



REFLECTIONS
ON THE GREEN
ECONOMY AND
POWERSHORING

SUMMARY

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HOW TO LEAD THE SUSTAINABILITY AGENDA







Reaching a high economic growth has been an historic economic policy objective in Latin America and the Caribbean (LAC). But the region's GDP per capita grew a modest 0.9% per year on average between 1980 and 2021, with a standard deviation of 2.6%. In other words, we have experienced the undesirable combination of low growth and high volatility that limits the possibilities of improving the quality of life of the people. Uncontrolled public spending, high inflation, unstable monetary policy, high exposure to external shocks, low investment, low productivity, low economic diversification, and high informality have been common in the region. The aspiration to bring the quality of life to reasonable international standards is, therefore, a dream that is still far from being fulfilled.

To break with this supposed destiny, it will be necessary, among other things, to promote economic activities with which the region has a comparative and competitive advantage and that generate many quality jobs. One of these bets is the sustainability agenda, but from a perspective that goes beyond adaptation and mitigation to climate change. After all, LAC has unparalleled natural and biological wealth. However, all this wealth hasn't been used enough to promote development.

How to advance? Among the most promising paths are scientific and technological development, innovations and new business models associated with sustainability and the so-called sustainable finances.

In fact, the region has already demonstrated its potential in science, technology and innovation, such as the ethanol engine program, the discovery of new molecules and their applications, sustainable chemicals, technologies for sustainable agriculture and mining, innovative water management and forests, among many other technologies with a high

impact on economic diversification and sophistication. However, all this has taken place on a still limited scale.

In sustainable finance, there is still a long way to go. While the global market for sustainable finance is growing by leaps and bounds, only a fraction is destined for the region. According to UNCTAD, the sustainable finance market is expanding rapidly both in number of instruments and issues and in value, with the stock of sustainable financial products estimated to be \$5.2 trillion in 2021, an increase of 63% compared to 2020. This includes funds, green, social and mixed sustainability bonds, voluntary carbon bonds, among other instruments. However, most of those products are domiciled and directed at assets in advanced countries.

As an example, global sustainable bond issuance exceeded US\$1 trillion in 2021, but LAC accounted for only 4.4% of that amount. Most emerging economies face barriers to developing their own sustainable funds. This can be explained, at least in part, by the limited size of the markets and the perception of risk. Greenwashing is another challenge. The evidence shows that many so-called sustainable projects label themselves. While these products tend to outperform their peers in terms of sustainability, preliminary analyzes reveal poor performance and suggest that many projects may not live up to their sustainability credentials. Projects that combine environmental and social outreach have had limited alignment with local communities and the 2030 Agenda.

The relative pause in the climate change agenda of advanced countries caused by concerns on the recent fossil energy crisis is a unique opportunity for LAC to reposition itself with greater prominence on the international sustainability agenda. But what should LAC do to develop its full potential? We need to implement an ambitious but realistic work



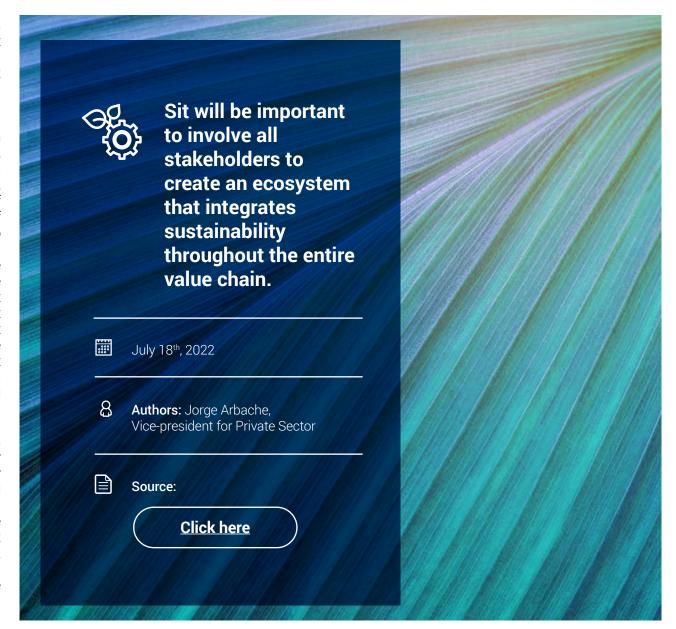




plan. This plan should include greater investments in C,T & I oriented towards sustainability, support for startups, development of entrepreneurship and venture capital ecosystems, training, management training and collaboration with international centers of C,T & I of reference in sustainability.

