also attend the meetings, namely the heads of the Central Bank of the Dominican Republic, the National Energy Commission, the Office for the Reorganisation of Transport, the Superintendence of Electricity, the Dominican Corporation of State Electric Companies, the Association of Banks of the Dominican Republic, the Association of Industries of the Dominican Republic, private generators of the national energy sector, the National Council of Private Enterprise and representatives of civil society organisations.

Source : (Government of Costa Rica, 2018^[13]); (Ministry of Environment Peru, n.d.^[14]); (Presidencia de la República Dominicana, n.d.^[15])

Enhancing inclusiveness by taking into consideration local communities and vulnerable groups - bottom-up approach

The bottom-up approach is people-centred, allowing the generation of knowledge based on their understanding of present conditions, risks, and responses. This approach emphasises the importance of individual elements or components that contribute to a holistic system or solution. It focuses on recent and present vulnerability thresholds, studying local responses empirically to define local priorities and concerns. It includes finer geographical scales and examines physical, ecological, and social processes, as well as current sensitivity to weather and climate. Additionally, it evaluates plausible policy options within technological, ecological, or perceived social limits while considering various normative measures of risk to vulnerable populations (Conway et al., 2019^[16]).

Climate change impacts disproportionately affect the poorest and most vulnerable, implying a need for adaptation strategies and disaster risk management strategies to manage existing climate impacts and risks. Sub-national governments play a vital role in transitioning to a climate-neutral economy and fulfilling international environmental commitments. They are also key actors in mitigation and adaptation efforts due to their jurisdiction over crucial policy domains for the climate-neutral transition (OECD, 2022^[17]). A bottom-up approach is important as it enables the development of community-based action, aiming to achieve equity and efficacy in policy implementation within communities (Qamar and Archfield, 2022^[12]). Bottom-up assessments provide a better understanding of specific contexts, the transmission of impacts through socio-economic organisation, local and risks (Conway et al., 2019^[16]).

Developing and implementing a bottom-up approach presents significant challenges, as they tend to be resource-intensive due to their contextual nature. Acquiring sufficient detailed information about complex systems for decision-making is challenging, and generalising findings or lessons to other contexts is problematic. Additionally, there is a lack of awareness and means to acquire innovative solutions, and uncertainty persists regarding physical changes, socio-economic developments, and the costs and benefits associated with different approaches or time scales. To address these challenges, bottom-up processes should aim to increase comparability between different cases and be developed on past successful cases (Box 4.2) (Conway et al., 2019^[16]); (Boteler et al., 2015^[18])).

Box 4.2. Examples of bottom-up approaches in LAC

From 2018 to 2019, Peru initiated a consultation process with indigenous communities to develop regulations for the country's Climate Change Law. This process marked a significant milestone in shaping public policies for climate action in Peru, as it represented the first-ever consultation of its kind in South America for the approval of national regulations. The primary goal was to establish a strong foundation for the development of public policies that incorporate the perspectives of all stakeholders, following an open-door policy and a participatory, inclusive, and decentralised approach. The outcome of this process resulted in 152 agreements, of which 147 have been successfully implemented.

Since 1984, stakeholders in Belize have collaborated to protect the natural environment through an informal arrangement known as co-management. More recently, the government of Belize formalised these efforts with the introduction of a new Protected Areas Co-management Framework. These agreements, which are specific to individual sites, encompass a wide range of responsibilities, including financial accountability, transparency, and data reporting. Additionally, they foster stronger collaboration between the government of Belize and conservation partners. By 2016, Belize had established 48 protected areas under co-management, representing nearly 50% of all protected areas in the country. These initiatives have delivered significant socio-economic benefits to local communities, fostered robust collaborative governance structures at multiple levels, and sustained self-organisation to promote co-management over time. Furthermore, in 2014, the Global Support Initiative for territories and areas conserved by Indigenous Peoples and local communities (ICCA-GSI) was established. This initiative aims to enhance the recognition and effectiveness of biodiversity conservation, sustainable livelihoods, and resilience to climate change in such territories and areas. Phase 1 of ICCA-GSI is currently underway in 26 countries, including Argentina, Belize, Brazil, Colombia, Ecuador, Guatemala, Paraguay, Peru, and Suriname in LAC.

Source: (MINAM, 2022^[19]); (Williams and Tai, 2016^[20]); (SGP, n.d.^[21]); (Government of Belize, 2022^[22])

It is crucial for LAC countries to develop policies that enhance bottom-up approaches for climate change mitigation and adaptation. LAC countries could promote the development of participatory methods and approaches to identify key barriers and opportunities for implementing local strategies and plans. They should establish robust guidelines and evaluation criteria for relevant measures while enhancing policy co-ordination to ensure flexibility and responsiveness to environmental scenarios (Russel et al., 2020^[23]); (Campos et al., 2018^[24]). Capacity building and educational programmes should be developed to inform and involve relevant local stakeholders in the decision-making process (Danish, 1995^[25]).

Regulatory frameworks should combine elements of both approaches with their own advantages and disadvantages. Education plays a key role in relying on communities in developing regions for climate change adaptation. Communities often need basic-level education on possible community-led adaptation frameworks, which could be considered a top-down approach. However, as communities start taking

measures on their own, bottom-up approaches can be favoured. Supporting effective adaptation strategies depends on the local context. As mentioned before, limiting consideration to only top-down or bottom-up approaches could result in sub-optimal solutions for the communities most affected by, but least resourced to adapt to climate change (Qamar and Archfield, 2022^[12]); (Conway et al., 2019^[16]). Blending insights from bottom-up and top-down approaches can generate a more holistic understanding of people's and communities' vulnerabilities to climate risks and their potential responses, encompassing physical, social, and economic aspects. While top-down modelling approaches are effective in understanding how impacts are likely to differ at different temperature levels, a more detailed picture and effective adaptation at any level of temperature stabilisation require contributions from bottom-up approaches. Developing hybrid methods and information is likely to be more useful than relying on a single approach, both in the short and long term, for decision-makers and communities alike (Conway et al., 2019^[16]).

Finally, revisions of such national policy frameworks need to be aligned with countries' international commitments, taking into consideration to timeframes set for achieving goals and targets, the means of implementation, as well as updates in innovation and technology which can help achieve these.

Recommendation

- **Progressively revise and update national regulatory frameworks.** Consider the benefits and challenges of top-down and bottom-up approaches. Updating national laws and regulations aligned with Nationally Determined Contributions (NDCs) updates, as well as the establishment of National Adaptation Plans (NAPs) and Long-Term Strategies (LTS), are essential to achieving global commitments established in the Sustainable Development Goals (SDGs) and the three UN environmental conventions (climate change, biodiversity, and desertification), while maintaining science-based policy decisions.

Comprehensive planning and strategic environmental assessment

The increased utilisation of Strategic Environmental Assessments (SEAs) is crucial for promoting sustainable decision-making in plans, programmes and policies in LAC. SEAs serve as a valuable environmental management instrument that enables countries to incorporate environmental aspects of sustainable development into policy and planning processes. They facilitate the inclusion of mitigation and adaptation to climate change considerations from an integrated perspective in planning and territorial planning, thereby promoting informed and participatory decision-making involving key stakeholders, including the public, private sector, and civil society (MMA, 2022^[26]). SEAs are comprehensive assessments that evaluate the environmental and health effects of policies, plans, and programmes, aiming to shift them towards sustainable outcomes. By integrating environmental and health considerations with economic and social factors, SEAs provide a holistic sustainability assessment and facilitate informed decision-making processes. They are applied at the early stages of decision-making to support the formulation of effective and sustainable policies. SEAs are a logical step that structures the preparation of projects and complements the project-specific focus of Environmental Impact Assessments (EIAs) (OECD, 2006^[27]).

Progress has been made towards the adoption and regulation of SEAs in LAC, although further advancements are necessary. In 2019, Chile, Costa Rica and Uruguay, implemented regulations for the environmental analysis of policies, plans, and programmes related to territorial planning. Additionally, Brazil, Cuba, the Dominican Republic, El Salvador, Guatemala and Venezuela issued government agreements or draft legislation regarding the utilisation of SEAs for policy, plan, and programmes analysis (Massuela Calenga, Montes de Oca Risco and Ulloa Carcassés, 2019^[28]). SEAs serve as a crucial tool for

ensuring the sustainability of policies and programmes. However, the LAC region faces certain challenges in SEA development, including the absence of tailored SEA methodologies for various policy contexts and governance scenarios. Furthermore, there is a need for effective monitoring mechanisms for programs implemented under SEA processes. To advance SEA practices in the region and align them with sustainable criteria, it is crucial to secure the support of decision-makers for the proper adaptation of plans and policies (Rodrigo-Ilarri et al., 2020^[29]).

Some countries in the LAC region have adopted different legal instruments for introducing and applying SEAs. Bolivia, Chile, and Peru have general laws that apply nationwide, while Colombia and Mexico have introduced a national development plan encompassing SEA, and specific legislation applicable at the city level, respectively. On the other hand, Brazil does not have a national framework regulating SEAs, but they are regulated at the state level in Bahia, Minas Gerais, and Sao Paulo (Rodrigo-Ilarri et al., 2020^[29]).

SEAs in LAC could offer several benefits beyond providing information for better decision-making. Through a step-by-step approach, SEAs enhance transparency and communication regarding environmental and health aspects of development, contributing to the overall well-being of the region. SEAs contribute to a high level of environmental protection by supplying planning authorities with suggestions to mitigate negative effects and explore alternative development opportunities. Additionally, SEAs promote sustainable economic development, facilitate the transition to greener economies, enhance planning and programming processes, improve decision-making efficiency, strengthen governance, build public trust, and serve as a valuable tool for climate change adaptation and mitigation. (UNECE, 2016^[30]).

There are challenges in applying SEAs in the LAC region. First, SEAs are not always mandatory, as there might not be political willingness for their wider implementation. Second, there is a lack of institutional and procedural frameworks in applying SEAs, therefore assessments are not always complete on impacts and do not offer alternatives. There is a need for the development of methodologies that offer comprehensible and achievable alternatives, tailored to the regional context. Third, there is a lack of institutional and technical capacity from the side of evaluators. It is crucial for LAC countries to provide training to civil servants, enabling them to develop a system based on strategic thinking rather than solely focusing on legal compliance. This can be achieved through the formulation of detailed guidelines for each stage of the SEA process and by ensuring the disclosure of concepts and legal requirements within each governmental agency (Rodrigo-Ilarri et al., 2020^[29]); (Massuela Calenga, Montes de Oca Risco and Ulloa Carcassés, 2019^[28]).

Co-ordinated regional action for adopting SEA could ensure a higher level of environmental protection in LAC. Once SEA guidelines are developed, it is essential to focus on the technical implementation procedures of these guidelines. Increasing awareness and understanding among policymakers in the region is also vital to ensure the widespread adoption of SEAs. Countries need to revise their legal frameworks, considering the necessary requirements to align SEAs with development planning. Additionally, they can establish regional agreements for knowledge dissemination and exchange, develop harmonised standards and methods tailored to the region's specific conditions, and advance the creation of regional SEA methodologies that include an analysis of alternatives and incorporate simple criteria for determining the most viable alternative. It is also important to propose regional environmental goals related to SEA that are realistic for each country, considering social and economic factors. Moreover, countries should focus on developing SEA capabilities, strengthening inter-institutional communication mechanisms, and establishing networks among all relevant stakeholders. Effective SEA depends on an adaptive and continuous process that emphasises institutional strengthening, governance, and decision-making, rather than simply relying on a linear, technical approach focused solely on impacts (Box 4.3) (Rodrigo-Ilarri et al., 2020^[29]); (OECD, 2006^[31]).

Box 4.3. International Support on the development of SEAs in LAC

SEAs in LAC are gaining traction, supported by multilateral economic and social development organisations such as the World Bank, the UN Economic Commission for Latin America and the Caribbean (UN ECLAC), the Central American Commission on Environment and Development (CCAD), and UNEP. The Initiative for the Integration of the South American Regional Infrastructure (IIRSA), a multinational, multisectoral, and multidisciplinary organisation co-ordinating 12 South American governments, along with multilateral financial institutions like the Inter-American Development Bank (IDB) and the Development Bank of Latin America and the Caribbean (CAF), as well as the OECD, in collaboration with the private sector, is developing a joint programme aiming to promote the integration of transport, energy, tourism, and telecommunications infrastructure among South American countries and includes the use of SEA as a complement to EIA for projects financed by these institutions.

