

Environment and sustainable development: contemporary challenges for ECLAC and Latin America and the Caribbean

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Abstract

Environmental sustainability is a key determinant of the viability of development. Latin America and the Caribbean is imitating a global pattern of unsustainable consumption and production, whose consequences, including environmental degradation, biodiversity and ecosystem loss, and climate disruption, affect the population's standard of living and limit its potential for growth. This paper presents stylized facts concerning the region's development model and the way in which sustainability has been addressed in ECLAC thinking, also briefly examining other economic schools of thought. It concludes with policy recommendations aimed at reconciling economic growth and environmental sustainability, taking into consideration the region's wealth of ecological and natural resources, its position in the global economy, and the need for a commitment to productivity that can foster a big push for sustainability and just transitions in relation to the challenge of climate change.

Keywords

Economic development, environment, sustainable development, development models, environmental protection, environmental policy, natural resources, development policy, ECLAC, Latin America and the Caribbean

JEL classification

Q28, Q38, Q51, Q54

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I. Introduction: Latin America and the Caribbean and the environmental challenges of the twenty-first century¹

Various publications have been warning, in recent months, about the unprecedented environmental pressure being imposed on the planet, environmental degradation, and their potential consequences for the sustainability of development if structural changes are not made to the development model. The northern hemisphere meteorological summer of 2023 was the hottest on Earth since temperatures began to be recorded in 1880. August 2023 was 1.2°C warmer than the average for the period 1951–1980, and in the last five years, the months of July have been the hottest since 1880 (NASA, 2023a and b). The temperature in the region has risen by between 0.7°C and 1.0°C compared with the 1961–1980 average (WMO, 2023; IPCC, 2023). If the trendline for greenhouse gas (GHG) emissions is maintained, the Intergovernmental Panel on Climate Change (IPCC) has warned that the global average temperature rise will soon be greater than 1.5°C above pre-industrial levels. Under the remaining carbon budget, that level will be reached in 9 years and the limit of 2°C will be reached in approximately 26 years (ECLAC, 2023a).

This is not the only planetary threshold for the safe continuance of human activities that has been exceeded precisely because of anthropogenic pressures. According to Richardson and others (2023), six of the other nine critical thresholds for the Earth's stability and resilience have been breached: biosphere integrity, in particular genetic diversity; land-use change; freshwater use; biochemical flows of both phosphorus and nitrogen; pollution from synthetic chemicals; and climate change (Rockström and others, 2009; Steffen and others, 2020).

In Latin America and the Caribbean, these trends have translated into a 94% decline in species abundance since 1970 (WWF, 2022), a 50% rise in deforestation in the Legal Amazon and Cerrado regions of Brazil since 2016, the loss of at least 30% of glacier cover in the tropical Andes since 1980, and soil erosion across much of the continent (soil degradation affects 33% of the territory of Mexico; around 60% in Peru, Paraguay and the Dominican Republic; and 79% in Chile (University of Chile, 2023)). The transfer of moisture through atmospheric rivers from the Amazon to the Río de la Plata region, on which the latter depends for 70% of its precipitation, is also increasingly affected (Lovejoy and Nobre, 2018; Ellison and others, 2017; Van der Ent and others, 2010).

In the region, temperature rise alone will trigger an average decline of 3.3% in per capita GDP by 2030, which could push a further 3.2 million people into poverty compared to a scenario with no increase in temperature (ECLAC, 2022a). To this must be added the effects of extreme climate events such as droughts, storms and hurricanes, which are rising in intensity and frequency, with the worst impacts in the Caribbean and Central America —for example, in 2017, Hurricane María generated losses equivalent to 215.4% of the GDP of Dominica— and the impact of changes to the trends for coastal variables (ECLAC, 2012a). Without drastic global mitigation measures, those impacts will rise exponentially in the region.

In Latin America and the Caribbean, 82% of the population lives in cities. The region's urban environment typically consists of large, expanding and densely populated cities that suffer air pollution. The region's capitals and other major cities do meet the fine particulate matter recommendations of the World Health Organization (WHO), and levels in cities like Santiago and Lima are up to five times higher than the recommended limit. Private vehicle ownership is increasing in lockstep with income,

¹ Thanks are owed to the staff of the Sustainable Development and Human Settlements Division and the Natural Resources Division of the Economic Commission for Latin America and the Caribbean (ECLAC) for their contributions, which served as the basis for this article.

worsening traffic congestion and competition with public transport services for limited urban infrastructure. Urban waste is steadily increasing and is expected to rise by 25% in the next few years; little waste is safely treated and disposed of (less than half goes into sanitary landfills) and recycling rates are approximately 5% (World Bank, 2021). Some Caribbean countries generate a higher per capita volume of waste than the Organisation for Economic Co-operation and Development (OECD) average because of the tourism industry. The external costs of the increasing degradation of the urban environment and of diseconomies resulting from disorganized land use have a significant impact on people's health and quality of life and on economic productivity.

This backdrop appears to inspire little optimism. Yet, the region is in fact well positioned to begin the transformations needed to achieve sustainable development. Latin America and the Caribbean has a wealth of non-renewable and renewable natural resources, ecosystems, and biodiversity; is home to six megabiodiverse countries and the Amazon, the lungs of the planet; it holds one third of the world's fresh water and 15% of its farmland; it has the cleanest electricity mix on the planet, despite holding one fifth of all oil reserves, since nearly half of its electricity generation is from hydropower (44%) and more than 60% of energy is from renewables; it holds half of the world's lithium reserves and more than a third of its silver and copper reserves, among other minerals needed for the energy transition and electromobility; its per capita material footprint is moderate, albeit exceeding the level considered sustainable; and it has contributed little to creating the great global ills described above (for example, it produces just 10% of global GHG emissions). Clearly, the region's natural wealth gives it a comparative advantage as a supplier of global public goods and services that contribute to maintaining planetary stability and resilience and support life, and as a key stakeholder in the new productive chains needed to achieve the transition to sustainable development.

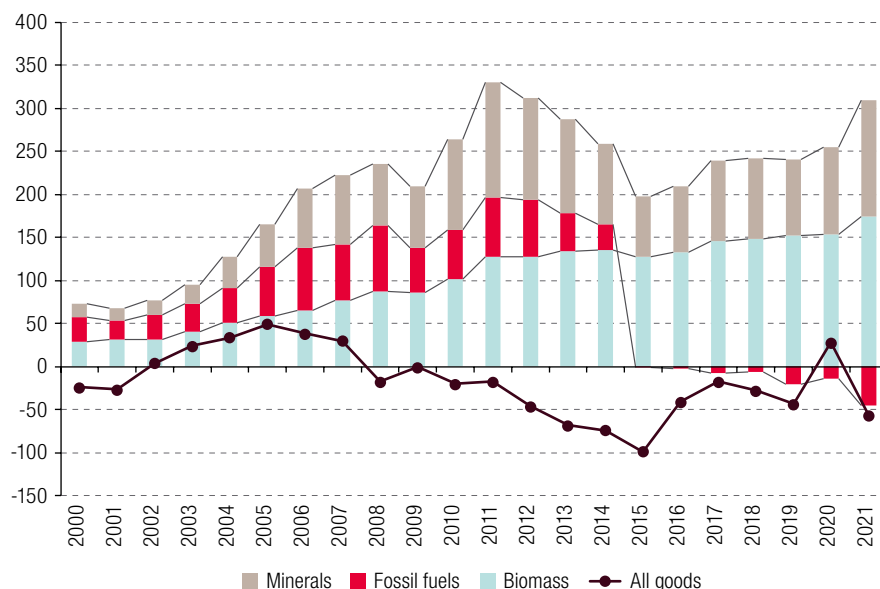
This article briefly reviews some of the stylized facts concerning the Latin American and Caribbean development model and looks at historical ECLAC thinking regarding the region's situation, major trends, and policies, as well as the economic theory approach to sustainable development. Lastly, recommendations are made for seizing the opportunities to be found in the challenges the region will face in achieving sustainable development.

II. Stylized facts concerning the Latin American and Caribbean development model

Latin America and the Caribbean is a structurally heterogeneous region, yet it shares the common features of inequality —of income, asset ownership, access to services and opportunities, and by territory— and concentrated economic and political power. The region participates in the international economy largely through the provision of raw materials (and cheap labour, in some cases and at certain times in history), where it has comparative advantages. The region is positioned in the early stages of global value chains (see figure 1) and has undergone a process of export reprimerization over the past two decades, increasing its dependence on natural resources, which accounted for an average of 50.7% of all exports between 2019 and 2021 (ECLAC, 2023b).