The plan must also promote sustainable finance, which requires institutional and regulatory strengthening, sector-specific regulation, cadastre, governance, supervision, monitoring, auditing, certification, taxonomy, standardization, traceability, regulation of business sustainability reports, quality improvement of projects and the fight against greenwashing. It will also be important to address systemic climate risks and their impact on the financial sector, including climate transition and environmental protection in governance mandates, strategy, risk management, investment decision-making and financial disclosure practices, asset managers, banks and insurers. It will also be important to ensure coherence between sustainable finance and fiscal, technology, sector and skills development policies. All this will give greater support, security, reliability and predictability to financial instruments and will be decisive in attracting resources to the region.

Finally, it will be important to involve all stakeholders to create an ecosystem that integrates sustainability throughout the entire value chain. Given the still early stage of development of sustainable finance, policies and regulations will need to be adapted in response to eventual changes and specific situations. While sustainable financial policies and regulations must take into account the context of each country, collaboration will be important to ensure the necessary consistency with international standards. All this effort can be decisive to grow more and better and to promote quality of life in the region.







What do nearshoring and the carbon tax have in common? Both will influence the global geography of foreign direct investment. The former, because it will attract business to countries geographically close to the United States; the latter, because it will change the competitiveness of production and export from countries with high carbon emissions.

Nearshoring results from the US policy of improving resilience and diversifying the sources of supply of its domestic market and the production chains in which it participates. This policy gained traction during President Trump's administration due to geopolitical issues, but the war in Ukraine and the long shutdown of the Chinese economy caused by the pandemic accelerated the process. Through active industrial policies and incentives of various kinds, the government has been encouraging the relocation of companies in parts of Asia to produce on American soil, but Latin America and the Caribbean (LAC) could also benefit from this initiative.

However, it is unclear what the impact will be for countries in the region, as U.S. policy prioritizes reindustrialization and job creation in the United States. The rapid drop in prices of advanced productive technologies will stimulate relocation to the US. This will affect LAC's comparative advantages, e.g. labor costs. But even so, the spillover effects for the region are very likely to be significant. IDB estimates suggest that nearshoring could increase exports of goods and services produced in the region by up to a whopping USD 78 billion in the coming years, but the impacts could be even greater on productive ecosystems, capacities and productivity and competitiveness of the private sector.

In addition to proximity and costs, LAC countries offer other attractive conditions for nearshoring, including support from local governments, the absence of sensitive geopolitical issues, cultural affinity with the United States, and a similar time zone. It is reasonable to think that Central American countries and Mexico would benefit, but Argentina, Brazil and Chile could also leverage these opportunities for their integrated productive industries and human capital, among others.

To make the most of new investment flows, the region would need to improve its appeal, including issues such as legal stability, sophistication of the work of investment attraction agencies, reduced red tape, training, digitalization, availability of companies and business support services, logistics infrastructure and credit funds. In addition to targeting large multinational companies, countries should also consider attracting mediumsized multinationals, as they tend to value the region's value propositions better, in addition to supporting the expansion of foreign companies already established in the country and with interests in the United States, encouraging the formation of productive clusters and production also targeting markets of the region.

Incorporating climate change commitments to the international trade agenda is another likely source of change in global foreign direct investment flows. The most emblematic case at the moment is the Carbon Border Adjustment Mechanism (CBAM), a legal device being evaluated by the European Union (EU). The CBAM will match the carbon price between domestic and imported products, ensuring that the EU's climate targets are not undermined by the relocation of production to countries with less ambitious climate policies. The mechanism, for example, would prevent carbon-intensive EU-based companies from moving to third countries with lower emission controls and then exporting to the EU, thus undermining climate efforts. EU importers would buy carbon certificates at the carbon price that would have been paid if the goods had been







produced under EU carbon pricing rules. Furthermore, once a non-EU producer can demonstrate that it has already paid for the carbon used in the production of goods imported from a third country, the corresponding cost to the Community importer could be deducted.