Source : (Massuela Calenga, Montes de Oca Risco and Ulloa Carcassés, 2019^[28])

Recommendation

- **Agree on long-term strategies, plans and programmes.** Increase the use of SEAs to promote sustainable decision-making in plans, programmes and policies. Transparency and periodic strategic evaluation will also contribute to compliance regarding Measurement, Reporting and Verification (MRV) commitments established in the UNFCCC instruments.

Environmental information and monitoring

Collecting environmental data for better policymaking

The lack of environmental information and data gaps undermines the importance of environmental problems and delays a clear understanding of ecological costs associated with projects (Gligo et al., 2020^[32]). This information gap leads to an incomplete comprehension of the nature and scale of climate change issues and the necessary policies for addressing them. Moreover, it affects the assessment of trends and progress in mitigation and adaptation efforts, limiting the capacity to evaluate policies, establish indicators and monitor impacts. In recent years, there has been a growing interest in measuring progress towards sustainable development and improving environmental accounting in developing countries due to the fact that lack of data leads to lost business opportunities, and costly and ineffective public service interventions by governments, especially, for poor and vulnerable households (OECD, 2017^[33]).

Being able to gather relevant, timely, disaggregated, and reliable environmental data allows countries to establish priorities, make informed policy choices to address the climate change challenges, and follow progress towards achieving their international and national climate commitments. The data revolution, characterised by a vast increase in the volume of digital data known as “big data” and more specifically earth observation data, offers governments and national statistical offices the possibility to produce and use such data, to complement and strengthen official statistics, without replacing them. New technology allows for easier, faster, and cheaper data production to make

informed choices on policies and priorities. National statistical offices can play a crucial role in improving accessibility, transforming and analysing data, while adopting open data policies and fostering evidence-based decision making (OECD, 2017^[33]).

There are important methodological and strategic challenges that need to be addressed, such as striking a balance between producing data for global monitoring and for national policy making.

Another issue is to expand statistical information and analysis related to environmental conditions and sustainability indicators at both the country-specific and regional levels, as well as to strengthen monitoring and evaluation capacity. It is crucial for LAC countries to strengthen, expand, and equip the production of environmental statistics with human capabilities and allocate a regular budget for statistical activities. Across the region, a lack of national statistical legal frameworks hinders the definition of roles, targets, and budget allocation, which should align with the United Nations Fundamental Principles of Official Statistics. Moreover, funding allocation for national statistical plans and strategies is inadequate, and the available data is often insufficiently disaggregated, making it impossible for policymakers to track or compare the situations of different population groups or communities (OECD, 2017^[33]). There are still significant differences in the capabilities of statistical systems among countries in the region. Some countries lack the means and infrastructure to produce high-quality data. Therefore, it is necessary for all LAC countries to enhance, expand, and equip the production of environmental statistics with well-trained human resources and a regular budget (OECD, 2017^[33]); (Ocampo, 2021^[34]).

National statistical systems in LAC need to increase its institutional capacity, embrace openness, form partnerships, and promote data use to maximise the benefits of the data revolution.

Governments may establish clear regulatory frameworks defining the scope, objectives, and requirements for environmental statistics. Establishing national registries on mitigation and adaptation measures in LAC requires different policy approaches to support their development, implementation, and maintenance. Well-funded National Statistical Institutes with specialised units focused on environmental statistics are essential (UN ECLAC, 2017^[35]). At the same time, it is important to note that an important amount of information in the region is gathered by non-governmental agencies. These agencies must adopt best practices used by statistical offices. Promoting the use of data for decision-making by engaging with users within and outside the government and leading programmes to increase statistical literacy and use are also vital. Strategic alliances on a regional level, including with international organisations active in the region can be formed to synergise and combine resources from agencies, donors, and countries.

The OECD publication *Environment at a Glance in Latin America and the Caribbean* is a first step in collecting and using available environmental data and information and developing indicators for the region.

Information available covers climate mitigation, with data on GHG emissions, air pollution and energy mix. On climate adaptation, information focuses on climate hazards and climate impacts on biodiversity. Other indicators cover selected climate policies, on climate actions taken, environmentally related taxes, carbon pricing and Official Development Assistance (ODA) for climate and biodiversity (OECD, 2023^[36]). Various international efforts to collect and organise data exist; however, these usually do not cover all LAC countries. A more comprehensive approach, which supports countries' efforts worldwide towards reaching net-zero GHG emissions and a more resilient economy by 2050, would be equally beneficial for LAC countries.

Data collection can be enhanced in the LAC region through collaboration with other international organisations in the region, and national statistical offices.

Support towards national statistical offices and environmental agencies through capacity building and adequate financing can also help countries develop skills to collect data at national and local level and improve capacities in LAC. Such data, combined with other economic statistics, could also promote the System of Environmental Economic Accounting (SEEA) in LAC (Box 4.4). The region still requires detailed and granular environmental data, among others, on matters related to biodiversity inventories, ecosystem mapping, emissions, and air pollution. While SEEA provides a framework for standardising data, the collection of foundational data remains critical and necessary in the region.

Box 4.4. Promoting the System of Environmental Economic Accounting (SEEA) in the LAC region

The SEEA serves as the international statistical standard for natural capital accounting and measuring the relationships between the economy and the environment, recording stocks and flows of environmental assets and their changes. LAC countries are particularly interested in obtaining detailed and effective information on green growth strategies, food security and environmental sustainability, poverty and the environment, climate change, conservation strategies, and environmental planning, among others.

As of 2019, Brazil, Chile, Colombia, Cost Rica, Ecuador, Guatemala, and Mexico had made continuous efforts in developing environmental accounting. Other countries in the region have also made significant progress in environmental accounting, five countries have shown interest, and ten do not have available environmental accounting.

Source: (UN ECLAC, 2019^[37]); (Ocampo, 2021^[34])

Monitoring and evaluation mechanisms

Expanding MRV and Monitoring, Evaluation, and Learning (MEL) systems are critical for tracking mitigation and adaptation actions in LAC. MRV systems can enhance transparency and accountability, as they help countries demonstrate to stakeholders their efforts to reduce GHG emissions and adapt to climate change. MEL systems help assess the effectiveness of mitigation and adaptation actions and therefore can support countries align their policies with their climate objectives and improve the efficiency of their actions. At the same time, differences in climate risks and uncertainties presented by climate change require countries to adapt their interventions when applying monitoring and evaluation standards (Noltze et al., 2021^[38]).

Establishing mechanisms for quality control, verification, and validation of data, and expanding international and regional co-operation for transparent and comparable statistics are also important. The region should aim to expand environmental accounts and comparable information to develop regional environmental accounts. Improving data collection and data quality through a set of commonly used indicators would support further harmonisation which would allow for data validation and transparency (Noltze et al., 2021^[38]). Finally, efforts should be made to adopt information technologies, modernise data collection and dissemination methods, and ensure the broad accessibility of environmental statistics (Guevara Sanginés, Mercado García and Lara Pulido, 2020^[39]).

Several countries in LAC have implemented MRV and MEL systems, but a gap remains with respect to actual data gathering. Mexico has implemented a National MRV System since 2015, which tracks emissions from forest sources, including deforestation and forest degradation, in line with international efforts to reduce emissions. Additionally, in 2022, Mexico launched a platform for states to evaluate their progress in implementing mitigation and adaptation measures (Government of Mexico, 2022^[40]). Colombia has also developed an Environmental Information System (SIAC), an inter-institutional and interdisciplinary system led by the Ministry of Environment. This system gathers diverse environmental information at all levels and across sectors. Moreover, Colombia employs three instruments for environmental data collection: the Forest and Carbon Monitoring System (SMBByC), the National Forest Inventory (IFN), and the National Forest Information System (SNIF) (Gómez, 2017^[41]); (CODS, 2021^[42]). In the Dominican Republic, the National Council for Climate Change and Clean Development Mechanism has developed a National MRV System, which measures, reports, and verifies GHG emissions and climate action at the national level. This system includes the Inventory of Greenhouse Gas Emissions (INGEI) co-

ordinated by the Ministry of Environment and Natural Resources, as well as registries and financing systems co-ordinated by relevant ministries (CNCCMDL, 2020^[43]). The Dominican Republic's National Adaptation Plan emphasises the strengthening of monitoring and evaluation systems, including the improvement of indicators, particularly those related to vulnerability, to inform decision-making (Presidency of the Dominican Republic, 2016^[44]).

Recommendation

- **Collect more and better information for climate change.** Increase standards in non-statistical offices and establish robust co-ordination mechanism to capture existing data. Prioritise the development of new data collection efforts especially in climate change vulnerability and biodiversity. Invest in reliable data collection methods and information technologies while creating accurate indicators to assess the complexity of mitigation and adaptation policies.

Finance for climate action: from international commitments to national measures and private financing

To achieve their emission reduction targets, countries should plan long-term low GHG emission development strategies. Across the LAC region, Argentina, Belize, Chile, Colombia, Costa Rica, Guatemala, Mexico and Uruguay have developed and submitted their national long-term strategies (LTS) to the UNFCCC. Implementing their LTS will require economy-wide transformation, including through infrastructure investments, demand-side adjustments (i.e. energy), as well as appropriate legislation to help reduce emissions and put in place an enabling environment for green investments (Miranda, 2021^[45]). LAC countries also often lack the necessary data, tools, or capacity to implement low GHG emission development strategies and therefore complete their emission reduction estimations (UNFCCC, 2021^[46]). In addition, and most importantly, many LAC countries only marginally address climate change considerations through their national budgets, nor do they align their fiscal policy with their climate goals. This is especially the case for countries whose budget is allocated to carbon-intensive activities; such as exploration and extraction of hydrocarbons and minerals, and fuel trading, instead of allocating budget towards measures to address climate change and promote sustainable development (i.e. renewable energy and energy efficiency, natural disaster prevention etc) (GFLAC, 2021^[47]).

Scaling up finance for climate action, whether international, national, or local, is deemed necessary for countries to reach their international climate commitments, notably the goals of the Paris Agreement. Ramping up of finance is equally important for both mitigation and adaptation action, by reducing GHG emissions and adapt to climate change impacts. LAC countries are especially vulnerable to climate impacts and increased biodiversity loss, and are therefore in need of additional green investments.

To finance the green transition, LAC economies need to increase investment and mobilise resources from both public and private sources. Clean energy and energy efficiency investments will be crucial in achieving a net-zero emissions economy. Mobilising the necessary resources requires implementing the right incentives, phasing out fossil fuel subsidies, and raising additional public revenues through environmental taxes and Emission Trading Systems (ETS). Throughout this process, climate change policies must also ensure a just transition by compensating the most vulnerable. It is important to support sub-national, national, and international development institutions as they play a crucial role in further mobilising public and private resources. Finally, developing regulatory tools such as sustainability

and green bonds standards and taxonomies, as already done in a few LAC countries, will be crucial to maintaining transparency and avoiding greenwashing in green investments (OECD et al., 2022^[6]).

Reforming government support to fossil fuels: A source of domestic finance

Environmentally sustainable fiscal policies and strategies to mobilise resources from both the public and private sectors can be a source of financing the green transition in the LAC region. It is important for LAC governments to gradually eliminate subsidies for fossil fuels and leverage the potential of sources of revenue that support the green transition. Fossil fuel subsidies strain national budgets, contribute to air pollution (with associated health costs), and send signals to the markets that can decrease the competitiveness of low-carbon alternatives (negatively affecting social and environmental goals) (Rentschler and Bazilian, 2017^[48]). Such subsidies often have regressive distributional impacts when not adequately targeted, as they tend to benefit more high-income households with higher fuel and energy consumption. (OECD et al., 2022^[6]). Phasing out fossil fuel subsidies, particularly those benefiting wealthier populations, directly frees up financial resources.

In 2020, fossil fuel consumption subsidies in LAC amounted to USD 12 billion (UN ECLAC, 2022^[49]), mainly concentrated in eight countries: Argentina, Bolivia, Colombia, Ecuador, El Salvador, Mexico, Trinidad and Tobago, and Venezuela. Phasing out these subsidies, while implementing mitigation or compensation measures for vulnerable sectors, could unlock USD 354 billion in fiscal space over the next decade (UN ECLAC, 2022^[49]).

Reforming government support for fossil fuels is a key component of decarbonising the economy and mitigating GHG emissions. Such reforms could free up substantial fiscal resources and improve price signals to expedite the development of lower-carbon alternatives. Since 2016, Argentina, Chile, Colombia, and Mexico have all witnessed an increase in fossil fuel subsidies. In Argentina, Chile, and Colombia, most of the support comes in the form of direct transfers, whereas in Brazil, Costa Rica, and Mexico, support is provided through the tax code in the form of tax expenditures. For many other LAC countries, fossil fuel support is offered through induced transfers, which involve market regulation and price support to maintain lower end-user prices relative to the full cost of supply. The majority of government support is directed towards the production and consumption of petroleum. While LAC countries made progress by reducing government support for fossil fuels by 32% between 2012 and 2019, these subsidies more than doubled in 2021 compared to 2020, primarily due to rising energy prices during the global economic rebound (OECD, 2023^[36]).