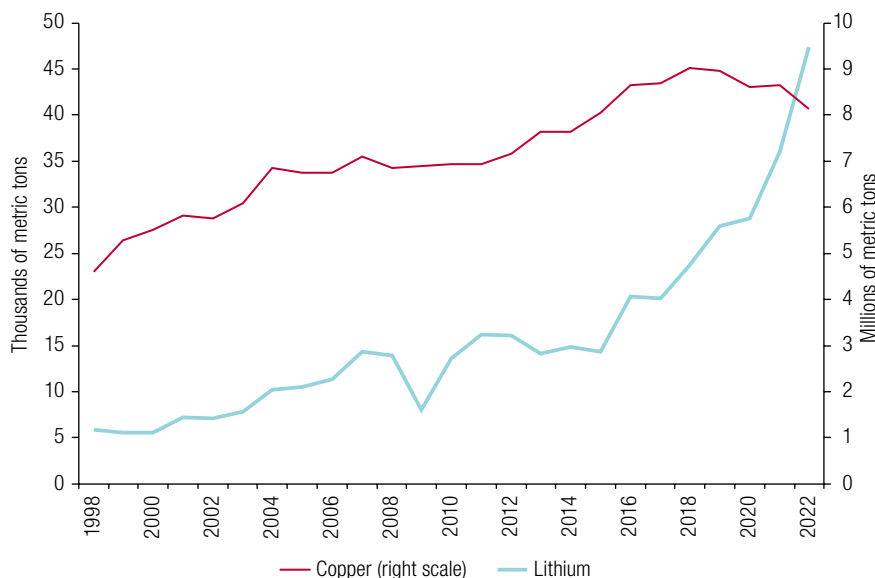
These exports encompass not just minerals —including some, such as copper and lithium, that are vital for the shift towards carbon neutrality (several of the region's countries are major global producers, as illustrated in figure 2)— but also biomass. Latin America and the Caribbean accounts for approximately one quarter of worldwide agricultural exports and its agricultural trade balance is the highest in the world, having more than doubled over the past decade.

Figure 1
Latin America and the Caribbean: trade balance, by natural resource group, 2000–2021
(Billions of dollars at current prices)



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of United Nations, UN Comtrade Database [online] <https://comtradeplus.un.org/>.

Figure 2
Latin America and the Caribbean (5 countries):^a copper and lithium production, 1998–2022
(Thousands and millions of metric tons)



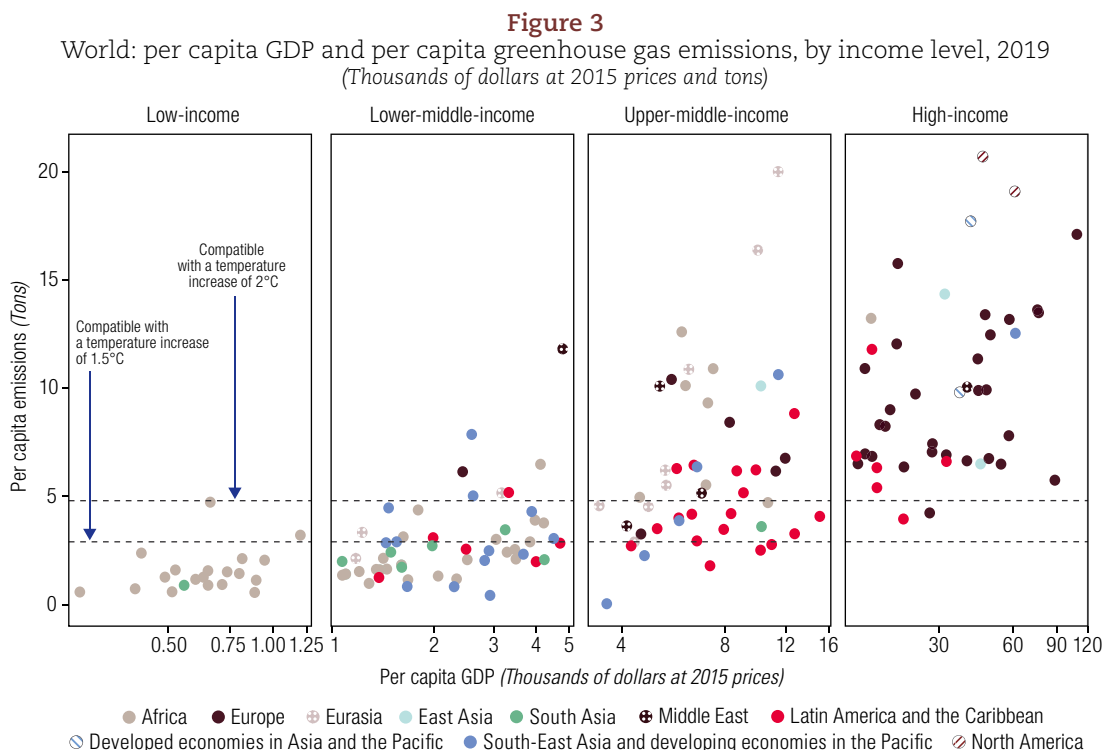
Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of United States Geological Survey (USGS), Mineral Commodity Summaries, 2020 [online] <https://www.usgs.gov/centers/national-minerals-information-center/mineral-commodity-summaries>.

^a Copper production data refer to Chile, Mexico and Peru, and lithium production data refer to Argentina, Brazil and Chile.

The aspiration to achieve development (through higher production and consumption of goods and services and the use of fossil fuels as an energy source), along with the position of the region in the global economy described above and weak incentives for innovation, have maintained the bias of investment, innovation, incentives, relative prices and returns towards mainly extractivist sectors.

Although this pattern has produced foreign exchange and rents — accounting for nearly half of total export revenue and some 9 points of regional GDP over the past two decades in countries specializing in natural resources— that have helped finance import growth and modernization and development, they have not resolved the countries’ great structural problems, such as external constraints, structural heterogeneity, poverty and inequality, underinvestment and low productivity. Between 1980 and 2023, labour productivity, which is closely linked to the commodity price cycle, contracted at an average year-on-year rate of 0.1% (ECLAC, 2023a). Although there is conclusive evidence internationally that natural capital contributes positively to total factor productivity (TFP) (Hamilton, Naikal and Lange, 2019), TFP is relatively low in Latin America, and rent appropriation from the use of natural capital is either insufficient or has failed to boost the development of other types of capital sufficiently to achieve weak sustainability.² In addition, poor macroeconomic management and inadequate allocation of rents and revenues from resource exports have led to signs of Dutch disease, and many countries are vulnerable to external shocks triggered by commodity market volatility (Ocampo, 2017).

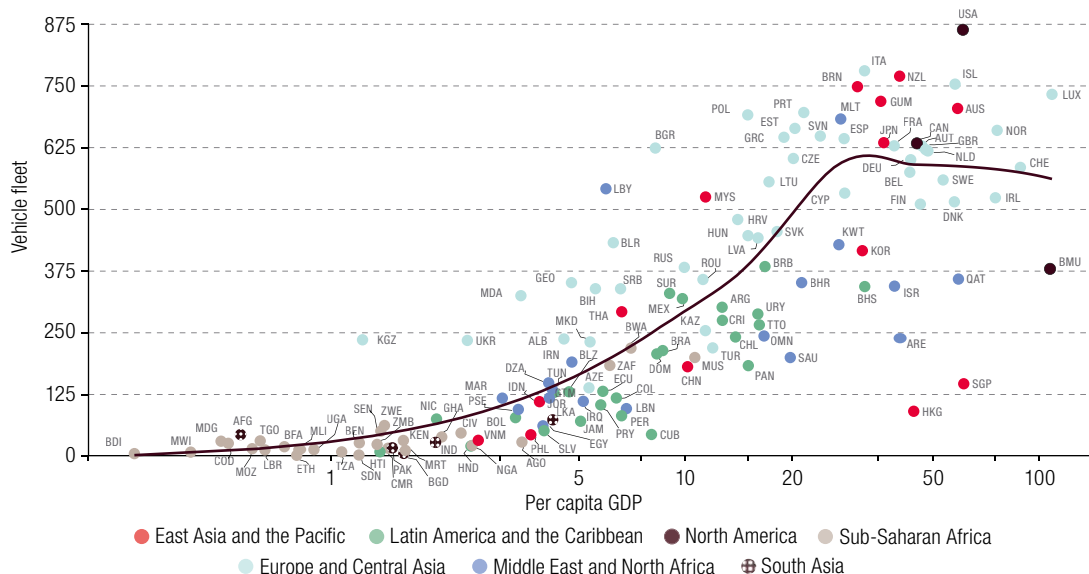
Moreover, the region is pursuing a production and consumption pattern akin to the linear and unsustainable models that exert ever greater pressure on the environment. Income, consumption and GHG emissions are all coupled along the path established by developed countries that the region is now following. This is evident from just two examples: GHG emissions, which produce an “empty box” in terms of climate responsibility (see figure 3); and the growth of the vehicle fleet, a symbol of the modern consumer society (see figure 4).



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of information from the World Bank, World Development Indicators (WDI) and J. C. Minx and others, “A comprehensive and synthetic dataset for global, regional, and national greenhouse gas emissions by sector 1970–2018 with an extension to 2019”, *Earth System Science Data*, vol. 13, No. 11, Copernicus GmbH, 10 November 2021.

² The concept of “weak sustainability” focuses on the importance of preserving the total capital stock, which implies that one type of capital (including natural capital) can substitute another as long as total capital does not decline.