Border carbon adjustment mechanisms already exist in some U.S. states, such as California, and Canada, Japan and the U.K. are considering similar initiatives. There is a growing academic critical mass on this issue, as multilateral organizations are studying how these measures would contribute to reducing emissions, and the G20 is considering international coordination on the use of carbon pricing mechanisms. This suggests that the issue will remain on the table for years to come. The CBAM will be implemented gradually and applied initially to a selection of goods with a high risk of carbon leakage, including steel and cement. Green hydrogen, ammonia and spillover effects such as electricity will also be covered.

The inclusion of indirect emissions in the CBAM agenda will benefit countries that already have or are redoubling their commitment to clean energy matrices. As of now, Brazil, Costa Rica, Paraguay and Uruguay would qualify as potential destinations for climate-sensitive investments, but this group will be joined by other countries in the region in the coming years. As the transport of hydrogen and ammonia can be very expensive, the region could become a platform option for production processes with a low carbon footprint, with potential substantial economic and social impacts.

LAC countries must also accelerate the development of their carbon markets, adopt international taxonomies and best reporting practices, combat greenwashing, and implement ambitious ESG policies, bearing in mind that investment cycles are long and that first comers will benefit first.

Lastly, it is reasonable to consider that countries in the region that combine their proximity to the United States with attractive conditions for green investment will especially benefit from the likely realignment of investments globally.









When it began its first steps decades ago, the globalization of production sought in the low cost of labor the determining factor for the location of industrial investments. It didn't take long for Asia to become the world's manufacturing destination. Sometime later, the rise in labor costs and the search to reduce dependence on supplies from China would come into play. These, together with geopolitical issues, would lead to a growing revisionism on industrial location.

Three new factors would be added to them. The first, and perhaps the most important, is the environmental agenda, which goal is to reduce the carbon footprint of products. It would not be an exaggeration to think that we are already witnessing the transition from the globalization of production determined by the cost of labor to the globalization of production determined by environmental impact. This issue particularly affects China. The second factor is associated with the war in Ukraine, which has generated major security fears, significantly increased energy prices and volatility, fueled cost inflation, and increased risks of energy insecurity.

The volatility of energy prices and supply is not expected to normalize in the short term, which will have important economic repercussions globally, but especially in Europe, which is highly exposed to the geopolitical agenda and depends on fossil energy imports from Russia. To meet its needs, Europe is reviving dirty power plants and delaying its carbon neutrality commitments. The third factor is the growing increase in energy consumption in industrial production due to technology. These factors are affecting the rates of return and even the economic viability of many industrial plants and are already leading multinational companies to reconsider global investment location strategies.

An immediate reaction to all this is the nearshoring

policy, which advocates the transfer of industrial plants from China to friendly countries, with cheap labor and close to Western consumption centers. But it is "powershoring" that seems to best serve the present and, above all, future needs and interests of Western economies. Powershoring refers to the decentralization of production to countries that offer clean, safe, cheap and abundant energy and are close to consumption centers, in addition to other virtues to attract industrial investment.

Latin America and the Caribbean (LAC) meets many of the conditions of the powershoring economy. After all, the region is geographically close to North America and Europe, and several countries already have clean or mostly clean energy matrices, while others are walking the same path. In fact, the region in general has defined sustainability as a priority source of growth, taking as a starting point its enormous potential in hydraulic, solar and wind energy, in addition to the enormous potential for energy production from biomass, geothermal, biogas and biofuels.

Many countries have already developed policies to encourage the production of green hydrogen, which can benefit, during the transition, from the generous region's reserves of natural gas to blend the two gases, increase efficiency and reduce costs. Estimates indicate that the cost of a kilo of green hydrogen in LAC will be very competitive, a decisive element to transform the region into a platform for industrial production in general, but for energy-intensive products in particular, such as steel, pig iron, aluminum, glass, cement and cellulose, to mention just a few sectors. In addition to green, competitive and secure energy, the region also offers a wide variety of mineral and agricultural products for industrial use. And on top of all this is the region's estrangement from complex geopolitical issues.