Generalised fossil fuel subsidies can directly contribute to urban sprawl, reducing the effectiveness of public transport and resulting in higher emissions from increased use of personal vehicles. Achieving a green and just transition in LAC requires a phased elimination of fossil fuel subsidies, establishment or adjustment of environmental taxes, and promotion of productive diversification to expand the tax base. These measures should be implemented within a policy framework that provides support to the firms and households most vulnerable to energy price volatility (UN ECLAC, 2022^[49]).

It is crucial for LAC countries to understand the real impact of fossil fuel subsidies and support measures on the most vulnerable populations. Direct conditional and unconditional cash transfers have proven to be a more targeted and cost-efficient approach to assist lower-income households. Countries could also conduct ex-ante assessments of the impacts of subsidy phase-outs on different segments of the population to establish compensatory measures that mitigate any negative effects. Instead of abruptly eliminating subsidies, governments should facilitate a systematic transition that includes inter-ministerial co-ordination, gradual building of trust through socialisation, active government and stakeholder participation, clarity on potential winners and losers through macroeconomic modelling exercises, improved targeting of support, and effective communication of changes to all stakeholders (OECD et al., 2022^[6]).

Carbon pricing

Carbon pricing encourages the shift toward low- and zero-carbon options in production and consumption decisions (OECD, 2021^[50]). Enhancing carbon pricing could provide an incentive for private actors to make production or consumption decisions consistent with global goals, to limit climate change and mitigate health damage from local pollution. It could also increase revenues used to finance green public-sector investments and ensure a green and just transition. However, carbon pricing is only one of the tools countries use to organise their mitigation efforts. To ensure that any possible negative effects of carbon pricing measures - such as increasing household costs - are mitigated, each country should balance such instruments with governance, innovation, and green budgeting, thus turning risks to opportunities (OECD et al., 2022^[6]). In this sense, each country should consider a policy mix and not view carbon pricing as the only approach to mitigate GHG emissions.

Carbon markets and carbon pricing instruments are being acknowledged as part of the mechanisms and tools available for countries to achieve their climate mitigation targets and shift towards a net-zero carbon economy. Setting up a carbon pricing mechanism, such as imposing a carbon tax or fee on emissions could send a clear signal towards more sustainable production and consumption patterns. Depending on how governments design such instruments and how they decide to use revenues collected, carbon pricing could also support aligning other policies to climate mitigation targets towards a green transition and a more sustainable and inclusive development (United Nations, 2021^[51])(Box 4.5).

Box 4.5. Costa Rica's Payment for Environmental Services

Costa Rica's Payment for Environmental Services (PES) programme is a pioneering national initiative that compensates landowners for their contributions to carbon storage, hydrological services, and the preservation of biodiversity and landscapes. This programme has received recognition for its remarkable success in reducing deforestation rates in Costa Rica, transforming it from one of the world's highest-deforestation countries to one with net-negative deforestation as of the early 2000s. Between 1997 and 2004, approximately USD 200 million was invested in the PES programme, resulting in the protection of over 460 000 hectares of forests, the establishment of forestry plantations, and the generation of additional income for more than 8 000 forest owners.

Under this programme, landowners receive direct payments for the environmental services their lands provide when they adopt sustainable land-use and forest-management practices. The programme is financed through Costa Rica's fuel tax and water charge, in addition to its own initiatives, such as Certificates of Conservation of Biodiversity, carbon credits, and strategic collaborations with the public and private sectors.

Source : (UNFCCC, 2020^[52]); (CBD, n.d.^[53])

As of 2022, approximately 23% of global emissions are subject to some form of carbon tax or are regulated by an ETS. In LAC, Argentina, Chile, Colombia, Mexico, and Uruguay have established national carbon taxes. Additionally, five states in Mexico have implemented subnational carbon taxes. Mexico stands out as the sole LAC country with an operational ETS, while Brazil, Chile, and Colombia have announced their intentions to develop similar systems in the future. Moreover, in LAC, Colombia is the only country that has implemented a carbon credit mechanism (World Bank, 2023^[54]).

Global revenues from carbon taxes and ETS pricing continued increasing, reaching USD 95 billion in 2023 (World Bank, 2023^[54]). OECD's analysis on effective carbon rates (ECRs) for 44 OECD and G20 countries, show that even though there is some improvement in countries' carbon pricing performance

when comparing 2015 to 2018 data, less than a fifth of the goal to price all emissions at least at EUR 60 per tonne CO₂ was reached in 2018 (OECD, 2021^[50]). Data for OECD member and partner countries in the LAC region indicate that most of them attain an overall score above the 19% average for the 44 countries in the OECD database (Table 4.1). This is rather positive, considering especially that Colombia, Costa Rica, and Mexico mark lowest on CO₂ emissions from energy use (intensities per capita); and Chile marks below OECD average (OECD, 2023^[55]).

Table 4.1. LAC countries mostly attain above average carbon pricing scores

2018 data

Carbon pricing score at EUR 60 per tonne CO ₂						
Country	Road	Off-road	Industry	Agriculture & fisheries	Residential & commercial	All sectors average
MEX	97%	4%	0%	4%	1%	30%
ARG	78%	42%	2%	90%	4%	28%
COL	66%	19%	6%	19%	4%	25%
CHL	75%	0%	1%	0%	0%	17%
BRA	4%	0%	0%	0%	0%	1%
All 44 countries average	80%	25%	5%	38%	10%	19%

Note: This table includes emission from the combustion of biomass in the emission base. OECD data on effective carbon rates cover 44 OECD and G20 countries.

Source: (OECD, 2021^[50])

Several countries in LAC have established carbon taxes. Chile, with over 17 million hectares of forests, aims to achieve carbon neutrality by 2050. In 2022, the government introduced a carbon tax of approximately USD 5 per metric tonne of CO₂ generated by industries and private drivers, with plans to review the tax rate, potentially reaching USD 35 per metric tonne by 2030. Colombia plans to establish a tax reform that encourages the use of clean energy, reduces pollution, and aims to collect about USD 3.4 billion per year. The country's goal is to reduce its emissions by 51% by 2030.

Voluntary carbon markets raised approximately USD 2 billion in revenues and have evolved to become more sophisticated, featuring new investors, financial products, technological platforms, and service providers, setting the stage for significant growth in the next decade. Carbon credit markets have the potential to support the deployment and scaling up of technological removals of CO₂, but this will largely depend on a significant increase in credit prices (World Bank, 2023^[54]).

LAC countries hold enormous potential for the development of carbon credit markets, thanks to their extensive forests and biomes. In 2021, credits generated by the forestry and land-use sector accounted for over 60% of the trading volume and 70% of the market value. Afforestation and reforestation projects represented about 50% of all registered Nature-based Solution (NbS) projects, while avoided deforestation accounted for 19%. Since 2020, LAC has become the second-largest region in terms of volume for carbon credits traded on voluntary markets, trailing only Asia. Additionally, LAC holds the second-largest reserve of unused carbon credits, exceeding 100 million, which could be considered in future negotiations. The volume of credits offered by the region nearly doubled between 2020 and 2021, with more than 80% of LAC credits originating from forestry and land-use projects. Brazil and Peru were the largest producers of carbon credits in the region (CAF, 2022^[56]).

In May 2022, the Brazilian government signed a decree regulating the carbon credit market, intending to export credits to countries and companies that need to offset emissions. The carbon market is expected to bring revenues of up to USD 100 billion to Brazil. A study carried out by the International Chamber of Commerce of Brazil has noted that in the next decade, the country has the potential to supply 5% to 37.5% of the global demand for voluntary carbon credits and up to 22% of the global regulated

market demand. In 2018, Mexico established a voluntary carbon market without mandatory targets (Maciel, 2022^[57]).

Carbon markets present significant environmental integrity risks that countries must address when developing or establishing them. Four key factors influence environmental integrity: accounting for international transfers, the quality of generated units i.e., whether the mechanism ensures that the issuance or transfer of units leads to emission reductions in the transferring country, the ambition and scope of the transferring country's mitigation targets, and incentives or disincentives for future mitigation actions (Schneider and La Hoz Theuer, 2018^[58]). Countries in LAC should carefully consider these factors when creating carbon markets to minimise environmental risks, avoid greenwashing, and mobilise sustainable finance. To ensure environmental integrity, countries must establish clear common goals, set time-bound actions, define measurement baselines, gain consensus on scope, and ensure alignment at various levels. Concerns about the integrity of voluntary carbon markets can damage confidence in global carbon credit markets, making it essential for LAC countries to prioritise supply-side integrity, preventing one credit from equating to less than one real tCO₂e avoided, removed, or reduced, and avoiding double counting of resources and CO₂, while preserving social and environmental objectives. Additionally, they should consider market integrity, reducing information asymmetries, and creating interoperable, liquid, and standardised markets. Lastly, demand-side integrity should be a priority, emphasising mitigation over offset use, high-quality uniquely claimed credits, and transparent reporting (Oueslati, 2023^[59]).

International climate finance and challenges for LAC countries

The mitigation and adaptation efforts needed to address climate change in LAC will require significant financing. Estimates show that the region needs between USD 90 to USD 100 billion per year to achieve its climate goals (Ivanova et al., 2021^[60]). However, many countries in LAC lack the financial capacity to cover these costs, making external financing from both the public and private sectors essential. The Glasgow Pact emphasised the need for developed countries to deliver on the USD 100 billion goal and urged multilateral development banks and other financial institutions to increase both their investments and climate finance effectiveness. Scaling up financial resources requires a clear understanding of each country's vulnerabilities and needs impacted by climate change, as well as simplified and enhanced access to finance (UNFCCC, 2022^[61]).

LAC¹ is the third region in terms of climate finance² provided and mobilised by developed countries between 2016 and 2020. Only an annual average of USD 1.5 billion was received for SIDS, where the Caribbean is the part of the world with more countries with that status (OECD, 2022^[62]). In the Caribbean, per-capita GHG emissions are high, despite the small population size. In this regard, countries like Barbados, Grenada, and Trinidad and Tobago stood out as top emitters in the Caribbean in 2019. When analysing the top 10 countries with the highest total emissions, Argentina, Paraguay and Venezuela feature prominently, reflecting significant per capita emissions levels (OECD et al., 2022^[61]).

International climate finance is not enough to cover all financial needs for LAC countries. In parallel to what is provided and mobilised by bilateral and multilateral donors, private finance is vital in achieving LAC countries' climate commitments. Sustainability-linked debt and equity markets can play a crucial role in mobilising private finance that can support climate actions (Ivanova et al., 2021^[60]).

To achieve the temperature and adaptation goals of the Paris Agreement, it is crucial for LAC countries to develop robust climate policies accompanied by investment policy reforms that remove barriers to attracting private finance and investment, stimulate market growth, and mitigate regulatory risks to enable the development of bankable projects (OECD/The World Bank/UN Environment, 2018^[63]). These efforts should be supported by capacity-building, especially for transformative fiscal policy, and by enhancing LAC countries' advocacy for increased financial support and external resources for their conditional NDCs.

International climate finance provided to and mobilised for LAC

Most of the climate finance provided and mobilised in developing countries by developed countries between 2013 and 2020 was public (bilateral and multilateral), although private finance mobilised by these donors increased by about 30% from 2016 to 2020 globally (OECD, 2022^[62]). Considering the trillions needed globally to meet climate and development objectives by 2030 development banks must not only mobilise domestic and foreign private sector capital but also support governments in project planning, development, and deployment (OECD/The World Bank/UN Environment, 2018^[63]); (Prasad et al., 2022^[64]).

In the LAC region, public climate finance provided between 2016 and 2020 was by a large majority loans (81%) and a smaller part grants (17%), while the share of equity was only at 2% (OECD, 2022^[65]). Other analysis shows there is variation in loan access, with the majority of such financing going to Brazil, Mexico, and Colombia (The Dialogue, 2023^[66]). LAC countries also benefited from 26% of the total private climate finance mobilised during the period 2016-20 (OECD, 2022^[65]).

In LAC, funding is predominantly directed towards mitigation rather than adaptation, even though LAC countries are prioritising and accelerating adaptation projects related to water, agriculture, infrastructure, and NbS. The Caribbean, in particular, requires significant financing for adaptation projects due to vulnerabilities to climate change and extreme weather events. Adaptation and resilience prioritisation could also contribute towards cost-effective emissions abatement, considering the region's vulnerability to climate risks (Miranda, 2021^[45]).