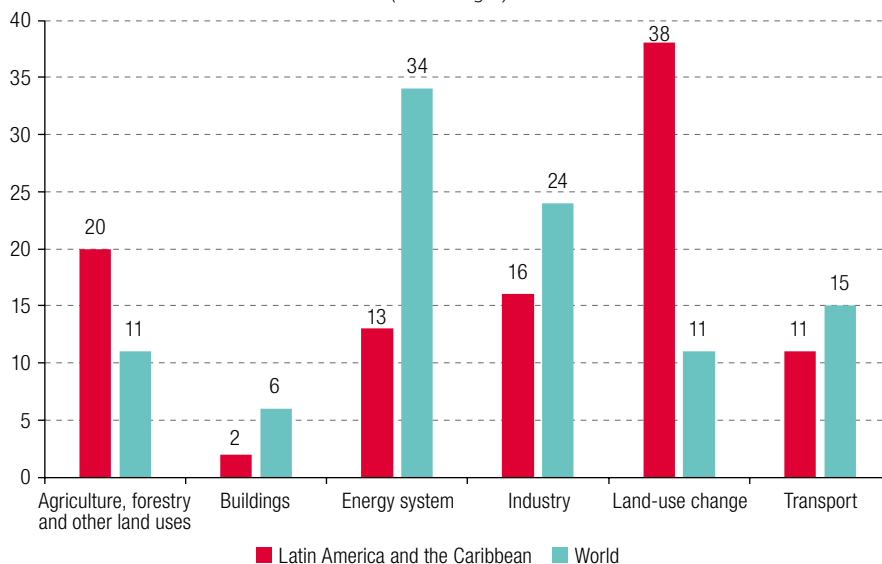
Figure 4
World: per capita GDP and vehicle fleet, by country, 2019
(Thousands of dollars at 2015 prices and vehicles per 1,000 inhabitants)



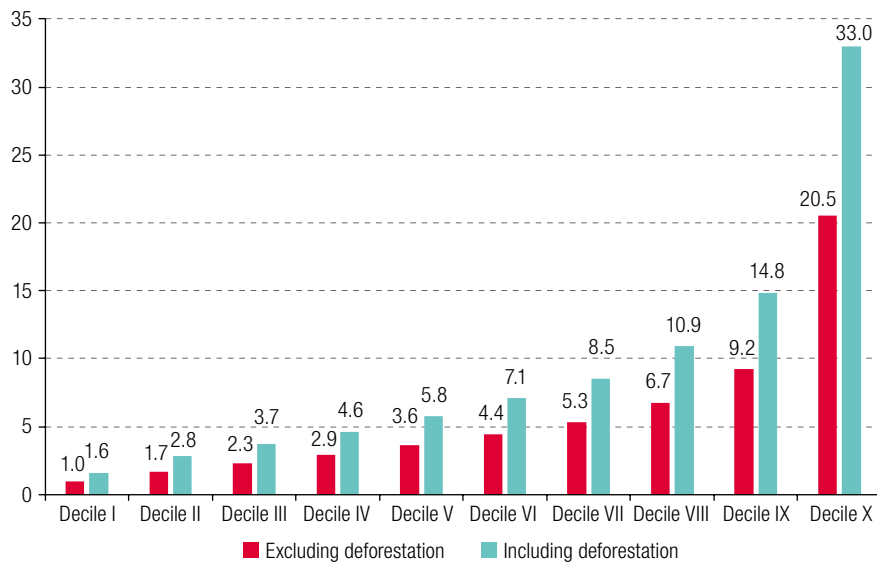
Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of information from the International Organization of Motor Vehicle Manufacturers (OICA).

The GHG emissions profile in Latin America and the Caribbean differs from that of the rest of the world, reflecting to some degree the region’s pattern of productive specialization, in which deforestation and land-use change are comparatively significant (ECLAC, 2023e) (see figure 5). The pattern of GHG emissions also reflects inequality: the emissions of the wealthiest decile are 20 times those of the poorest decile (see figure 6).

Figure 5
Latin America and the Caribbean and the world: distribution of greenhouse gas emissions, by sector, 2019
(Percentages)



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of World Bank, World Development Indicators (WDI) and J. C. Minx and others, “A comprehensive and synthetic dataset for global, regional, and national greenhouse gas emissions by sector 1970–2018 with an extension to 2019”, Earth System Science Data, vol. 13, No. 11, Copernicus GmbH, 10 November 2021.

Figure 6Latin America: per capita greenhouse gas emissions, by income decile, 2019
(Tons)

Source: Economic Commission for Latin America and the Caribbean (ECLAC), *Towards transformation of the development model in Latin America and the Caribbean: production, inclusion and sustainability (LC/SES.39/3-P)*, Santiago, 2022.

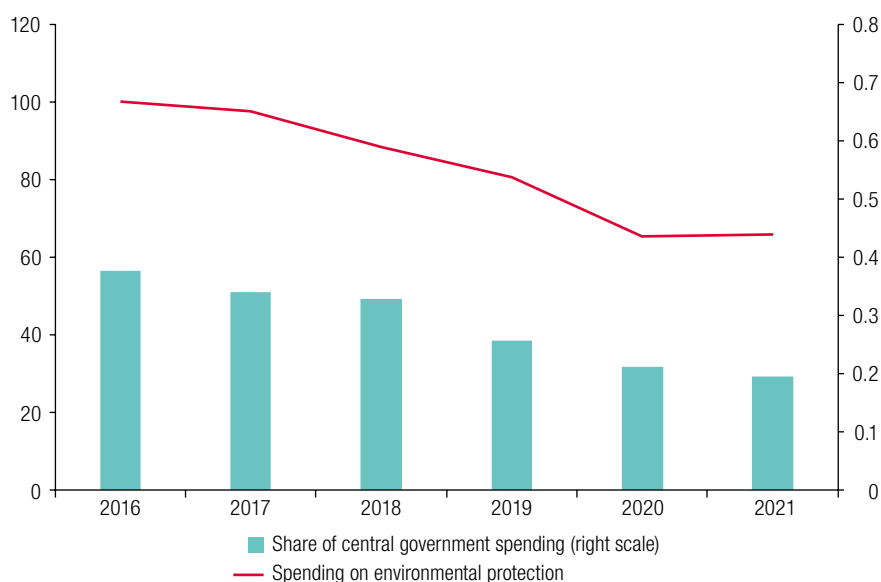
This model, regardless of variations between countries and over time, is incapable of producing the sufficient and sustained economic growth needed to close social gaps without destroying the natural foundation that sustains it. Crises occur cyclically because of the macroeconomic imbalances (worsening terms of trade, balance of payments, financing conditions and indebtedness) that are inherent to a dependency model. The deterioration —or absence of improvement— in economic and social conditions and the urgent need to remedy needs drives up discount rates, reduces the leeway for the implementation of medium- and long-term policies, and concentrates investment in traditional sectors, placing greater pressure on natural resources and the environment. The “tragedy of the commons” and short political cycles exacerbate this problem, in particular as regards freely accessible resources.

The degradation of nature and the environment translates into a loss of productivity (agricultural, urban and labour) and of quality of life (in terms of morbidity and mortality). The effort to offset those effects through active productive development and social services delivery strains budgets and worsens the bias towards traditional comparative advantages. To these regional patterns is added the increasing impact of climate change and other global environmental ills. All of this further adds to the burden and directly affects water, food and energy security, among others (ECLAC, 2020). The burdens of the various countries and income groups are also asymmetrical. Those that cause the least degradation have less capacity to adapt to its effects. In a context of increasing vulnerability, the region urgently needs to advance in implementing its climate change adaptation and resilience-building agenda.

With some exceptions, the countries of the region include the right to a healthy environment in their constitutions, have ratified multilateral environmental agreements, afforded ministerial rank to environmental authorities and passed general environmental legislation. Eleven countries have climate change laws in their legal corpus and four others are in the process of adopting them. Of the region’s 33 countries, 29 have updated their nationally determined contributions (NDCs) for climate change. Environmental information systems have also been developed, except in some Caribbean countries, although only two countries (Chile and Mexico) have pollutant release and transfer registers, and environmental data are relatively scarce compared to socioeconomic data.

The institutional frameworks for environmental matters are relatively weak in Latin America and the Caribbean and funding for environmental protection is limited and declining (see figure 7). Monitoring of regulatory compliance and due process is deficient and environmental impact assessment systems continue to be seen as a hindrance for investment, all against a backdrop of fragile rule of law (for which the indicators worsened during the coronavirus disease (COVID-19) pandemic, in particular in Latin America). These factors all contribute to the extractivist model driving a rise in pressure on the environment and in socioenvironmental conflicts (globally, more than 25% of such conflicts occur in this region); the expansion of environmentally harmful illegal activities (mining, logging, traffic in species and drug trafficking); and making the region the most dangerous place on Earth for environmental defenders. In 2022, 88% of killings of environmental and land defenders occurred in Latin America and the Caribbean, a tragic indicator headed by Colombia (Global Witness, 2023).

Figure 7
Latin America and the Caribbean (11 countries):^a change in spending
on environmental protection, 2016–2021
(Index: base 2016=100 and percentages of central government spending)



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of official budget statistics.

Note: Figures for 2021 are provisional.

^a Argentina, Brazil, Chile, Colombia, Costa Rica, the Dominican Republic, El Salvador, Honduras, Mexico, Peru and Uruguay.

In short, the region is on a path of inertia, propelled by entrenched traditional comparative advantages and a consumer society model. This path is unsustainable, producing a feedback loop that significantly constrains the region's ability to progress and narrow the standard-of-living disparity with developed nations. However, it is precisely the region's traditional comparative advantages and its natural and cultural wealth that underpin its great potential to undertake the transformations that would foster progress towards sustainable development and carbon neutrality in order to achieve a good standard of living for its citizens, using its own development model for a global context that is increasingly conditioned by planetary limits —meaning that the environmental constraints of the three-gap model (ECLAC, 2020) are ever greater— and globalization has ceased to be the prevailing paradigm.