There is no way that developed regions can significantly reduce their CO_2 emissions without slowing down the growth rate of their economies, which could lead to an even slower and politically more costly energy transition. The need to prioritize energy use, the commitments to the Paris Agenda, the exposure of industrial production to geopolitical issues and the increase in costs, seem to underline the attractiveness of LAC for Europe as a partner for energy security and to accelerate the decarbonization, in addition to ensuring industrial supply security and reducing energy cost pressure. The eventual entry into force of the Carbon Border Adjustment Mechanism (CBAM) will be an additional attractive factor for European industrial investments in LAC.

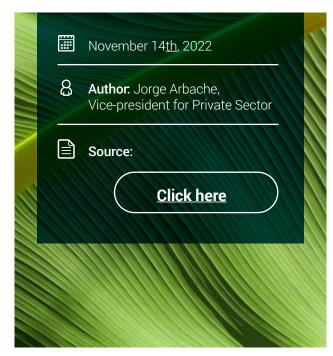
But the benefits of powershoring are two-way. Industrial investments would have important positive repercussions in the urban areas of LAC, which is where the vast majority of the population, informality and poverty in the region are concentrated. In addition, it could benefit small and medium-sized companies, have substantial impacts on productivity and competitiveness, generate taxes, exports and foreign exchange, and help reduce the region's exposure to commodity cycles that so much frustrate economic, social and environmental indicators. Finally, it could also contribute to fueling regional integration.

To implement a project like this, a roadmap that encourages foreign direct investment in powershoring will be needed. This should include consistent, coherent and solid policies and regulations for the promotion, financing and management of clean, safe and cheap energy, the development of quality projects, investments in physical and digital infrastructure to serve industrial zones and export logistics, promote investments in professional and industrial services, workers training, investment facilitation agreements, reduction of bureaucracy,

legal certainty and a lot of institutionality. There should also be present the progress of the Mercosur-EU agreement and the support of national and multilateral development banks for the financing and reduction of risks and costs of the private projects of powershoring.

LAC and the EU already have a long history of alliances and shared visions that further justify the strengthening of the transatlantic relationship, which could take advantage of already successful experiences, such as the high stocks of direct investment that Europe already has in the region.

Finally, the high liquidity of the global markets and the search for new businesses and investment destinations are additional elements that lead us to bet that powershoring will be the hot ball in the coming years.







POWERSHORING II





Europe is witnessing a growing number of industrial companies struggling to overcome the serious energy price and supply crisis, which is associated with the strong dependence on this imported input. The crisis had been looming over the horizon since before the Ukraine war, but it has accelerated since then. While several companies are reducing production, others, especially the small and medium-sized ones, are closing their doors and many others are laying off employees and relocating part of their operations abroad as a way of dealing with the situation.

In fact, surveys by industrial associations point to a growing interest of companies in transferring plants to other countries and analysts are already talking about an "accelerated deindustrialization of Europe". As an example, an important producer of electrical wires and cables based in Germany saw, throughout 2022, its annual energy cost multiply by six in relation to 2020 and the perspective is of more increases in 2023 and more problems of supply. This conjunction affects contracts and deals, with deleterious implications for market share. Energy has definitely ceased to be an additional cost item to become a critical factor in the fate of industrial operations. The relocation movement is expected to advance in the coming years, especially among companies in energy-intensive sectors.

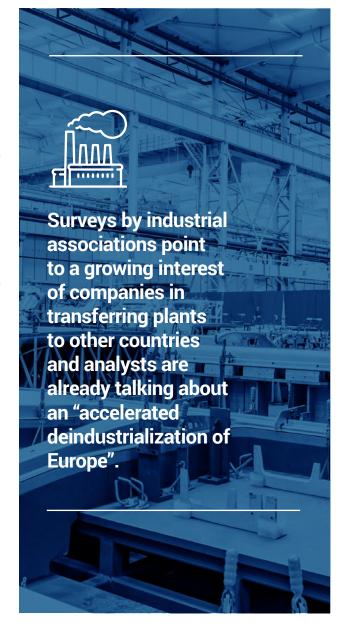
The uncertainty, cost and energy insecurity associated with geopolitics are not the only factors affecting the geography of investments, whether in Europe or elsewhere. Extreme weather phenomena are leading to energy shortages, blackouts and lockdowns and are also forcing the reduction of production and even the closure of factories, as seen recently in Asia and the United States, which is leading to revisionism about the advantages and risks of geographical concentration of production. Added to this are environmental regulations and corporate commitments to decarbonization, both especially relevant

for companies that are more exposed to government, public and investor scrutiny, which is also leading to revisionism on industrial location. For China, green and geopolitical protectionism are added to the above factors.