Between 2016 and 2020, Small Island Developing States (SIDS) accounted for 2% of the total climate finance provided and mobilised (OECD, 2022^[62]). Moreover, during this period, nearly 48% of the climate finance allocated to SIDS was directed towards adaptation efforts. Additionally, 12% of the total climate finance allocated to SIDS was earmarked for cross-cutting objectives. Over these five years, a cumulative total of USD 3.6 billion was allocated and mobilised for adaptation efforts in SIDS, averaging USD 0.7 billion annually (OECD, 2022^[65]). The Caribbean region, which hosts the largest number of SIDS, faces significant vulnerability to biodiversity loss and climate change, driven in part by their limited economic alternatives. This vulnerability is further compounded by factors such as small population sizes, remoteness from international markets, high transport costs, susceptibility to external economic shocks, and fragile land and marine ecosystems. Additionally, the slow onset of events like sea-level rise poses an existential threat to these small island communities, necessitating drastic measures like population relocation, with all the associated challenges. These challenges are exacerbated by limited institutional capacity, scarce financial resources, and a high degree of susceptibility to systemic shocks.

Multilateral banks have made ambitious commitments to scale up climate action and are intensifying their efforts to increase green and climate finance activities. CAF announced during COP26 that it will increase financing for green projects from 24% in 2020 to 40% in 2026, allocating USD 25 billion over the next five years to promote green growth (CAF, 2021^[67]). The Green Climate Fund (GCF) approved approximately USD 3 billion for 32 climate projects worldwide in 2021, surpassing the previous year's record of USD 2.1 billion. The GCF's portfolio reached USD 10 billion by the end of 2021, with over USD 37 billion in co-financing and 190 projects in 127 countries (GCF, 2021^[68]). The Global Environment Facility (GEF) invested a quarter of its portfolio to the LAC region in 2022 (GEF, 2022^[69]). The IDB approved nearly USD 4.5 billion for climate-related operations in 2021, accounting for 30% of its total annual approvals (IDB, 2022^[70]). The World Bank's International Bank for Reconstruction and Development (IBRD) and the International Development Association (IDA) have provided over USD 5.8 billion in lending to support climate actions in LAC countries (World Bank, 2021^[71]).

Mobilising private finance for climate action

Between 2012 and 2021, Argentina, Brazil, Colombia, Ecuador, and Mexico ranked among the top 20 beneficiary countries, collectively receiving over USD 40 billion in mobilised private climate-related development finance. The region received 17% of total mobilised private finance, equivalent to USD 8.5 billion, from 2018 to 2020 (OECD, 2023^[72]). LAC countries need to secure significant investments from both public and private sources and innovate their financial instruments and strategies. Implementing environmentally related taxes can generate additional revenues, incentivise sustainable behaviour, and expedite the shift towards green practices. At the same time, the region could scale up the use of debt tools, including green, social, sustainable, and sustainability-linked (GSSS) bonds, explore debt-for-nature swaps, and leverage catastrophe (CAT) bonds and natural disaster clauses.

Many countries in LAC have high levels of external debt, making resources for environmental protection limited. According to the World Bank, Caribbean countries had external debt stocks of approximately 165% of exports of goods and services in 2013, while Mesoamerica had 130% and South America had just over 100%. In this sense, resources targeting environmental protection are usually limited (UNEP, 2017^[73]). In terms of Green, Social, and Sustainability (GSS) debt issuance in LAC, the market has more than doubled from USD 13.6 billion in 2019 to USD 30.2 billion in early 2021. Social and sustainability bond issuance reached USD 18.3 billion in 2019. Total GSS issuance in 2020 amounted to USD 16.3 billion, reaching USD 12.5 billion by September 2021. Green bonds represent the largest share in the LAC market, accounting for 62% of GSS issuance. Chile (USD 17.8 billion) and Brazil (USD 11.7 billion) are the largest issuers of GSS bonds, with Mexico in third place at USD 7.8 billion. These top three countries make up 77% of all GSS issuance in the LAC region. The number of green bond issuances in LAC increased from 8 in 2019 to 12, with the addition of Barbados, Bermuda, Ecuador, and Panama (Climate Bonds Initiative, 2021^[74]).

Several sustainable finance mechanisms and instruments are incorporating concerns from shareholders, investors, and consumers, such as green and sustainability debt and equity products. For example, Panama Stock Exchange introduced voluntary reporting and disclosure guidelines for ESG factors in 2019, while Colombia issued its Green Bonds and Best Practices Guide in 2020 to promote the development of a bond market in the country. The Dominican Republic also released Green Bond Guidelines to standardise good practices for issuers. In the LAC region, sovereign green bonds primarily focus on energy projects, followed by transport, water, and land use (Climate Bonds Initiative, 2021^[74]).

Blended finance offers a potential solution to support LAC countries on their way towards a more sustainable transition. Blended finance can help address the risk-return and low bankability of investments by combining public and private financing and structuring various financial instruments (direct investments, credit lines, bonds, grants, etc.). It can facilitate private investments in project financing structures, particularly in cases of high financial or commercial risk, by mitigating the risk of default that often discourages investors (OECD, 2022^[75]).

At the same time blended finance has been slow to flow into the LAC region, primarily due to the absence of policies and frameworks guiding the engagement of developing countries, including Least Developed Countries (LDCs) and SIDS, in attracting, deploying, and scaling blended finance. Additionally, implementation and capacity challenges have hindered the scaling of blended finance in developing countries. Blended finance provides an opportunity to align local financing priorities with local development goals, addressing underfunded social sectors in many developing countries, which are structural obstacles to achieving the SDGs. Therefore, it is essential to offer further insights and guidance on various aspects, including macroeconomic fundamentals, governance, regulatory frameworks, infrastructure and market characteristics. At an operational level, addressing contract risks, streamlining pipeline origination and project preparation, reducing high transaction costs resulting from small deal sizes, exploring untested business models, and filling information and data gaps are all critical steps required to scale blended finance, especially in the context of social sectors (OECD, 2022^[76]).

In addition to climate finance, the financial sector also needs to support businesses and sectors in adopting cleaner technologies, improving energy efficiency, and transforming the economy. Policymakers have several tools at their disposal to ensure actionable and credible targets, supporting private sector investments with positive environmental impacts. The OECD Guidance on Transition Finance aims to promote the mainstreaming of credible transition planning across public and private entities, as well as the inclusion of meaningful assessment of transition plans in the considerations of financial market participants. By addressing challenges and barriers such as unclear standards and definitions, difficulties in measuring sustainability performance, and the risk of greenwashing, the Guidance proposes elements of credible corporate climate transition plans. These elements can support the growth of the transition finance market while ensuring environmental integrity (OECD, 2022^[77]).

Sustainable finance or green taxonomies can support meeting the financial needs necessary to reach climate change commitments and achieve targets. Green taxonomies, which are comprehensive classification systems, also help investors in identifying environmentally sustainable activities and invest in sustainable infrastructure, while preventing greenwashing. Furthermore, by classifying economic activities as green or sustainable, companies may also evaluate the “greenness” of their own business activities and practices.

LAC countries are slowly developing official definitions on sustainable finance linked to Paris Agreement goals; with Colombia being the first country in the region to implement a Green Taxonomy in 2022. The Colombian Green Taxonomy covers two pillars. The first pillar focuses on several sectors, such as energy, construction, transport, manufacturing etc, with an objective to achieve climate mitigation. The second pillar focuses on land use in the livestock, agriculture and forestry sectors. The first pillar is also governed by the “Do No Significant Harm” (DNSH) principle, arguing that any assets to be considered green should not only contribute to climate mitigation, but also avoid harming environmental objectives of climate adaptation. The second pillar, even though it does not follow the DNSH principle, sets adaptation as one of the five environmental objectives. However, implementing the green taxonomies may be hampered by several challenges, such as lack of environmental data and information at the company level, as well as limitations in understanding the scope and reasoning behind implementation (Prada Hernández et al., 2023^[78]).

In March 2023 Mexico also presented its Sustainable Taxonomy, which addresses climate change; gender equality; and access to basic services at the local level. Climate adaptation, as well as ecosystems and biodiversity conservation are two of the six environmental objectives set, while the taxonomy also sets social objectives, including access to basic services in municipalities. It covers six sectors: agriculture and forestry; energy; manufacturing; transport; construction; and waste management (Souza and Gasparotto, 2023^[79]).

Other LAC countries, such as Chile, are developing their own Green Taxonomies. Chile’s objectives are both climate mitigation and adaptation and resilience; and it will cover “brown” sectors such as mining. It is being considered to include minimum social safeguards and later develop social metrics. Adding social objectives when developing Green Taxonomies allows for issues such as social cohesion, local economic development, and local vulnerabilities to be taken into consideration, under the overall target of sustainability (Merle, Gondjian and Gong, 2021^[80]). Introducing, also, considerations of local needs and specificities and linking the taxonomies to regional and local adaptation plans, could help educate the local markets and encourage them to develop green products (CBI, 2021^[81]).

Developing a common regional framework for taxonomies in the LAC region would further provide clarity and transparency, facilitating the comparability and interoperability between the LAC region and other regions that are introducing their own frameworks. It would also support increasing climate flows in sustainable projects (UNDP, 2022^[82]). The recently released Common Framework for Sustainable Finance Taxonomies for LAC countries by UNEP is a guidance document for those countries and stakeholders in the region that are in the process of developing taxonomies. Based on similar principles,

taxonomies following this Common Framework would guarantee some level of interoperability, therefore could help pave the way towards the development of a regional taxonomy with clear prioritisation of economic sectors and activities, as well as metrics system to define screening criteria (UNEP, 2023^[83]).

Recommendation

- **Adopt green fiscal policies to generate domestic public resources to support climate action and carbon mitigation approaches.** Reform, redirect and progressively eliminate fossil fuel subsidies and establish carbon pricing through taxes and levies, which can also incentivise the net zero transition.
- **Align and mobilise private investment support through innovative financing strategies and instruments,** such as blended finance aligned with Environmental, Social and Governance (ESG) objectives, innovative debt instruments, and by developing regional and national green taxonomies for mitigation and adaptation projects. These should respond to local priorities and concerns and be coherent with public and private investment opportunities.

Technology innovation and transfer to enhance green development.

Technology transfer to developing countries has been a key mandate of the UNFCCC. It encompasses the transfer of both technology and know-how, which includes capacity building. This transfer aims to address technical, legal, and administrative barriers, establish sound economic policies, and promote the implementation of climate-friendly technologies (World Bank, 2007^[84]). The term refers to technology deployment for climate change mitigation and adaptation, including infrastructure, operations, manufacturing, and innovation. It also covers the development of institutional and policy capabilities to facilitate technology diffusion and co-operation within and between countries (Garrett and Moarif, 2018^[85]). The role of technological innovation and technology transfer in achieving environmental objectives has been widely recognised and emphasised during international climate negotiations (COP UNFCCC). Moreover, it can facilitate productive transformation towards less resource-intensive sectors, by attracting greener investments and by joining higher-value global supply chains with environmental and sustainability criteria (OECD et al., 2022^[6]).

Productivity and competitiveness in the LAC region could improve with technology transfer and innovation. Innovative technologies are necessary to support infrastructure's resilience to climate change. This is necessary both for the local communities and population, but also for productive economic sectors which need to adapt to climate change. Globally, countries are introducing policy measures tackling issues such as droughts, rising sea levels, flooding, and soil degradation, which have an effect on water supplies, food availability and security, energy supply, and buildings' resilience. On the other hand, past analysis by the OECD has shown that the main determinants of international climate change mitigation technology transfer, measured by patent activity, include geographic distance and level of trade between countries, existing human capital in recipient countries, stringency or flexibility in national environmental policies, and level of investment for in-house technology development in medium- and large-sized industrial facilities (Hašičič et al., 2010^[86]). LAC countries grapple with low productivity, economic dependence on low-value-added sectors, and limited economic diversification, hindering competitiveness and overall development. Innovation holds the potential to overcome these challenges and bridge productivity gaps resulting from high informality, low skill levels, and limited technology adoption (OECD/CAF, 2019^[87]).