III. The evolution of ECLAC thinking on the environment and natural resources as a pillar of sustainable development

Mainstream economics (and the industrialized world) have historically viewed well-being as being underpinned by the production of material goods, hence the efforts expended on increasing production and fostering growth. The United Nations Conference on the Human Environment (held in Stockholm in 1972) was a milestone in international relations, expressing concern over the growing evidence that post-war industrialization had severely damaged the environment and human health. Years later, the World Commission on Environment and Development of the United Nations coined the term “sustainable development” in the report entitled *Our Common Future*, defining it as “development that meets the needs of the present without compromising the ability of future generations to meet their own needs” (World Commission on Environment and Development, 1987). Not only did the definition include the environmental dimension in the concept of development, it also referred to dynamic and intergenerational effects.

In the framework of its analysis of the Latin American and Caribbean development model, the Economic Commission for Latin America and the Caribbean (ECLAC) has always been engaged in the discussion on environmental degradation as a limitation on economic growth. It has also viewed natural resource endowments as an underpinning of the stock accumulation required to support the region’s industrialization and development.

Prebisch, Furtado, Iglesias, and in particular Sunkel, among others, addressed the issue of the environment and natural resources in terms of the contradictions inherent to the prevailing model, technological bias, and centre-periphery relations, as forerunners in emphasizing the importance of addressing this in the region and internationally. Structural analyses sought to safeguard natural resource sovereignty and rent capture vis-à-vis transnational mining and drilling corporations and to prevent the deterioration of terms of trade and of the external gap associated with the productive specialization trap.

As early as 1963, Prebisch warned that natural heritage was being destroyed by private interests. He signalled the need to take an inventory of natural resources and incorporate it into plans for State development and into actions taken to conserve and properly use resources and distribute surpluses (Prebisch, 1963). However, these recommendations were made in a context in which Latin American States had little capacity for negotiation and regulation. Prebisch also studied the contradictions within the prevailing development model, noting that many problems of environmental degradation were exogenous to prices and resulted from unrestricted market dynamics (Prebisch, 1970). In analysing Latin American dependency, Furtado continued to underscore the predatory nature of the capitalist system, asserting that it was impossible for it to become universal and going so far as to broach the notion of planning consumption and debunking the myth of attaining the living standards of developed countries (Furtado, 1975).

Early on, ECLAC warned that the technological bias towards hydrocarbons precluded changing the development model and achieving convergence processes. In the context of the oil crisis, Prebisch (1980) reflected on the extraordinary economic growth of the previous decades, which he attributed not only to prodigious technological progress but also to the irrational exploitation of natural resources, in particular energy resources, which in turn had altered the course of technological progress itself. He cautioned that little attention was being paid to technological research on the environment and that the development model was triggering grave repercussions for the biosphere. The view that the biosphere was exogenous to the economic system, and often, that natural resources were inexhaustible, generated contradictions that could not be resolved through the self-regulating mechanisms that purportedly governed market

dynamics, meaning that purposeful intervention was needed. He also warned that “that there are no cordons sanitaires to isolate the groups that have benefited by development from those that have been left behind”, underscoring the interdependence of the globalized world and its vulnerability to global environmental problems (Prebisch, 1980).

The economic value of the environment’s capacity for assimilation and its degradation as a constraint for development, including in crisis contexts, were a foretaste of the situation today, in which the thresholds for planetary security are beginning to be breached. That assimilation capacity and the economic consequences of mounting entropy, described by Georgescu-Roegen (1971) in his landmark study entitled *The Entropy Law and the Economic Process*, were recognized and studied by ECLAC. Iglesias (1972) delved more deeply into the discussion on environmental degradation as a consequence of centre-periphery relations and wealth accumulation processes, calling for the establishment of new forms of international cooperation that could facilitate the provision of regional public goods and encourage conservation of the environmental conditions of the biosphere.

Sunkel (1980) brought the environmental dimension fully into the structural concerns of ECLAC. *Estilos de desarrollo y medio ambiente en la América Latina* (Sunkel and Gligo, 1980) argues that growth and the biophysical environment are intertwined and casts doubt on the theories of neoliberal ideology. In concrete terms, the work questions the belief in limitless economic growth, the long-term sustainability of a development model based on natural resource exports with the goal of imitating the contemporary urban-industrial lifestyle, behaviour aimed at accumulating consumer goods, the advantages of urban concentration, blind faith in scientific and technological progress, and the possibility that everyone could achieve consumption levels akin to those of high-income groups or developed countries. Accordingly, Sunkel argued for the urgent need to change the development paradigm.

Sunkel emphasized the role of planning and showed how excluding environmental concerns from the mechanisms that guide decision-making was a perverse feature of the development model, and treated prevention as part of structural change (Sunkel, 1987). It was already being suggested that the region’s development was imitative and dependent, and that little was being done in the way of innovation to use its resources in an optimal manner.

ECLAC also warned early on that preserving the environment was an economic win: “contrary to the tendency to view the ecological problem as something negative, as a cost to be absorbed, it is increasingly clear that there are modes of economic development that derive obvious benefit from appropriate environmental management”, and, for that reason, “environmental management is not only of interest for ecological preservation, but is also a positive economic factor that can be added to others” (Iglesias, 1983). Later, in the context of the debt crisis, it was proposed that crises presented an opportunity for change: in response to the recessionary adjustments of the Washington Consensus, the Commission proposed an expansionary adjustment (selectively restricting demand and selectively expanding supply, with efficient planning and State intervention). These concepts — the environment as an economic factor and selective expansion as an alternative to recessionary adjustment— would later serve as the basis for the new recommendations of ECLAC on sustainable structural change and the environmental big push (Bárcena, Samaniego and De Miguel, 2019).

From the perspective of production, Fajnzylber (1988, 1990 and 1992) made recommendations for the region on industrialization, technological development and competitiveness, including one of his key contributions, the idea of genuine competitiveness, which was meant to take environmental sustainability into consideration, unlike spurious competitiveness, which was based on social and environmental degradation. These ideas would later complete the triad of efficiencies proposed by ECLAC (2018a and 2020): Schumpeterian efficiency (innovation and productivity), Keynesian efficiency (employment) and environmental efficiency.

The Earth Summit, held in Rio de Janeiro in 1992, marked a turning point by establishing sustainability as a universal goal and defining development as a holistic concept. The Summit marked the beginnings of global environmental governance and saw the adoption of Agenda 21 and its 27 principles. It also culminated in the signing of three global environmental agreements (the Convention on Biological Diversity, the United Nations Framework Convention on Climate Change and the United Nations Convention to Combat Desertification in Those Countries Experiencing Serious Drought and/or Desertification, Particularly in Africa), all of which influenced the agenda of the region. Concern was also expressed over the misvaluation of natural resources, whose prices often failed to reflect their intrinsic value and the environmental costs of exploitation (Azqueta, 1994).

Despite the strengthening of regulatory frameworks for environmental protection and institutions for environmental management, Ocampo (1999) warned that environmental policies were relegated to a marginal role and that the power granted to environmental authorities was limited and had to be negotiated with economic authorities from a position of disadvantage; he therefore called for stronger environmental institutions and policies. His descriptions remain entirely valid today, including with regard to the economic undervaluation of environmental goods and services (or functions), reflecting a belief in abundant natural resources leading to their overexploitation; limited availability of technologies and effective means of transferring appropriate technologies; lack of suitable public policies; and failures in institutional frameworks (property rights, rent capture, clientelism and representation issues, such as the principal-agent problem), markets (externalities) and lack of markets, transaction costs and information asymmetries, and policies (distorting subsidies, prices that fail to reflect opportunity cost, and perverse incentives). In the late 1990s, ECLAC initiated efforts to develop management strategies for medium-sized cities, aiming to tackle challenges related to spatial utilization, urban productivity, decentralization and local governments, among other issues (ECLAC, 1998).

ECLAC (2000) highlights a series of points that are critical for discussions on sustainability: the ethical framework of human rights and equality, democracy and the role of the citizenry. Ocampo also called for the principles of sustainable development to be spread through the education system and the media; for the preparation of effective spokespersons for environmental interests; for the active participation of non-governmental institutions in implementing and monitoring environmental management; and for the establishment of participation mechanisms to enable citizens to clearly express their interests. Above all, he defended the need for effective legal instruments to ensure meaningful respect for public interests.

The year 2002 marked a milestone in the work of ECLAC, which focused on a detailed analysis of economic globalization but also on the globalization of values (ECLAC, 2002a). The region's objective at the time was to contribute to a new international order that would reduce global asymmetries and level the playing field, ensure an adequate supply of global public goods and promote a rights-based agenda. The main stumbling blocks for the sustainability agenda were institutional and financial, as well as the perception that sustainability was a cost rather than an opportunity. That year, ECLAC also addressed financing for sustainable development, at both the International Conference on Financing for Development (held in Monterey, Mexico) and the World Summit on Sustainable Development (held in Johannesburg, South Africa), and strengthened its support for assistance and training programmes on economic instruments for environmental management (ECLAC, 2002b).

With an approach focused on productive transformation, competitiveness and open regionalism, ECLAC (2004 and 2008) pointed to the external context as a determinant for national policy outcomes. It also signalled the lack of markets for the region's environmental goods and services. In 2005, a series of inter-agency reports began to be prepared under the aegis of ECLAC to analyse the achievement of the Millennium Development Goals (United Nations, 2005), in particular Goal 7, on ensuring environmental sustainability (United Nations, 2010), finding that environmental information on key issues was lacking in the region and pointing to the urgent need to control the decline in forest cover and the steady increase in greenhouse gas emissions. The Rio+20 Conference enabled ECLAC to mainstream its ideas across

the United Nations system, as the Commission spearheaded the preparation of two inter-agency documents, one in the lead-up to the Conference (United Nations, 2012) and the other analysing its outcomes (United Nations, 2013).

The publication *Sustainable development in Latin America and the Caribbean. Follow-up to the United Nations Development Agenda beyond 2015 and to Rio+20* emphasizes the need for structural change to achieve equality and environmental sustainability; underscores the role of policy and institutions and the co-responsibility of the private sector; acknowledges the need to go “beyond GDP” in measuring development; and calls for the establishment of global sustainable development governance. It also identifies gaps (including productivity and environmental sustainability) that represent barriers for sustainable development and defines enabling goals for the establishment of compacts and a new global governance. It sounds the alarm regarding the deterioration of natural productive systems and rising environmental and economic costs, which are overlooked by conventional macroeconomic statistics because they are not reflected in the market. It also notes the need to think not only about short-term flows associated with transformation processes but also about long-term effects on natural heritage; the importance of striking the right balance between the market, the State and social forces; and the role of policy and good governance (De Miguel and Sunkel, 2011).

During this period, the Commission’s lines of work expanded to important new spheres, such as evaluating environmental performance, distinguishing between intentions, actions and outcomes, and analysing in detail the effects of climate change and mitigation and adaptation measures, which supported the countries of the region in acquiring solid, evidence-based knowledge to prepare for climate negotiations and strengthen their technical staffs. Studies were then conducted on the effects of climate change on the coasts of Latin America and the Caribbean, and a database was set up that was unique in terms of the breadth of variables and the amount of data it contained; it was also the first to cover the entire region (ECLAC, 2011, 2012a, 2012b, 2012c and 2015; Government of Spain/ECLAC, n/d). The impact of climate change in the region was found to be considerable, increasing over time and affecting numerous variables that were not usually taken into account, and that the costs of inaction exceeded those of mitigation, meaning that urgent adaptation measures were needed.

In the 2010s, the work of the Commission focused on equality, and the trilogy of equality was published: *Time for Equality: Closing Gaps, Opening Trails*; *Structural Change for Equality: an Integrated Approach to Development*; and *Compacts for Equality: Towards a Sustainable Future*, and environmental issues were also analysed from that perspective. The rights-based approach was also developed (ECLAC, 2014). From this perspective, sustainable development, far from being manifested exclusively through greater economic growth, should be reflected in improved quality of life (expressed through the full exercise of human rights) capable of ensuring resilient economic, social and environmental systems. The first issue of the *ECLAC Select Pages* collection showcased the increasing integration of environmental sustainability as a key concept for the equitable development sought in the region, particularly in the context of shaping an international development agenda post-2015 (De Miguel and Tavares, 2015).

The Latin American and Caribbean countries mostly enshrine the right to a healthy environment in the constitution (ECLAC, 2018b). The first Latin American and Caribbean environmental treaty, the Regional Agreement on Access to Information, Public Participation and Access to Justice in Environmental Matters in Latin America and the Caribbean (Escazú Agreement) (ECLAC, 2022b) —for which negotiations had begun at the Rio+20 Conference— was adopted in 2018. The Agreement guarantees the right of access to information, public participation and justice in environmental matters, as well as the right to a healthy environment and sustainable development. ECLAC thus contributed to the perpetual quest for compacts and consensuses to address the challenges of sustainable development.

Concern over commodity export specialization remained eminently relevant, and with regard to good natural resource governance (Altomonte and Sánchez, 2016), Sunkel's original concept of the inappropriate use of such resources and of natural heritage was further developed. It was warned that signs of Dutch disease were beginning to appear in countries that lacked the instruments to manage commodity cycles and external shocks, which prevented them from properly strengthening their national productive and technological capacities (Ocampo, 2017). León, Lewinsohn and Sánchez (2020) also noted an ecological trade imbalance between the region and the rest of the world, as it exports more materials than it imports, generating a larger environmental footprint compared with developed countries that specialize in high-tech goods and services. Gligo and others (2020) warned of the environmental tragedy of Latin America and the Caribbean and the crossroads that the region has reached today, and their work offers high-impact environmental management policy recommendations.

ECLAC (2020 and 2022a) fully mainstream environmental sustainability, in keeping with the three-gap model for sustainable development, and development alternatives are presented in the context of the “big push for sustainability”. These publications recognize the significant limitations on the region's growth: it is insufficient to close the social gap (eradicate poverty), and incompatible with the external gap (achieving external balance) and the environmental sustainability gap (taking as a proxy the greenhouse gas emissions reductions that countries agreed to achieve by 2030 in their NDCs) (ECLAC, 2020). It is currently estimated that growth of at least 4% per year is required to meet social needs; maintaining external equilibrium, given global growth of 3% (the rate recorded in 2023, for example), would require potential growth of around 3%; and meeting the targets of the Paris Agreement, given the current economic structure, would require degrowth of between 1.5% and 2.2% (ECLAC, 2023e). Solutions are put forward that could be implemented through public policies to boost the strategic sectors capable of contributing to the transformation of the region's development model and the achievement of a transformative reactivation in the context of a new lost decade. The studies note that for countries to meet their emissions reduction commitments, economic growth must be decoupled from emissions at a rate that is four to five times faster than previously seen, meaning that small changes will not serve. Lastly, although the annual additional investment required to meet climate commitments by 2030 would be the equivalent of between 3.7% and 4.9% of regional GDP, the climate financing currently flowing to the region comes to barely 0.5% of GDP (ECLAC, 2023e).

Proposals concerning the circular economy, the bioeconomy, nature-based solutions, renewable energies, and sustainable public transport (including electromobility and retrofits) have the potential to close the three gaps and generate dynamic competitive advantages for the region (Borba, 2020; De Miguel and others, 2021; Van Hoof, Núñez and De Miguel, 2022; ECLAC, 2023b). There are obvious challenges when it comes to changing the development model to address climate change: narrow fiscal space, historically low rates of investment, and limited concessional financing and technology transfer from outside the region. Enablers of change include analysing climate-related financing and investment opportunities, establishing taxonomies to align the financial system with sustainability, promoting carbon pricing policies, incorporating climate change indicators into licensing systems, and sustainable management of the mining sector and mining liabilities (which is needed to supply transformative sectors).

The traditional thinking of ECLAC has thus been progressively updated in light of the most recent global events — including shifts in globalization and overlapping financial, social, geopolitical, environmental and climate crises — establishing priorities for the transformation and focusing on the “how” — the ways in which the challenges could be met — on the basis of good governance, institutional capacities, improved information and analyses, participation, citizen dialogue and partnerships. A more ecological neostructuralism is thus emerging (Sánchez, 2019), shaped by grave global and regional environmental issues and the need to adopt urgent measures, but also aimed at achieving just transformations and incorporating the social dimension.

IV. Reconciling growth and environmental sustainability: the economic thinking

The most recent proposals by ECLAC on transforming the development model hold that it is crucial to maintain strong, steady, sustainable and inclusive growth. Among other aspects, this entails reconciling growth with environmental sustainability.

Panayotou (2000) classified the factors that trigger environmental impacts (both negative and positive) into six major groups. First is the scale of economic activity, which exerts greater pressure the greater the economic and population growth, all other things being equal. However, a structural change, a reduction in the intensity of resource use or a technological advance could theoretically reduce such pressure or emissions more than proportionally. This is not yet happening. Second is higher income, which makes greater consumption possible, but also, once certain income levels are exceeded, increases the willingness to pay for improvements in environmental quality, both individually and collectively. The behaviour of certain pollutants sometimes reflects an environmental Kuznets curve (an inverted U), but the trends shown in figures 3 and 4 suggest that it would not be possible to reach the level of income needed to trigger the necessary transformations. The third factor Panayotou mentions is changes in the structure of economic activity and productive specialization, which, based on the country's comparative advantages resulting from factor endowment or generated through innovation and investment, offer a unique opportunity to align with the structural change proposed by ECLAC. Targeting sectors capable of driving the transformation and the big push for sustainability could support the development of new, less polluting productive structures. The fourth factor is the composition of output. Opening up markets for environmentally friendly goods and services (solar panels, organic food or recyclable products) will support exports and growth, closing sustainable development gaps. However, the region is a net importer of environmental goods and services, and neither its patents nor the export trends for these products suggest a change in this direction over the medium term. Fifth, technological solutions and their dissemination have been central to several economic strands of theory, as will be discussed below. The expectation that technology —and financing— will be transferred to developing countries remains. More efficient machinery and equipment, clean technologies, new technological solutions, digitalization and good business practices would undoubtedly contribute to solving environmental problems, but public policies and proper regulation are also essential, as with other areas mentioned earlier. The final factor is regulatory change. Growing concern over climate and environmental issues around the world has spurred the strengthening of environment-related institutional frameworks and regulations. The mainstreaming of environmental factors into economic and social decision-making has also improved as the evidence has grown of increased risks associated with environmental degradation. Despite regulatory change moving in the right direction, albeit with some lag, explicitly environmental policies are limited in their effectiveness by policies implicit in different economic sectors. They also suffer from a lack of consistency and coordination, which makes it difficult to comprehensively assess them and for them to have the desired impact.