Patents and trademarks often serve as indicators of technological and non-technological innovation, respectively. LAC countries may not be among the major contributors to innovation, but the region's average follows the global trend. In 2019, environment-related patents in LAC countries

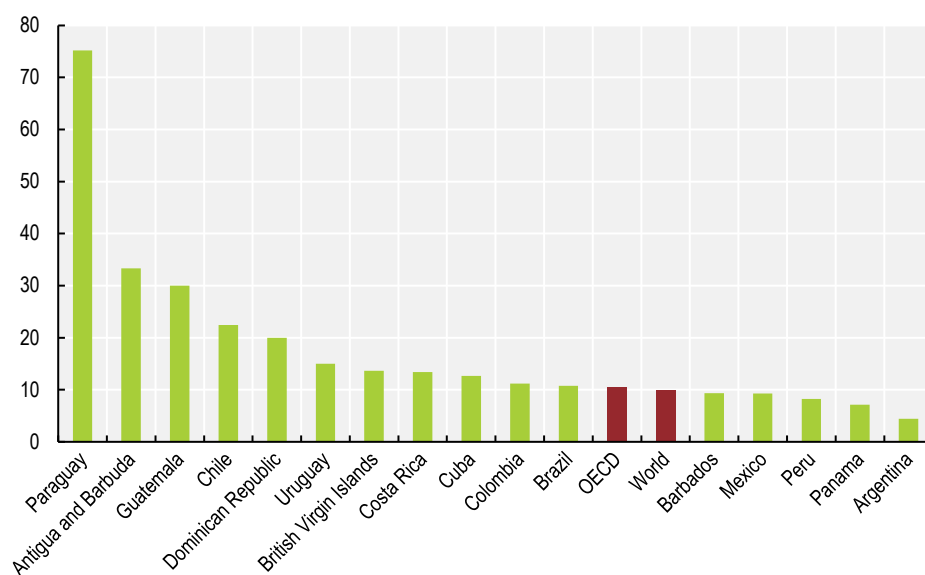
accounted, on average, for about 15% of total patents, compared to just above 11% globally and an OECD average of about 4.5%. Nevertheless, this figure is driven by a few countries such as Antigua and Barbuda, Guatemala, and Paraguay, which demonstrate a high percentage of environment-related patents in total patents, due to the very low number of total patents (Figure 4.1). On the contrary, the LAC countries with the highest number of environment-related patents in the region are Brazil, Chile, and Mexico (OECD, 2023^[55]).

Even though climate change technology innovation and transfer may benefit countries' transformation, not all LAC countries have the same capacity or framework to absorb such technology. Enhancing this capacity requires the implementation of public policies which can accelerate innovation, promote international co-operation, and ensure compliance with environmental and sustainability criteria. Based on comparative analysis by the IDB, examining "[Climate Technology Transfer Mechanisms and Networks in Latin America and the Caribbean](#)", the following points could be highlighted to facilitate climate technology transfer:

- R&D national strategies and technological roadmaps for specific technologies must be deployed.
- Increasing the levels of investment in R&D and innovation is necessary to implement R&D strategies.
- Low-price imports jeopardise the development of local innovative products, while a strong local manufacturing sector supports the adoption and diffusion of new green technology products.
- An enabling environment can support the development of local green technology or allow for technology transfer, i.e., a set of support measures such as investment subsidies, subsidised financing, financial guarantees, tax benefits, access and connection to infrastructure networks.

Figure 4.1. Percentage of environment-related patents over all patents

2019 data for LAC countries



Note: Environmental innovation measured using patent data. Data based on inventor's country of residence.

Source: (OECD, 2023^[88])

Countries would need to clearly identify their technology needs. The Technology Needs Assessment (TNA), introduced since COP7, allows countries to both prioritise technologies based on their social, economic and environmental impacts, as well as their climate change mitigation or adaptation potential. Developing countries tend, however, to prioritise technology that is already mature, meaning technology that is low-cost, easily accessible, and often already in the country. On the contrary, technologies that are linked to niche markets, such as electric vehicles, carbon capture, hydrogen fuel cells etc, are very rarely deployed beyond a certain geographical region (UNEP, 2022^[89]).

There are various mechanisms and networks that promote climate technology development and transfer from developed to developing countries. International development co-operation provides leverage for addressing the lack of finance, capacity, and policy support in facilitating climate technology transfer (UNEP, 2022^[89]). International organisations are also developing mechanisms and instruments to enable technology transfer. The UNEP Climate Technology Centre and Network offer technical assistance to developing countries, aiming to provide access to knowledge on climate technologies and foster collaboration among climate technology stakeholders. In the LAC region, UNEP has launched regional programmes and projects to support countries' responses to climate change. The Regional Getaway for Technology Transfer and Climate Change Action for Latin America and the Caribbean (REGATTA) strengthens capacity and knowledge sharing of climate change technologies for both mitigation and adaptation in the region (REGATTA, n.d.^[90]). MOVE is an initiative that supports the transition to electric mobility in the region by preparing local actors to evaluate new technologies and identify funding opportunities (MOVE, n.d.^[91]). The OECD Clean Energy Finance and Investment Mobilisation (CEFIM) programme supported Colombia's efforts to attract finance and investment in clean energy, a sector highly dependable on green innovation and technology. Mobilising finance and investment for bioenergy in Colombia should be complemented by building awareness in the national energy market and enabling capacity to implement such projects (OECD, 2022^[92]).

Recommendation

- **Support industrial development and promote innovation.** Undertake a green industrialisation pathway by promoting local production of environmentally friendly clean technologies and innovation. This may include manufacturing electric vehicles, wind turbines, batteries, and solar heaters. It could support the region to reduce public debt, boost economic resilience, create job opportunities, and promote more equitable income distribution.

Green jobs supporting the transition to a low-carbon economy

Enhancing the green transition in the LAC region is expected to have several effects in the labour market. The shift to a low-carbon economy will mean changes in economic sectors that score high at emitting GHG, with a possible phasing-out of certain activities; as well as an enforcement of economic activities that are more “green”, as renewable energy, sustainable agriculture and tourism. At the same time, climate change phenomena, such as rising temperatures, are expected to impact productivity levels, equivalent to a loss of 2.5 million full-time jobs in the LAC region by 2030 (ILO, 2019^[93]).

The green transition in LAC is expected to add over 10% more net jobs in the LAC region. Not all of these will be green jobs, nor will they be jobs in green economic activities (OECD et al., 2022^[6]) (Box 4.6). As extensively analysed over the (OECD et al., 2022^[6]) Latin America Economic Outlook 2022, to guarantee that the jobs created will be green and will serve in preserving or restoring the environment, some prerequisites need to be met:

- Securing financing and supporting public and private investments towards green innovation, technologies and economic activities, so that new employment will be created.
- Offsetting socioeconomic effects of the transition to a low-carbon economy and the potential job losses, by introducing well-designed active labour market policies, such as training, re-skilling and up-skilling to new or existing workers, respectively; and guaranteeing continuity in social protection coverage.
- Expanding social protection systems to minimise any income losses, attract more workers in the formal economy, and reduce any inequalities that often affect the most vulnerable.

Box 4.6. What are green jobs?

The International Labour Organisation (ILO) defines green jobs as “decent jobs that contribute to preserve or restore the environment, be they in traditional sectors such as manufacturing and construction, or in new, emerging green sectors such as renewable energy and energy efficiency”. Green jobs help improve energy and raw materials efficiency; reduce GHG emissions; decrease waste and pollution; protect and restore ecosystems; and support climate change adaptation.

Source: (ILO, n.d.^[94])

Fostering job creation in new green technologies through a tailored mix of innovation and employment incentives, training schemes and placement services, could help innovative companies emerging in green industries to create higher-paying formal jobs. By applying well-designed social and labour policies, innovative companies emerging in green industries could create higher-paying formal jobs. Active labour market policies could focus on protecting workers against job losses linked to the green transformation, through designed and co-ordinated social assistance measures, individual unemployment accounts and policies that enable the most vulnerable workers affected by the transition to a green economy. Targeted up-skilling, re-skilling and re-training is necessary to tackle any short- and medium-term effects of the green transition. In parallel, access to such training should also be available for new workers wanting to enter the workforce, such as women (OECD, 2022^[95]). It would also be necessary to ensure sustainable financing of these measures, so as to create a minimum threshold of social protection for those with no access to unemployment benefits or assistance; and to guarantee universal access to essential health care and a targeted basic income (OECD et al., 2022^[6]).

The transition to a green economy could also affect the levels of informality in the labour market in the LAC region. LAC is one of the regions where informality thrives (OECD/ILO, 2019^[96]). The green transition could on the one hand create more formal jobs; especially as new productive companies related to green technologies emerge. On the other hand, informality could also increase in some sectors, such as in retrofitting buildings or in brown supply chains of green sectors (Saget, Vogt-Schilb and Luu, 2020^[97]). Training programmes that can help unemployed people gain employment in environmental sectors and green occupations, combined with wage subsidies and the opportunity to gain formal experience is a way of reducing informality during the green transition. Initiatives strengthening self-employment and entrepreneurship programmes through active labour market policies could also help formalise micro-enterprises negatively affected by the transition (OECD et al., 2022^[6]).

Finally, policies introduced should also address any environmental health risks deriving from existing or new economic activities, by expanding general health coverage and/or targeting the people most at risk, such as those without adequate sanitation or access to good-quality water or air (OECD et al., 2022^[6]).

Recommendation

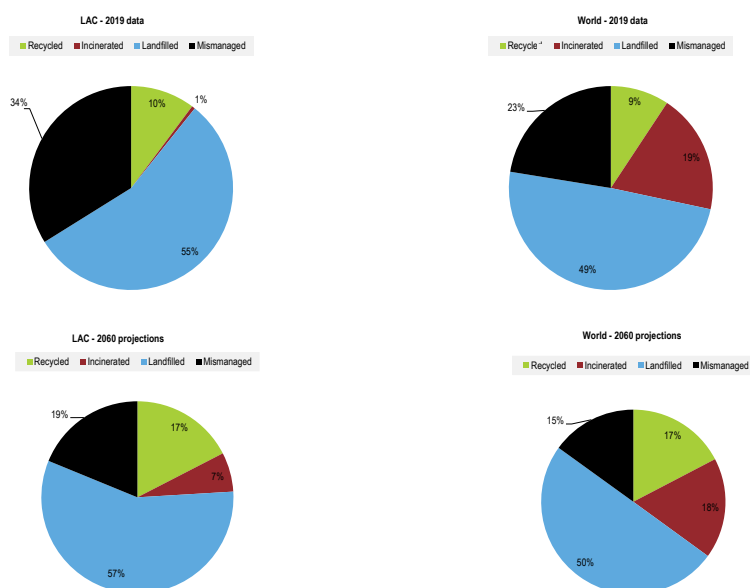
- **Establish investment and policy frameworks that promote the creation of green jobs.** Ensure the implementation of active labour market policies, relying on effective social dialogue, to facilitate the transition of workers into new, formal, high-quality green jobs and strengthen the social security system to support both workers and entrepreneurs in transitioning to a low-carbon economy.

Waste Management and Circular Economy

Implementing efficient waste management policies and infrastructure in LAC can unlock green development, create jobs, and curb methane emissions. LAC generates almost 1 kg of waste per capita daily, with 85% of the waste being collected in urban areas. Waste collection coverage varies across countries, ranging from 95% in cities in Uruguay and Colombia to 12% in Port au Prince in Haiti. Developing and improving the waste and recycling sector in LAC could promote green development, create approximately 450 000 jobs, and increase the region's GDP by 0.35% if a municipal recycling rate equivalent to that of Germany is achieved (UN ECLAC, 2021^[98]). Currently, the region produces 541 000 tonnes of municipal waste per day, with an estimated 25% increase by 2050. Many cities in the region still rely on open dumps, leading to significant methane emissions. Open dumpsites receive 145 000 tonnes of waste daily, including 17 000 tonnes of plastic waste. Approximately 50% of municipal waste in the region is organic, and 90% of waste is not utilised (UN Environment, 2018^[99]). LAC countries could implement more effective and efficient waste management policies such as waste separation at source and organic waste treatment, building adequate waste collection and treatment infrastructure, and promotion of waste recycling practices (UN Environment, 2018^[99]). These measures can significantly reduce methane emissions and enhance the quality of life in cities.

Addressing plastic pollution is crucial, considering its impact on climate change and the environment. Plastic pollution is a massive source of waste and an accelerator to climate change. Plastics generate GHG emissions throughout their lifecycle, with about 90% of GHG emissions from plastics being attributed to the production and conversion stage (OECD, 2022^[100]). Furthermore, LAC's beaches have some of the highest levels of litter density, with almost 90% of plastics mismanaged or sent to landfills, and only 10% being recycled in 2019. The region's plastic waste generation is projected to double by 2060 (Figure 4.2). It is estimated that LAC could almost entirely prevent plastic leakages into its aquatic environments by 2060 at an annual cost of 0.74% of its GDP (OECD et al., 2022^[6]). Plastic-specific policies must target different lifecycle stages, these should include fiscal instruments discouraging plastic production and use, product design improvements to enhance durability and promote reuse and repair, measures to increase recycling rates, and investments in waste management infrastructure and litter collection (OECD, 2022^[100]).