The idea that the environmentally unsustainable development model can be remedied by technology is probably the greatest source of conflicting opinions among economic schools of thought. On one side is the technologically optimistic neo-Schumpeterian vision (for example, see Mazzucato, 2023; Marín and Perez, 2015 and 2024; and Katz, 2024) regarding the role of innovation and technological development in the quest for options to achieve sustainable development. From that perspective, innovation and green technologies can be used, in a context of inclusive industrial strategies, to find solutions based on the valuable natural heritage of Latin America and the Caribbean, without squandering or degrading it, by improving productivity sustainably and boosting the sectors that can generate positive synergies between productive, social and environmental objectives. These authors redeem the role of the State and its capacity to catalyse positive synergistic processes to drive a different kind of development, taking into account environmental and social problems but also the need to strengthen growth and

close the external gap. This means boosting technology development to drive changes in the structure and composition of production, guided by active policies and regulations.

On the other side is technological pessimism (for example, see Martínez-Alier and Roca, 2014; Daly, 2014; and Pérez, 2024), which derives from the school of thought of ecological economics, based on limitarianism. Authors who subscribe to this viewpoint acknowledge that the economy is primarily entropic, generates an ever-growing ecological footprint, and is threatening the air, water, soil, biodiversity and ecosystem services that support life. For this reason, they are sceptical and cautious regarding technology wins. They propose that a recognition of the biophysical limits of economic activity is essential and advocate strong sustainability.³ From the ecological economics perspective, natural heritage and ecosystem services are critical and cannot be substituted. The integration of the environmental dimension is not subordinate to the economy; instead, the reverse is true, and there is no technology that can change this fact, although it can support an increase in environmental efficiency. The economy is merely a subsystem that is part of a larger system, the social system, and both are part of an even larger system, the ecological system that is the source of life on the planet. This idea was also espoused by the United Nations when the 2030 Agenda for Sustainable Development was broached. The difference lies in the fact that proponents of ecological economics support the imposition of limits on growth, with internal differences in the scope of those limits, ranging from achieving a steady-state economy (Daly, 2014) to promoting economic degrowth, at least in the countries of the global North (Martínez-Alier, 2009). These authors are sceptical that a relative decoupling of well-being from the material conditions for production is sufficient, and contend instead that absolute decoupling is needed.

Like ECLAC, ecological economics also contributes to the discussion on distribution, incorporating the dimensions of intergenerational and international justice into the economic and environmental spheres (Pérez, 2024). In the international dimension, it connects with ECLAC thinking on structural issues of dependency and productive specialization, as the Commission argues that the region is relinquishing its natural heritage and generating a perpetually increasing ecological footprint in its territory in order to satisfy the developed countries' demand for growth, without receiving just recompense, since environmental costs are not properly quantified.

There are also attempts, from a more institutionalist and post-Keynesian perspective, to incorporate the environmental dimension into economic growth models, questioning approaches that defend economic degrowth in the belief that only a certain level of economic growth can support the development of cleaner technologies. According to this approach, what matters is the type of expenditure and growth in demand, which should be more supportive of technological progress aimed at achieving ecological sustainability (see, for example, Fontana and Sawyer, 2016; Althouse, Guarini and Porcile, 2020; and Vernengo, 2024). This school of thought is more closely linked with the ideas of the Green New Deal, which focuses on promoting investment in the greenest infrastructure and technologies and adopting regulations to incentivize economic agents to adopt cleaner technologies. Although these ideas have gradually permeated the programming and legislative proposals of some countries, such as the United States or the countries of the European Union, they have not been implemented in any significant way.

Moreover, the ecological economics perspective, like institutionalist and post-Keynesian economics, is critical of the neoclassical notion of the rational, omniscient economic agent that maximizes profits and of the idea that economic or material welfare, linked to consumption, should be the goal of the economic system (Vernengo, 2024). From the neoclassical perspective, environmental issues are seen as negative externalities and market failures (for example, because of lack of information, incomplete markets or poorly defined property rights), for which some degree of regulation is admitted, to make adjustments.

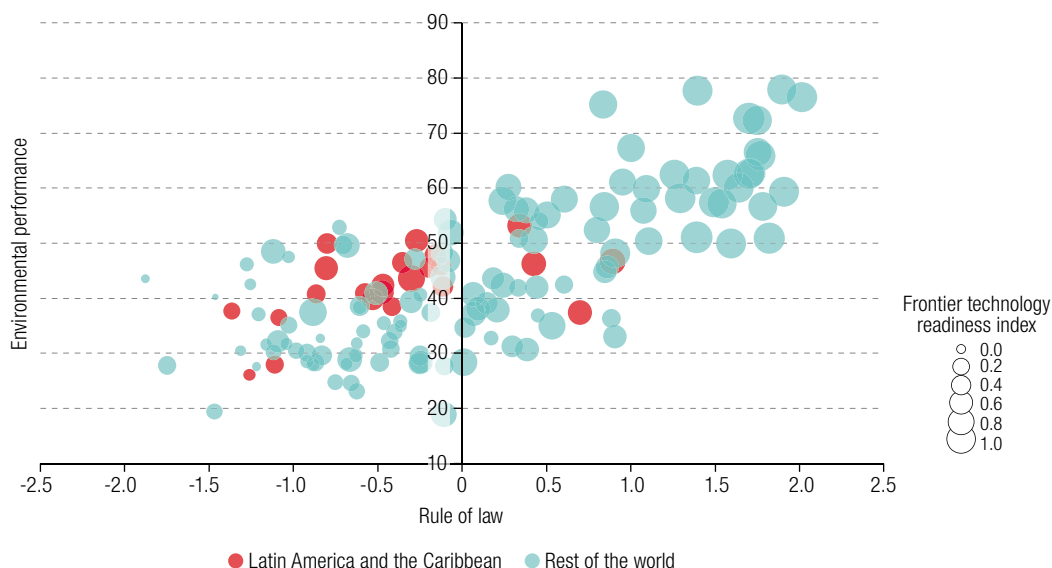
³ The concept of weak sustainability made it possible to view social and natural assets as capital, but from that perspective, the world was still seen as limitless, devoid of thresholds or irreversibility, in which all types of capital could be monetized or substituted. Pearce and Turner (1989) defended the preservation of a critical store of each of the different types of capital and treating them as complementary, thus incorporating the concept of strong sustainability into the search for optimal growth.

However, there is no recognition of any basic or structural problems related to modes of production and consumption that cannot be solved by simply putting a price on environmental costs or internalizing environmental externalities but instead require the structural transformation of the development model.

ECLAC could be said to have developed its own neostructuralist school of thought, embracing aspects of the three perspectives described (ECLAC, 2020, 2022, 2023b, 2023c and 2023d; León, Lewinsohn and Sánchez, 2020; Sánchez and León, 2024). Its recommendation for a big push for sustainability and defence of the conjoining of industrial, technological, environmental and social policies to achieve social, economic and environmental sustainability are similar to the optimistic neo-Schumpeterian theses on technology solutions. However, its proposal to promote the environmental big push and a transformative recovery following the coronavirus disease (COVID-19) pandemic, identifying driving sectors, promoting active public policies that foster sustainable structural change to close external, social and environmental divides, and underscoring the important role of policies in bringing about change, is closer to post-Keynesianism.

The transformations needed to achieve the type of growth sought also require institutional capacities, rule of law, governance and social dialogue. This holistic approach of ECLAC, which recognizes the points of connection between the generation and absorption of technological solutions, environmental performance, and institutional and social surroundings (see figure 8), adopts an institutional perspective of cautious technological optimism.

Figure 8
Latin America and the Caribbean and the rest of the world: environmental performance, rule of law and technological readiness, 2021 and 2022
(Indices for environmental performance, rule of law, and frontier technology readiness)



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on Observatory on Principle 10 in Latin America and the Caribbean, on the basis of World Bank, Worldwide Governance Indicators [online] <https://databank.worldbank.org/source/worldwide-governance-indicators>; United Nations Conference on Trade and Development (UNCTAD), "Frontier technology readiness index, annual" [online] <https://unctadstat.unctad.org/datacentre/dataviewer/US.FTRI> and M. Wolf and others, 2022 Environmental Performance Index, New Haven, Yale Center for Environmental Law & Policy.

Note: The World Bank rule of law indicator is measured in standard deviations (minimum=-2.5, maximum=2.5); the range of the environmental performance index (EPI), established by the Yale Center for Environmental Law and Policy, is from 0 to 100; and the range of the frontier technology readiness index (FTRI), developed by the United Nations Conference on Trade and Development (UNCTAD), is from 0 to 1.

The historic proposal of ECLAC for structural change will undoubtedly contribute to environmental sustainability and the responsible use of natural resources. It must therefore be capable of producing significant innovations and technological advances to improve productivity sustainably and generate

authentic and robust competition. It must also incorporate environmental innovations to incentivize production with a smaller environmental footprint, which does not threaten natural heritage and the ecosystem services that are essential for life.

V. Challenges and opportunities in a new context: recommendations for Latin America and the Caribbean

As noted throughout this article, the economy is currently facing a new scenario in which inequality and environmental degradation have become absolute determinants of the viability of development as we know it. Environmental sustainability — as both an opportunity and a problem — is already playing a significant role in areas such as competitiveness, innovation, investment, market decisions and policy options.