Figure 4.2. Plastic waste by end-of-life fate in 2019 and projections for 2060



Note: Latin America and the Caribbean (LAC) figure covers both OECD and non-OECD countries in the LAC region.

Source: (OECD, 2023^[101]), "Global Plastics Outlook: Plastic waste by end-of-life fate and region - projections", OECD Environment Statistics (database), <https://doi.org/10.1787/e4e8c086-en> (accessed on 26 September 2023).

LAC countries should design policies considering the entire life cycle of products, including production, consumption, waste management, and recycling. Investments from the public and private sectors will be greatly needed, as well as an increase in capacity building, innovation, and technology transfer. Transitioning to the circular economy also requires co-ordination of LAC countries' national and international efforts. Harmonising standards for circular economy goods, reducing tariffs and non-tariff barriers, and enhancing the granularity of international trade classifications can help firms, countries, and regional actors adopt sustainable practices (OECD et al., 2022^[6]).

LAC countries must strengthen their legal frameworks and implement Extended Producer Responsibility (EPR) schemes to effectively manage hazardous waste and promote recycling. EPRs aim to hold producers accountable for the environmental impacts of their products throughout the product chain, promoting pollution reduction and material circularity. EPR schemes, based on the polluter-pays principle, establish collective Producer Responsibility Organisations (PRO) to manage producer contributions, eliminating the need for additional state budgetary resources (UNEP, 2022^[102]). Until 2017, 11 LAC countries had developed solid waste management regulations with some form of EPR schemes (Quispe, 2017^[103]). However, there is a lack of formal regulations and overall implementation of legal frameworks. Developing robust legal regulations that adopt a whole-life-cycle approach and enhance EPR policies is vital.

Countries like Argentina, Brazil, Chile, Ecuador, Mexico, and Peru have mandated packaging producers and importers to declare material volumes through Pollutant Release and Transfer Registers. For instance, in 2021 Chile published a decree introducing new EPR packaging requirements, including obligatory recycling rates starting in September 2023. Chile is also developing guidelines for the Container and Packaging Management System (SIGENEM) in collaboration with 25 important

consumption product companies (Langhill, 2021^[104]). In 2020, Colombia approved a law establishing EPR for glass, metal, aluminium, paper, and cardboard packaging. Packers, fillers, and importers of packaged products are required to submit waste management plans, and since 2021, producers must meet reuse targets for waste packaging, with geographic coverage targets starting in 2022 (Langhill, 2021^[104]). Brazil has a Sectorial Agreement on Reverse Logistics for General Packaging that requires information provision to consumers about suitable ways to return packaging materials and facilitate their recycling, invest in waste management co-operatives, and legal agreements with retailers and waste management systems to establish voluntary collection points (Langhill, 2021^[104]).

The transition towards a resource efficient, circular economy can help improve material use, and environmental, economic and social outcomes. Overcoming challenges related to resource management and promoting the sustainable use of materials are necessary steps towards the transition from a linear to a circular economy. In parallel, introducing circular economy policies requires a transformation of existing policies and sectors, to guarantee that synergies and trade-offs are taken into consideration (Box 4.7).

Box 4.7. Synergies and trade-offs when applying circular economy policies.

Countries around the globe are introducing resource-efficient and circular economy (RE-CE) policies, which include economic, environmental and social objectives, which may create synergies or carry trade-offs, affecting the implementation of the policies.

The OECD has grouped these synergies and trade-offs in four key objectives:

1. **Reducing primary material extraction and increasing resource efficiency**, through taxation on primary materials use, and subsidies to support the secondary materials sector.
2. **Strengthening markets for secondary materials and promoting materials circularity**, through the implementation of coherent policies that lead to proper incentive mechanisms, as well as the presence of well-functioning markets for secondary materials.
3. **Managing waste to minimise associated environmental impacts**, by aligning waste management policies with incentives to primarily reduce, re-use and recycle materials, before turning to incineration or landfilling.
4. **Building economic resilience and reducing geopolitical supply risks through materials circularity**, strong domestic recycling and secondary sectors, in line with trade agreements.

Source: (Livingstone et al., 2022^[105])

Costa Rica has one of the lowest levels of municipal waste generated per capita, among the OECD members. Nevertheless, municipal waste generation has gradually increased since 2016, and the country's landfills still receive 80% of all municipal waste. While the country has made progress in closing illegal dumpsites, waste disposal in inappropriate sites remains considerable, especially in rural regions. There has been progress in waste management but local governments face difficulties in guaranteeing selective, accessible, regular and efficient waste collection and treatment services. Costa Rica needs to increase waste collection and recovery, improve sorting at source, and invest in modern waste treatment infrastructure to divert waste from landfills, curbing GHG emissions from the waste sector, which make for 15% of national emissions. Waste collection fees could be better designed to cover the costs of the service and encourage waste sorting. Costa Rica should also include major waste streams – such as organic, packaging and construction and demolition waste – into EPR schemes and set mandatory recovery targets. Incentives for the use of recovered and recycled materials as inputs into production processes are needed to develop a domestic market, as well as an integrated and publicly

accessible digital platform to provide data on waste collection and treatment, as well as quantities of materials disposed and viable for recycling. Currently, the government has been updating the National Waste Management Plan and developing the National Circular Economy Strategy, as well as promoting the principles of the circular economy in local governments and businesses through technical guidelines, organisational standards, and training. In 2022, more than 40 municipalities were trained on facilitating the transition to a circular economy for local governments (OECD, 2023^[106]).

The circular economy is a fundamental step towards achieving climate targets as it offers a systemic approach to reducing emissions and increasing resilience to the effects of climate change. It also promotes the creation of more liveable cities, the distribution of value throughout the economy, and stimulates innovation. The circular economy is built on three important principles: i) designing out waste and pollution, ii) keeping products and materials in use, and iii) regenerating natural systems (Ellen Macarthur Foundation, 2019^[107]). These models provide an opportunity to restore and maintain the usefulness of products, components, and materials, preserving their value through changes in production models, redesigned processes and products, as well as the creation of new business models and added value. LAC countries can take several actions to support the circular economy. These include formalising recyclers, applying EPR criteria, and improving collection, treatment, and final disposal systems. Promotion of reuse should be central, as currently, only 4% of urban waste is recycled on average in LAC, which contrasts with the approximately 20% recycling rate in developed countries (UN ECLAC, 2021^[98]). At the same time, it is essential for countries to develop national strategies or roadmaps that define guidelines and targets with short, medium, and long-term visions. In LAC, eight countries have already revised their circular economy roadmaps, namely Argentina, Brazil, Chile, Colombia, Costa Rica, Ecuador, Uruguay, and Peru (Samaniego et al., 2022^[108]).

Recommendation

- **Advance with sectoral roadmaps.** Achieving a circular economy requires a state policy on Extended Producer Responsibility (EPR) and modification of unsustainable consumption practices. Productive sectors, commerce, and society at large should assume their role in the efficient use of materials and resources through their entire lifecycle, waste minimisation, recycling and re-use must be intrinsic to market rules.

Sustainable Ocean Economy

Healthy and productive oceans offer multiple benefits, including economic opportunities, food security, resilient coastal ecosystems, and climate change adaptation. The blue economy - which encompasses the sustainable use of ocean resources for economic growth, improved livelihoods and jobs, and ocean ecosystem health - spans over various ocean sectors, including renewable energy, fisheries, maritime transport, climate, tourism, disaster risk management, and waste management and wastewater treatment (World Bank, 2023^[109]). Given the essential role of the ocean in human well-being and economic activities, protecting marine and coastal ecosystems is crucial for fostering sustainable growth in LAC while protecting marine and coastal ecosystems (OECD et al., 2022^[6]).

A sustainable ocean economy has the potential to significantly contribute to the development of the LAC region. Ocean services alone estimated to have contributed USD 25 billion to the total GDP of LAC in 2018, and USD 7 billion to the Caribbean's GDP (OECD et al., 2022^[6]); (World Bank, 2023^[109]). Over one-fourth of the population in LAC live in coastal areas, and almost all population in the Caribbean. The fishery and aquaculture sectors employ over 2.3 million people in the region. The region's ocean areas, particularly in Chile, Ecuador, and Peru, are known for their productivity, accounting for up to 20%

of the world's catch in some fisheries and capturing blue carbon. Moreover, the Eastern Caribbean and the Galapagos archipelagos, known for their marine biodiversity, attract substantial international tourism, with tourism contributing up to 50% of GDP in some Eastern Caribbean countries. Implementing blue policies can foster sustainable economic opportunities in the fishery and aquaculture sectors, sustainable tourism, and renewable energy generation. Taking steps towards sustainable fisheries, including the protection of marine and river ecosystems, can increase employment, enhance food security, and promote exports.

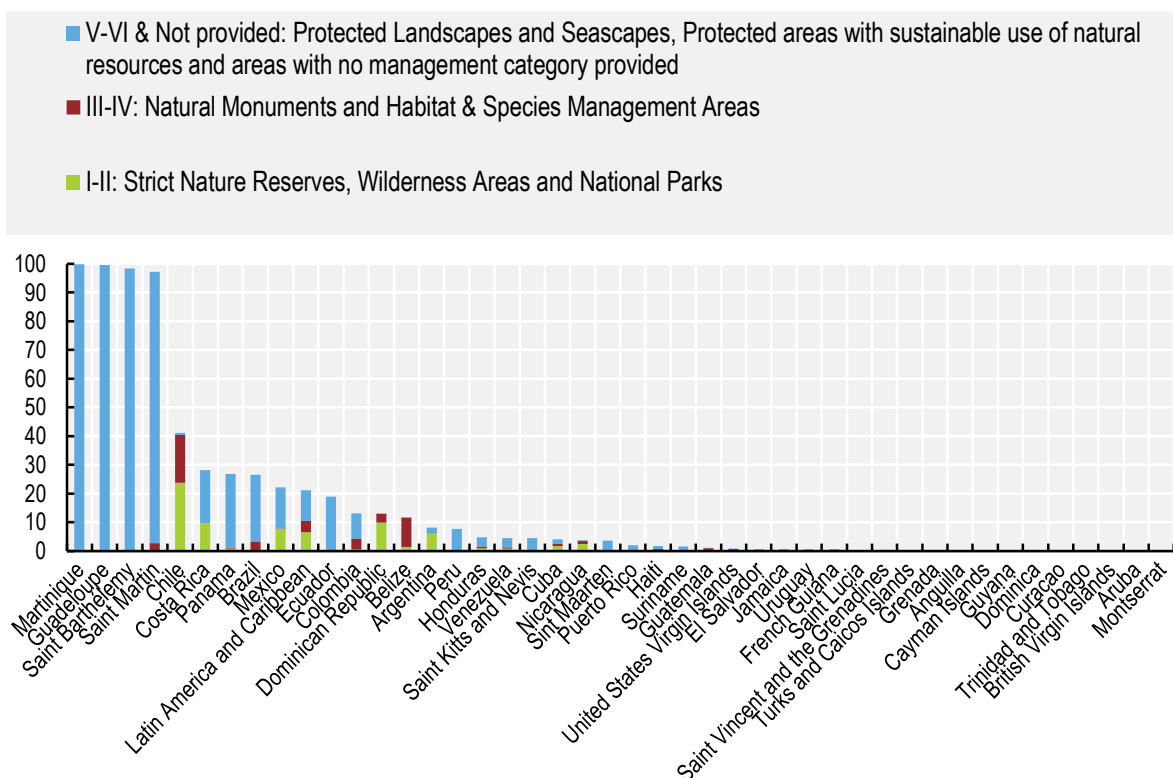
The protection, conservation, and restoration of coastal, river and marine ecosystems directly contributes to climate change mitigation. The LAC region is globally recognised for its unique marine biodiversity and being home to the second largest barrier reef in the world. With 47 out of 258 marine eco-regions, it holds the highest concentration of marine eco-regions worldwide (Tambutti and Gómez, 2020^[110]). Blue carbon coastal ecosystems, such as seagrass meadows, tidal marshes, and mangroves uptake and store carbon for the atmosphere in the ocean. Mangroves, in particular, can store three to four times more carbon than most forests on the planet. Conserving and restoring these ecosystems is essential to maximise their sequestration potential.

Despite some progress, the pace of policy actions is not keeping up with the pressures on oceans. The international agreement reached at Convention on Biological Diversity (CBD) COP15 on the Kunming-Montreal Global Biodiversity Framework (GBF) includes targets to protect the ocean, to scale up positive incentives for the conservation and sustainable use of biodiversity, among others. These commitments, however, need to turn to action, including in LAC. Policies that regulate harmful activities such as deep-sea mining and oil drilling, and promote sustainable tourism could help safeguard marine ecosystems and species. Governments have a key role to play in putting in place an effective and coherent policy mix in the LAC region to ensure the conservation and sustainable use of oceans, seas and marine resources (OECD, 2017^[111]).

Policies such as marine spatial planning and marine protected areas can help reconcile ecological, economic, and social objectives. As of 2021, over 45 countries were either implementing or approving marine spatial plans. With respect to marine protected areas, the six countries that have led the increase in marine protected areas in the region in recent years are Argentina, Brazil, Chile, Colombia, Mexico and Panama, to help reach the 30% global target. Of the LAC countries, Chile has already met the 2030 marine protected area target of the GBF, while other four territories (part of France) have also met the target (Figure 4.3) (OECD, 2023^[36]).

Figure 4.3. Marine Protected Areas in the LAC region

Percentage of Economic Exclusive Zones



Note: The Global Biodiversity Framework establishes the “30x30” conservation target, calling for 30% of the earth’s land and sea to be conserved through the establishment of protected areas and other area-based conservation measures.

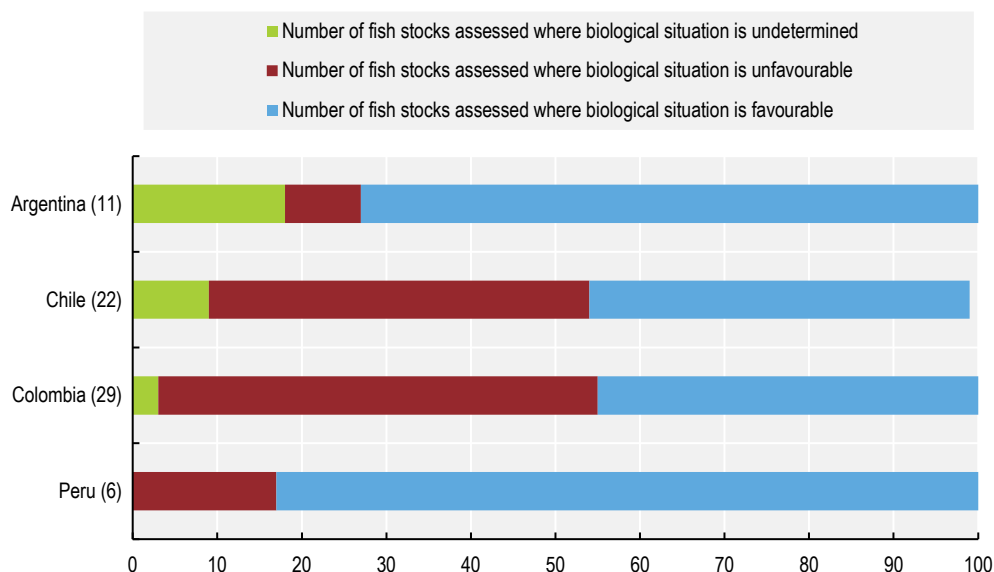
Source: (OECD, 2023^[112])

At the same time, LAC countries must improve ocean governance and planning to alleviate the increase marine and coastal pollution. Plastic pollution in particular is a critical issue, especially in vulnerable sub-regions such as the Caribbean, as it can be an imminent threat to habitats and natural processes, reducing ecosystems’ ability to adapt to climate change, and directly affecting environmental health. Countries in the region can develop integrated coastal zone management (ICZM) as an integrated ecosystem-based approach that considers trade-offs and pays particular attention to fisheries and aquaculture, sustainable tourism, renewable energy generation, integrated management of river basins and lakes, and marine ecosystems protection (OECD et al., 2022^[6]).

LAC countries should develop plans to restore fish stocks, establish regional and international policy frameworks, eliminate subsidies contributing to overfishing, and address illegal, unreported, and unregulated (IUU) fishing. It is important to maintain the levels of fish stocks in good health high (Figure 4.4). Investing in science-based stock assessments can help LAC countries better manage fish stocks, to avoid stocks falling below sustainability standards. Collective action against IUU fishing at the regional level can also reinforce monitoring, control and transparency along the fishing value chain. In parallel, action against IUU fishing at the national level would also require a review of national budgets, to guarantee that resources are directed towards sustainable fisheries management and practices, while direct or indirect support to unsustainable fishing is eliminated (OECD, 2022^[113]).

Additionally, the ocean presents renewable energy options such as offshore wind, wave and tidal power, and the utilisation of temperature and salinity gradients for energy production (OECD et al., 2022^[6]).

Figure 4.4. Status with respect to biological sustainability standards of fish stocks assessed (and total number of stocks assessed) by LAC country, 2021



Note: Number next to country indicates the number of stocks assessed per country.

Source: (OECD, 2022^[113]), OECD Review of Fisheries 2022, OECD Publishing, Paris.

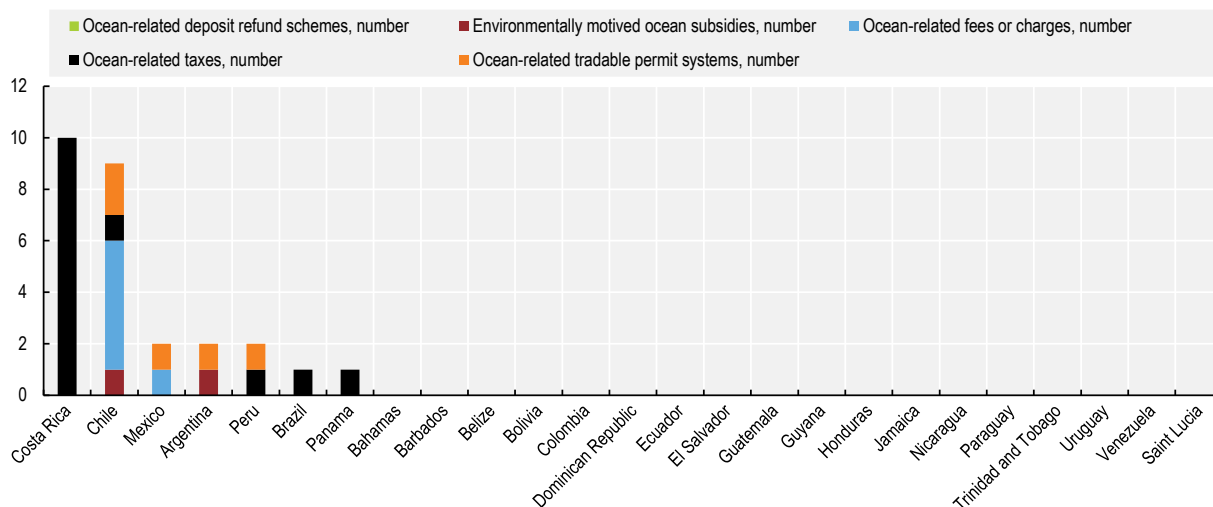
Incorporating blue carbon into climate change mitigation strategies is crucial for LAC countries.

The warming of oceans, acidification, plastic pollution, and overfishing pose significant threats to the blue economy and ocean sustainability (World Bank, 2023^[109]). Ocean warming and acidification damage marine ecosystems and comprises the ability of the ocean to provide food, livelihoods and safe coastal living. Climate change effects include increased coastal erosion, coral bleaching, and ecosystem flooding. A blue carbon approach can support countries in meeting their NDCs by mainstreaming blue carbon solutions.

Ocean sustainability should also be included as a target in market-based instruments in the LAC region. The number of countries with economic (market-based) instruments targeted at ocean sustainability in LAC countries has increased over time. By 2022, Argentina, Brazil, Chile, Costa Rica, Ecuador, Mexico, Panama and Peru had introduced ocean-related instruments, up from four countries in 1994³ (Figure 4.5) (OECD, 2023^[114]). These countries have introduced ocean-related taxes (such as taxes on fisheries, maritime transport or marine pollution) except for Argentina, Mexico, and Peru. Even though most ocean-related instruments are taxes, the share of tradable permit systems is highest in the ocean domain (more than in any other environmental domain). Ocean-related tradable permit systems include, for example, individual fishing quotas (Argentina, Chile, Ecuador and Peru), and territorial user rights (Chile and Mexico) (OECD, 2023^[114]).

Figure 4.5. Sustainable ocean-related policy instruments in Latin America and the Caribbean

2021 data



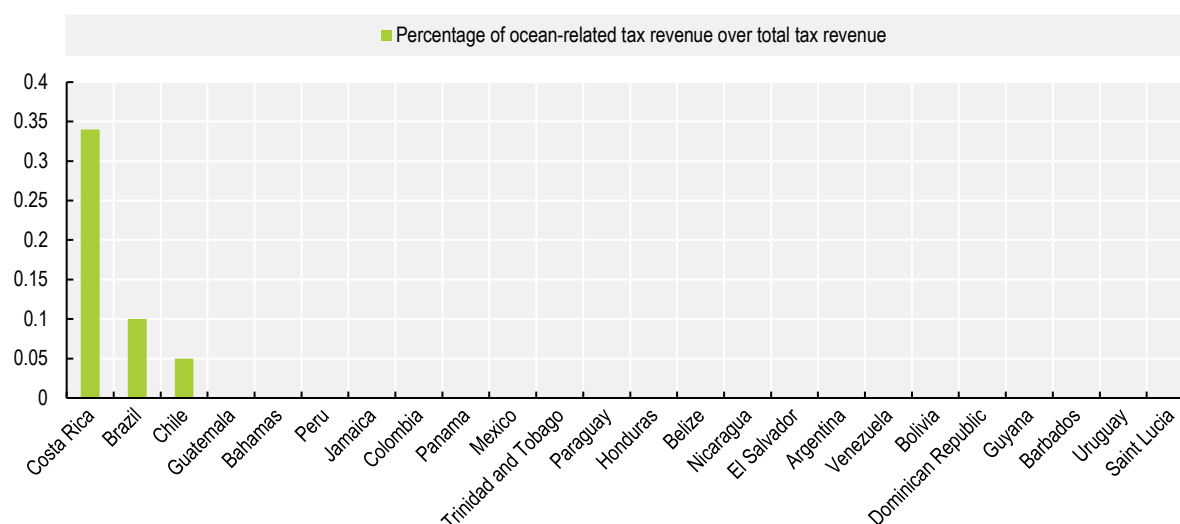
Note: Countries with zero ocean-related policy instruments do have other policy instruments in their toolbox.

Source: (OECD, 2023^[114])

Moreover, ocean-sustainability-related taxes raised USD 1.1 billion in 2021, a level which declined over the last decade (despite the growing number of such taxes implemented). The share of ocean-related tax revenue in total Environmentally Related Tax Revenue (ERTR) has also decreased to 1.5% half its value a decade earlier, and at about 0.01% of GDP on average (Figure 4.6).

Figure 4.6. Ocean-related tax revenue

2021 data



Note: Revenue raised from taxes directed at ocean sustainability. Ocean sustainability-related taxes include taxes on energy products for maritime transport, use or ownership of maritime transport vessels, taxes on resource extraction from oceans, fishing licences, revenue from auctioning individual transferable quotas for fisheries, taxes directed at containing ocean pollution etc. Total environmentally related tax revenue corresponds to the revenue raised by all tax bases for the total environment.

Source: (OECD, 2023^[114])

Recommendation

- **Implement policies promoting marine spatial planning and expanding marine protected areas.** These measures can help reconcile ecological, economic, and social objectives. Reach the 2030 marine protected area target of the Global Biodiversity Framework (GBF).
- **Promote sustainable fishing.** Introduce or further improve sustainable fisheries management and practices to combat illegal fishing activities. Include ocean sustainability as a target in market-based instruments.

Gender equality and climate change

Gender equality and social inclusion are important factors to consider when addressing climate change. Women and men face differentiated impacts from environmental degradation, climate hazards, and environmental policies, due to existing inequalities, socio-economic characteristics, as well as cultural and other barriers. In emerging economies, women are often the ones responsible for food production and water collection, while they also need to manage energy use at the household level. Worldwide, an increasing incidence and intensity of natural hazards such as droughts, landslides, floods and hurricanes tend to affect women more due to their greater economic vulnerability. Traditional gender roles dictate that women become the primary caregivers for those affected by disasters, such as children, elderly, and others in need. At the same time, women's empowerment could help deliver positive impacts on environment and climate change, as often women have more "green" preferences and behaviours. The gender-environment

nexus can help policymakers develop an integrated policy framework where both environmental sustainability and gender equality are brought to the forefront (OECD, 2021^[115]).