In a context in which the repercussions that have already been triggered by environmental degradation and climate change in both the region and the rest of the world continue to worsen, and faced with the fragility of international governance and multilateralism, the race to control the industries of the future and their related technologies and the growing scarcity of natural resources have contributed to polarization across the planet and are altering the foundations of the economic and trade relations of decades past. There has been a shift from a green new deal, with a positive focus, towards increasingly protectionist practices, tariffs and subsidies for strategic sectors, technological control and trade wars. This “destructive innovation”, along with geopolitical resource conflicts, growing inequality, climate impacts, and ever-increasing migratory flows triggered by environmental factors, are threatening democracies and global peace and security. The region also runs the risk of remaining on the “periphery”, with a pattern of international integration that falls short of improving its citizens’ quality of life while simultaneously protecting its diminishing natural heritage.

Nonetheless, many opportunities arise in response to this scenario in terms of fostering the region’s development and boosting its political influence in international discussions, which could contribute not only to overcoming the cascading crises it currently faces and the low growth it has suffered for over a decade but also to achieving a just climate transition. To achieve this, it will be necessary to implement a wide-ranging mix of policies, investments, technological transformations, and changes in behaviour and international cooperation, to enable: (i) a change in the material basis and energy mix of the region in line with commitments to combat climate change, the Sustainable Development Goals (SDGs) of the 2030 Agenda, and its own environmental challenges, in particular deforestation, biodiversity loss and urban pollution; (ii) redefining the region’s role and position in response to the growing demand for natural resources from developed and emerging countries so that they can advance with their own transitions, making responsible use of the rich natural heritage of the region; and (iii) productive development initiatives that align with the big push for sustainability, meaning that they generate a flywheel effect in the economic, social and environmental dimensions, contribute to overcoming the three gaps mentioned, and foster just transitions. In that regard, several lines of action are proposed and set forth below.

1. Reference metrics: the gap approach

Progress towards sustainability must begin with changing the baseline metrics. ECLAC has proposed that a stronger focus on closing sustainable development gaps and on the related metrics should guide the narrative aimed at driving structural changes, based on need and opportunity. This recently

developed innovative approach, which is grounded in the thinking of the Commission, offers insights into the main contradictions with regard to growth in the region. At the same time, the United Nations and OECD, among others, had already warned of the need to go beyond GDP in benchmarking development (CEB, 2022), which means that analyses would be improved by information on the status of assets (and depletion indicators), as well as intensity and productivity indicators.

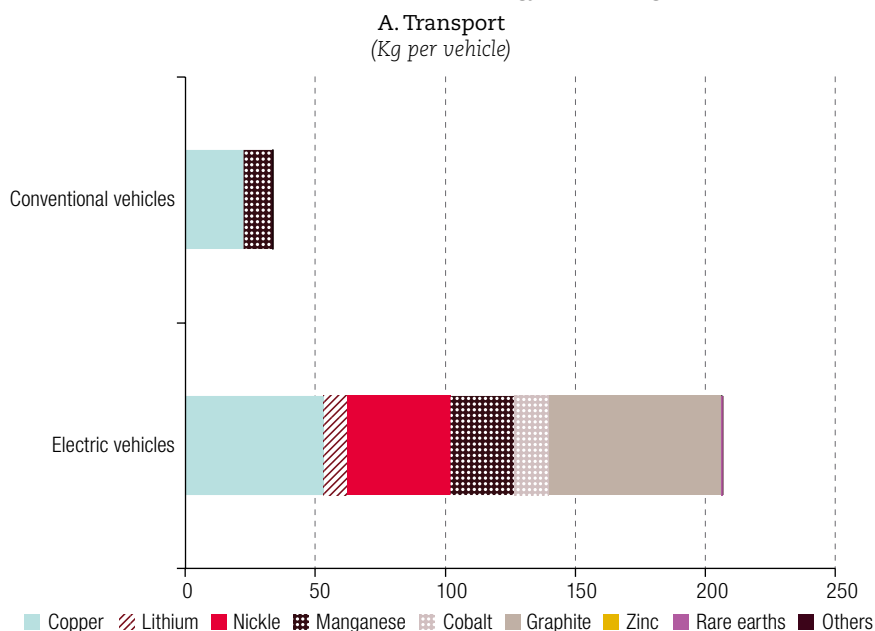
2. Responsible use of natural heritage

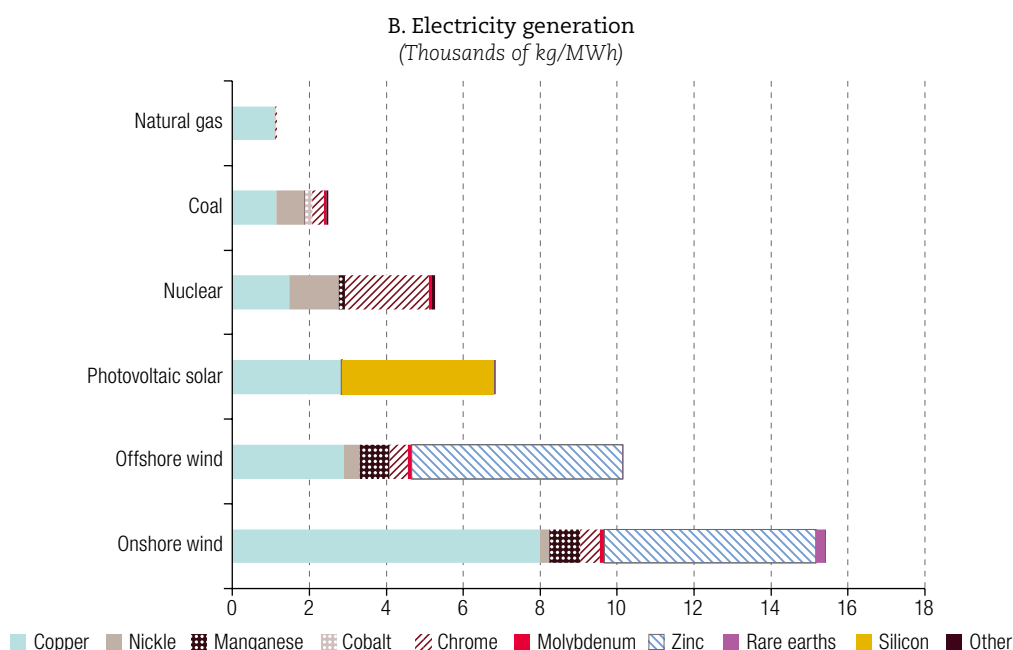
Having a rich natural heritage is not a curse, but the benefits and costs associated with its use depend on governance, responsible management, and appropriate use of the rents and revenues it generates, which must contribute to the welfare of present and future generations. Based on the specific circumstances of each country, it is critical both to ensure that natural resources are not squandered through imitation of unsustainable patterns of production and consumption and to refrain from responding automatically to the demands arising from the productive, energy and ecological transitions of developed and emerging countries by perpetually supplying raw materials. There are significant needs for some materials for the transitions under way (see figure 9), and a new multilevel, multi-stakeholder, transparent, democratic and effective governance model is needed to anticipate the repercussions of that demand (ECLAC, 2023b).

With regard to extractive resource rent capture, there is a need to employ a progressive approach, prevent countries or regions from engaging in a race to the bottom in terms of taxation, social and environmental standards, and eliminate tax evasion and avoidance stemming from underinvoicing of exports, transfer prices and misinvoicing or false customs declarations. Combating illegal natural resource exploitation is another area with room for improvement.

With regard to the use of natural resource rents, management mechanisms to ensure stable macroeconomic conditions and guard against commodity price volatility and cycles are essential, as is financing the strengthening of countries' human, technological and productive capacity in order to ensure that capital will be available over the long term for current and future generations.

Figure 9
Mineral use in selected clean energy technologies, 2021





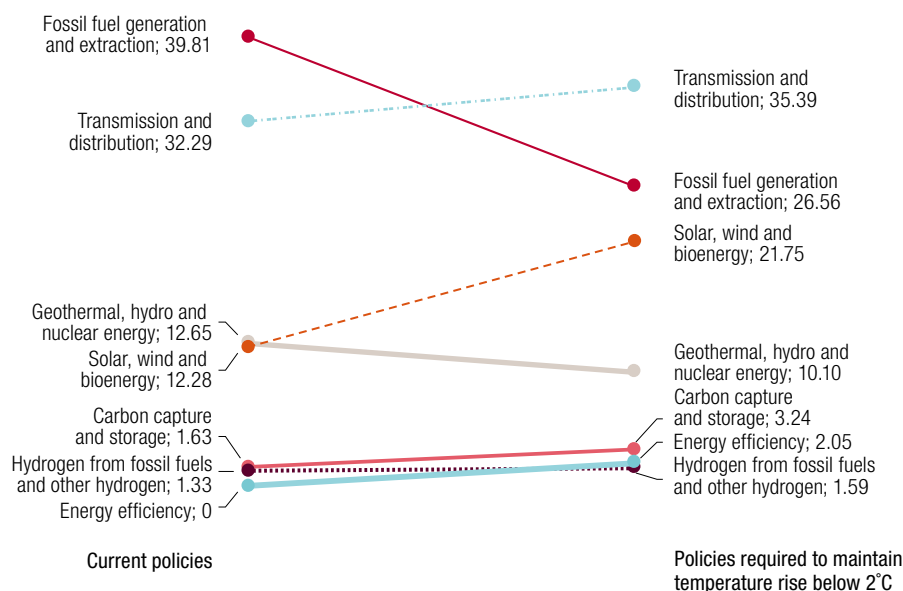
Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of International Energy Agency (IEA), *The Role of Critical Minerals in Clean Energy Transitions*, Paris, 2021.