While the gender equality and environmental sustainability agendas have progressed in the last years, this has largely been done in silos. Despite gender mainstreaming being integrated in international environmental frameworks and commitments, such as the 1992 Beijing Platform for Action, the 2015 Paris Agreement, and the Gender Action Plan of the UNFCCC, there is still a long way to go before the gender-environment nexus is sufficiently covered in national policy frameworks (OECD, 2021^[115]).

Climate adaptation is expected to affect the most vulnerable, such as those living in areas affected by extreme weather events, climate change (rural and coastal areas) or biodiversity loss and ecosystems' destruction (island countries); indigenous communities; highly impoverished population; children, and the elderly (Roy et al., 2022^[116]). In the LAC region, poverty rates are often higher for indigenous groups, children and women, when compared to the rest of the population, adults or men, respectively (Reyer et al., 2015^[117]). At the same time, climate change may deepen existing inequalities in the region, including those based on gender, due to its social and economic impacts.

UNDP analysis on NDCs inclusion of gender equality actions and targets, shows that from the LAC region, only nine NDCs submitted initially (1st generation) included a gender perspective. However, the number increased to 22 NDCs in the 2nd generation submissions. Despite the rising presence of gender equality references in LAC countries' NDCs, and the acknowledgment of women's roles in different environmental sectors, such as energy, agriculture, and waste management, some gaps still remain, making it clear that further work is needed to implement policies and to guarantee that an integrated approach is introduced in policymaking. These gaps, in the LAC region, are mainly including and securing finance for gender mainstreaming in environmental policies, collecting information and data, and applying Measurement, Reporting and Verification MRV of climate change actions (Table 4.2).

The recent COVID-19 health crisis offered an opportunity to governments worldwide to introduce recovery measures that support both environmental sustainability and social inclusion, with a special focus on gender equality. However, recent analysis shows that neither a green nor a gender-responsive recovery were sufficiently promoted, while the gender-environment nexus was almost absent in the measures introduced. In the LAC region specifically, from the 2 025 recovery policy measures evaluated, only 7 measures from countries, were considered as falling under the gender-environment nexus, that is being both green and gender-sensitive. The majority of these measures focuses particularly on supporting women's economic empowerment in environment-related economic sectors such as agriculture, water, energy or tourism. The support is provided usually via small grants or credit (UNDP; UN Women; OECD, n.d.^[118]).

Table 4.2. Inclusion of gender equality in different policy areas of NDCs

Data available for Nationally Determined Contributions submitted by LAC countries

LAC country	Vision	Policy	Governance	Capacity Building	Planning Instruments	Finance	Information & Data	MRV	Actions, Measures & Indicators	Women's recognition and empowerment
Antigua and Barbuda										
Argentina										
Bahamas										
Belize										
Bolivia										
Chile										
Colombia										
Costa Rica	x									
Dominica										
Dominican Republic										
Ecuador										
El Salvador										
Grenada										
Guatemala										
Haiti										
Honduras										
Mexico										
Panama										
Paraguay										
Peru		x			x					x
Suriname										
Uruguay										

Note: Data presentation by authors. Light grey (with x) indicates inclusion in 1st generation NDCs. Dark grey indicates inclusion in 2nd generation NDCs. Black indicates inclusion in both NDCs. White indicates no inclusion in NDCs.

Source: (UNDP, n.d._[119])

LAC countries need to prioritise women's participation in environmental policy- and decision-making, gender mainstreaming in climate change policies, and gender-responsive implementing measures which address gender inequalities at the local level, especially in regions affected by climate change. Including women in the different stages of decision-making, in the public and private sectors, can help enhance environmental action, as well as guarantee a level of gender-responsiveness of the decisions taken (Strumskyte, Ramos Magaña and Bendig, 2022_[120]). Moreover, considering women's increased burden of unpaid care work, as well as strong presence in informal employment in LAC countries (OECD/ILO, 2019_[96]), and the shift towards a green economy, women's role in sectors such as agriculture, tourism, and renewable energy, needs to be taken into consideration when developing sectoral policies. Supporting such efforts with a set of gender-environment indicators and gender-sensitive data collection, could allow for the development, implementation and monitoring of unbiased environmental policies, that take into consideration the differentiated needs of women and men.

Mexico acknowledges the differentiated impact of climate change to women and men, often linked to societal criteria and vulnerabilities. A special mention is made in the country's NDC with special focus on gender-responsive and gender-transformative cross-cutting actions, however concrete results are

needed at the local level. Mexico's climate change adaptation policy includes a four-step approach to include gender equality: (i) providing gender analysis and analysis on vulnerability, to recognise the specificities and differentiated access women and men have to natural resources; (ii) identifying gender gaps and lack of sectoral information at the local level; (iii) implementing measures, taking into consideration local women's experiences in the community, their traditional knowledge, and engagement with the measures introduced to guarantee ownership; and (iv) guaranteeing monitoring and evaluation mechanisms, by introducing gender-sensitive indicators, to measure the gender-responsive effects of policy measures introduced. Projects introduced in the state of Oaxaca, for example, were developed with a bottom-up approach, with full engagement of stakeholders. Local women highlighted the lack of spaces for temporary shelter after severe climate-related events, as well as the lack of planning which takes into consideration the differentiated needs of various groups. Secure financial resources are also highlighted as an important parameter in introducing and implementing gender-responsive actions (OECD, 2023_[121]).

Costa Rica's National Adaptation Plan 2022-26 applies horizontally a gender perspective, focusing on the participation and inclusion of women and vulnerable groups in initiatives such as knowledge management, resilience for human systems and planning, biodiversity and ecosystems management, resilient infrastructure, productive and eco-competitive systems, and green investments and finance. The project "Adapting to Climate Change", financially supported by the UN Adaptation Fund, aims at reducing community vulnerability to climate change and improving resilience in critical sectors such as agriculture, water resources management, and coastal areas. It promotes capacity building for women working in agriculture, at the local level. Over 5 000 women have benefited directly, and over 68 000 indirectly. About 590 women have received training; and USD 500 000 have been disbursed as credit for women. The project develops skills and proposes favourable financing with flexibility over collaterals. The project "Plus Women Plus Nature", supported by UNDP, focuses on gender equality and women's empowerment in biodiversity management and preservation. aims at improving women's economic autonomy and creating jobs which contribute to protecting Costa Rica's natural capital. About USD 1.4 million are provided to women for business activities linked to NbS. Some challenges still remain, and are being examined by Costa Rica: access to finance for women and women-led organisation, capacity building and knowledge transfer; quantifying the impact and benefits of the project to women; increasing women's participation in decision-making; advancing with gender-sensitive indicators; and building alliances and partnerships between different stakeholders in order to close the gender gap (OECD, 2023_[121]).

The Dominican Republic includes an intergovernmental Gender and Climate Change Panel in its NDC. The Panel is to prioritise enhancing knowledge on the interlinkages between environment and gender equality, increasing women's participation in decision-making mechanisms for adaptation and mitigation, and risk management. The Panel will also provide support in implementing the measures identified in a National Gender and Climate Change Action Plan, as well as tackle key challenges such as access to financing and stakeholder participation in advancing with the set actions (OECD, 2023_[121]).

Recommendation

- **Pursue green growth through gender equality.** Acknowledging the differentiated impact of climate change on women and men and adopting an integrated policy framework to reach gender equality and empower women, can support achieving a just and green economic transition. Gender equality and women's economic empowerment can be achieved through gender-sensitive and gender-responsive climate policies, instruments and measures, as well as gender-disaggregated environmental information.

Environmental education for climate action

Environmental education plays a crucial role in promoting climate action. Article 4 of the UNFCCC calls upon parties to promote and co-operate in education, training, and public awareness related to climate change. It also emphasises the importance of encouraging broad participation in this process, including non-governmental organisations (UN, 1992^[122]). By providing people with a comprehensive understanding of the climate crisis and equipping them with knowledge, skills, and values, it enables individuals to become agents of change, shaping attitudes and behaviours that lead to both individual and collective action (OECD, 2021^[123]). Furthermore, environmental education fosters awareness and understanding of the environment and its natural resources. Schools can serve as spaces to create and implement environmental solutions, fostering more sustainable lifestyles and strengthening resilience to climate change. Through education, children can actively contribute to all aspects of climate change policymaking, mitigation, and adaptation (Ogando, 2022^[124]).

Expanding environmental education in LAC remains a significant challenge. Environmental studies are complex and difficult to teach and comprehend, which demands resources and support from institutional agencies to address. Lack of access to training opportunities, necessary infrastructure, resources, and reference materials pose barriers to expanding environmental education in the region. It is crucial to invest in environmental education programmes, training, and adaptable resources for teachers and trainers to provide reference materials on integrating environmental themes and concepts into formal and non-formal educational systems. As of 2023, 26 countries in LAC have included an environmental focus at some level in their primary school curricula (UNEP, 2023^[125]). Moreover, implementing environmental education programmes in rural areas presents a challenge that can be addressed through alliances and partnerships with assistance organisations.

Pedagogy, procurement, and partnerships are three key areas of action to support climate change mitigation and adaptation across all levels of education. Pedagogy assumes that increased scientific and technical knowledge raises environmental awareness and concern, leading to improved environmental behaviours. Procurement allows educational institutions to build resilience and reduce safety risks by selecting goods, services, and works with reduced environmental impacts. This can be achieved by designing energy- and water-efficient facilities, addressing food waste, promoting clean school transport and green public transport, incorporating cycling in urban planning, and procuring energy-efficient equipment such as lighting and Information and Communications Technology (ICT), while also limiting e-waste. Lastly, education can enhance synergies between educational institutions, public administration, businesses, and civil society, reinforcing learning practices, procurement policies, and strengthening social ties within communities, all for the benefit of the environment (OECD, 2021^[123]).

Policymakers should aim to build a flexible, adaptable, and resilient workforce that is sensitive to changes in the economy due to new environmental standards and regulations. Policies need to be developed to ensure the responsiveness of training systems to evolving skill demands. Assessing the

information on the supply and demand of skills is essential to align qualifications and programmes, prevent skills gaps and shortages, and support individuals in adapting to the changes created by the green economy. Achieving this requires inclusive training systems that address gender gaps (OECD, 2021^[123]). Research has also shown that support for climate policies is influenced by three important factors: i) the perceived effectiveness of the policies in reducing emissions, ii) their perceived distributional impacts on lower-income households (inequality concerns), and iii) individuals' own household gains and losses. Education plays a significant role in shaping policy views and overall reasoning and beliefs about climate policies (Dechezleprêtre et al., 2022^[126]). At the same time, policies in the region should be developed aiming to foster job creation in new green technologies through a mix of innovation and employment incentives, skills development, and employment services. Countries should promote additional public and private investments that contribute to increasing the necessary added value of the green sectors to boost the creation of formal jobs, as well as develop policies aiming to establish an environmental perspective on their vocational educational and training systems.

Recommendation

- **Promote equitable and green education.** Establish an active environmental education strategy, formal and informal, to induce a behavioural change in society creating awareness, sensitivity and responsibility towards environmental-sustainability and climate change. Education systems, from early childhood, must ensure that future generations shift individual behaviours and preferences away from the current unsustainable methods of production and consumption. Environmental knowledge, green skills should be part of the curricula across all components of the educational systems.

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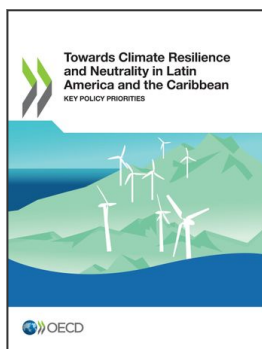
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Notes

¹ The countries covered in this report were: Antigua and Barbuda, Argentina, Bahamas, Barbados, Belize, Bolivia, Brazil, Chile, Colombia, Costa Rica, Cuba, Dominica, Dominican Republic, Ecuador, El Salvador, Grenada, Guatemala, Guyana, Haiti, Honduras, Jamaica, Mexico, Montserrat, Nicaragua, Panama, Paraguay, Peru, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines, Suriname, Trinidad and Tobago, Uruguay, and Venezuela (OECD, 2022^[62])

² According to the United Nations Framework Convention on Climate Change (UNFCCC) Standing Committee on Finance, climate finance “*aims at reducing emissions and enhancing sinks of greenhouse gases and aims at reducing vulnerability of, and maintaining and increasing the resilience of, human and ecological systems to negative climate change impacts*”. The OECD provides analysis and tracks progress on the developed countries’ collective goal of mobilising USD 100 billion per year for climate action in developing countries, as was presented in COP15 and reiterated and extended in COP21.

³ These were Chile, Costa Rica, Mexico and Panama.



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