3. The climate transition and investment strategies to drive sustainability

The responsibilities that relate to climate action are shifting from ministries of the environment to ministries of finance, planning, economy, energy, infrastructure and transportation, among others. Coordinated action is needed to confront climate change, guided by long-term planning frameworks and strategic supply initiatives to develop clusters with greater domestic content. Decision-makers must take simultaneous action on supply and demand (Hausmann, 2023). Updating NDCs enables mitigation and adaptation priorities to be examined and aligned, which in turn affects investment priorities. Figure 10 contains a comparison of the current scenario and the NDC-consistent scenario. However, monitoring must be enhanced to determine which industrial, fiscal, trade, and other initiatives and policies can foster the necessary transformations.

The big push for sustainability approach proposed by ECLAC implies the use of supply policies in some sectors that can contribute to closing sustainability gaps, as well as fostering a smooth and just transition, including in sectors such as the bioeconomy, sustainable transport and electromobility, renewable energies, sustainable construction and care. Given the scale of the investment needed, it will not be enough to align incentives (economic and regulatory) and establish productive development policies. The private sector must be encouraged to engage actively, by promoting dialogue with stakeholders at the forefront of the transformation. Moreover, productive development policies (in industry and technology, for example) need to be broad, and must foster synergies to broaden the economic and social fabric and achieve the highest possible degree of inclusivity. Supporting applied research and public and private technology centres will be foundational for the achievement of patentable local innovations and to adapt and imitate foreign technologies, including for batteries, green hydrogen, tidal energy, construction materials and improved seed stocks.

Figure 10
Latin America and the Caribbean: share of total average annual investment, 2021–2030
(Percentages)



Source: Economic Commission for Latin America and the Caribbean (ECLAC), *The economics of climate change in Latin America and the Caribbean, 2023: financing needs and policy tools for the transition to low-carbon and climate-resilient economies* (LC/TS.2023/154), Santiago, 2023.

4. Reducing systemic risks and supporting the economic transition

Climate change and the breaching of environmental thresholds entail a range of risks, because of both their effects and the transition towards low-carbon economies that countries must make, which has a knock-on effect on the economy and finance. In addition to analysing the economic implications of climate change, it is essential to focus on systemic risk analysis, translating resilience thresholds into forward-looking macroeconomic scenarios. To achieve this, it is vital to work with central banks and other financial regulators and to support financial sector initiatives for creating a “greener” system, from both development banks and the private sector. The main lines of work in that regard are to conduct prospective analysis and apply the results in the financial and fiscal system; harmonize and consolidate regional green finance taxonomies as a policy instrument to strengthen public-private collaboration on transformative investments; generate policy frameworks for regulating financial systems on the basis of risks related to climate and the degradation of nature; and develop model standards for innovations in futures markets, such as green hydrogen emissions certifications, carbon markets, and options for water rights.

5. Adaptation and the provision of public goods

Given the high degree of vulnerability in Latin America and the Caribbean and insufficient international action to combat climate change, adaptation is a priority for the region. Data indicate that the total rate of return on investments in adaptation is high: the cost-benefit ratio ranges between 2:1 and 10:1. Having multidisciplinary teams estimate the cost of the impacts of climate change, using upstream and downstream approaches and integrated models and also determining the cost of inaction, enables the definition of policy priorities for national and subnational adaptation. However, assessments of public

investments or environmental impact do not tend to include the effects associated with climate change or the benefits of ecosystem services and enhanced resilience. Progress is therefore needed in the development of methodologies, and in capacity-building for national public investment systems and environmental impact assessment services, among other key actors.

In addition, the region's biodiversity and ecosystem wealth, in particular in the Amazon but also in the Mesoamerican Biological Corridor, mean that nature-based solutions are available. Potential areas of work include the promotion of territorial policies to combat coastal degradation or desertification, conserve water resources, and promote regenerative agriculture and pastoralism (leveraging projects that have proven to be restorative), and the development of economic opportunities for sustainable ecosystem management (including productive chains, payment for environmental services, the sale of carbon credits, and fair and equitable sharing of the benefits arising from the utilization of genetic resources).

6. Changing the way things are done: the circular economy

The circular economy approach is grounded in a quest to optimize material and energy efficiency and generate the least possible material waste. It therefore implies a societal transformation based on changing product designs and production methods to promote the elimination of waste and pollution, extend the useful life of products or use them more intensely and efficiently, supply maintenance for products and materials in use, and regenerate natural systems. There is ample room for improvement in the region in that regard. National and local strategies originating in inter-agency agreements are needed, led by ministries of industry or economy if possible, in order to boost productive activities that are circular in nature. Regulatory frameworks for transforming internal combustion vehicles into electric vehicles and for batteries discarded after use in electromobility are aimed at establishing enabling conditions for the development of sustainable businesses in the context of circular economy strategies. Regulatory transformations — for example, legislation on extended producer responsibility, standards and certifications— and cooperation with business associations such as *Compromiso Empresarial para el Reciclaje* (CEMPRE) and certification bodies, among others, must continue to be supported and monitored.

7. Cities: spaces for transformation

Many of the effects of environmental degradation and climate change occur in cities, which are also the site of many of the transformations needed to address issues such as mobility, construction and energy efficiency. The establishment of a low-carbon or smart, sustainable and inclusive urban development model requires the strengthening of local government capacities and efficiency and stronger coordination with other levels of government. It must be recalled that the participation of local governments is essential for achieving two thirds of the 169 targets of the SDGs. A change is therefore needed that shifts the dominant narrative regarding cities, which privileges the physical and spatial dimensions, towards strengthening their role as a factor of production, focusing on new opportunities for creating value and boosting productivity, and emphasizing their value as a destination for transformative investments.

8. Standards and instruments: mandatory common minimum

As noted earlier, it is undeniable that the transition to a low-carbon economy will give renewed impetus to traditional sectors in the region, such as mining, that generate significant socioenvironmental externalities, which add to traditional environmental and urban issues, such as indoor and air pollution,

traffic congestion and overconsumption of environmental goods and services. Appropriate regulatory frameworks and standards are needed in order to ensure that the opportunities presented by the transition do not worsen local environmental problems. Strengthening licensing systems, ensuring due diligence, avoiding the generation of environmental liabilities and applying the polluter pays principle are some of the priorities for obtaining social licence. In a context of fiscal constraint, it is also urgent to enforce environmental taxes and eliminate perverse subsidies, through fiscal reforms that engage with the transition and its potential impact on vulnerable groups. It is also worth emphasizing the extremely high cost for the countries of the region of illegal activities that harm the environment.

9. Governance system and political economies of change: towards intra- and intergenerational distributive justice

Socioenvironmental conflicts continue to mount in the absence of criteria for distributive justice. It is essential to improve environmental governance and institutional capacities and strengthen the rule of law, justice systems and environmental democracy, not only to resolve these complex situations but also to develop collaborative institutional mechanisms that are stable over the long term. In other words, it is urgent to forge compacts to drive the transition. Progress by countries in the implementation of the Escazú Agreement, fostering joint work between the executive branch, the legislative branch (and its regional parliaments and parliamentary networks working on the environment and climate action) and the judicial branch (through the Montevideo Programme for the Development and Periodic Review of Environmental Law or the Ibero-American Judicial Summit) and the inclusion of as many stakeholders as possible in regional discussions will enable the broader consensus required to achieve transitions.

Also needed are greater integration and collaborative regional frameworks that support the development of economies of scale, stronger resilience in the face of external shocks in an increasingly uncertain world, and stronger international bargaining power. One example of a practice that limits the region's impact in the area of climate change is dividing its countries into different negotiating groups. In that context, the Community of Latin American and Caribbean States (CELAC) plays an important role by providing opportunities for more influential regional positions.

Lastly, at a time when globalization is in crisis, coordination strategies and international agreements are essential. However, global environmental governance is fragile, multilateral environmental agreements agreed upon by consensus make it difficult to raise the level of ambition, and such agreements lack mechanisms for penalizing non-compliance. In addition, nearly all participants in the United Nations Environment Assembly of the United Nations Environment Programme are environmental authorities, meaning that it is disconnected from the forums in which economic decisions are made. Global decision-making processes are slow, which contrasts with the urgency of the problems raised, meaning that unilateral measures that affect trade and investment (such as border tariffs or subsidies to green sectors) are likely to proliferate, and the region will need to be capable of anticipating this. The cases and recommendations of the Committee on Trade and Environment of the World Trade Organization, proposals such as the Global Pact for the Environment (as a binding legal instrument on international environmental law), and petitions to establish an international environmental court are clear indications that a unified regulatory framework and global responses to the current environmental challenges are needed, and that scientific and technological advances must go hand in hand with commitments and values. In the absence of global environmental governance under the aegis of the United Nations, it will be difficult to safeguard the interests of a divided periphery. The principle of common but differentiated responsibilities must also be expressed in economic terms.

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