All of this alters the return on investments and highlights the relevance of powershoring as a strategy to protect competitiveness and productivity, ensure production security and ensure compliance with the environmental agenda. Powershoring refers to the decentralization of production to countries close to consumption centers that offer clean, safe, cheap and abundant energy, in addition to other virtues for attracting industrial investment. Powershoring is already becoming one of the main determinants of industrial location in the 21st century.

But, would the factors that encourage powershoring be transitory or permanent? The insecurity and prices of fossil energies will remain complicated for a long time, whether for geopolitical or regulatory reasons or lack of investment in specific infrastructures. Dependence on imported fossil energy should decrease over time with the entry into service of renewable energy stations, but the greening of the energy matrices of the large energy importing economies will still take a long time. Carbon regulations and taxes are expected to advance in Europe, raising domestic costs and affecting business competitiveness.

Therefore, it seems reasonable to state that those incentives are rooted in permanent or almost permanent and not transitory factors, and that powershoring would be a mitigation strategy for those "market gaps". After all, powershoring reduces costs, increases efficiency and production security, improves resource allocation, protects competitiveness, accelerates decarbonization in the country of origin and contributes to companies' compliance with the environmental agenda.





Latin America and the Caribbean (LAC) is especially well-positioned to be the destination for companies in need of powershoring. Among the immediate enabling factors are the already green or very green energy matrix, the increase in the supply of renewable energy projects with decreasing marginal costs, the implementation of green hydrogen production projects, the low exposure to geopolitical tensions, the growing hardening of environmental compliance and ESG standards and investments in ports and industrial zones.

But, to leverage powershoring and occupy spaces, the region will have to move forward with ambition and determination in a regulation agenda and incentives to stimulate investment in renewable energy and in transmission and distribution networks; make available de-risking instruments to attract investments, especially in projects with the highest impact on production chains and on adding value; ensure regulatory stability; approve tax laws that encourage industrial production for export; increase investments in ports and industrial zones; promote investment and trade agreements; encourage self-production of clean energy; train human resources; encourage fast track mechanisms for environmental licensing and one-stop shop; train and equip investment promotion agencies; and provide information to investors, especially those in sectors with greater potential interest. And, finally, promote and build processes for combined powershoring and carbon market agendas. After all, these are two sides of the same coin.

Powershoring is a unique opportunity to convert the region's comparative advantage in green energy and distance from the geopolitical agenda into strong instruments to promote economic and social development. Powershoring will have important effects on productivity, competitiveness, technology, and innovation and will contribute to the formation and consolidation of regional

value chains. Certainly, powershoring will be very useful and beneficial for the region, but it will be even more useful for companies that understand the benefits of this strategy.











The industrial policy debate changed rapidly, both in direction and in intensity. The topic, that has been seen with suspicion by many due to its supposed interventionism in the markets, has entered the economic policy agenda of developed countries, including the United States and the European Union. The reasons behind this change include geopolitics, the search for independence and productive autonomy, job and income generation, and even inflation control.

In the United States, the Obama administration published documents on the benefits of an active industrial policy in a context of increasing strategic complexity and market concentration, and the need to protect jobs. Under the Trump administration, the White House implemented trade and investment policies to protect the industry from the perspective of the WTO and introduced the "reshoring" policy that promotes the return of US factories based in China. The Biden government combined both strategies to shape an even broader and more ambitious industrial policy.

The European Commission, for its part, discussed industrial policy documents for years. More recently, it began to implement those policies justifying, among others, the defense of strategic interests and the need to promote the digital economy, the energy transition, and the sustainability agenda. In both cases, the policy is anchored in significant budgetary resources.

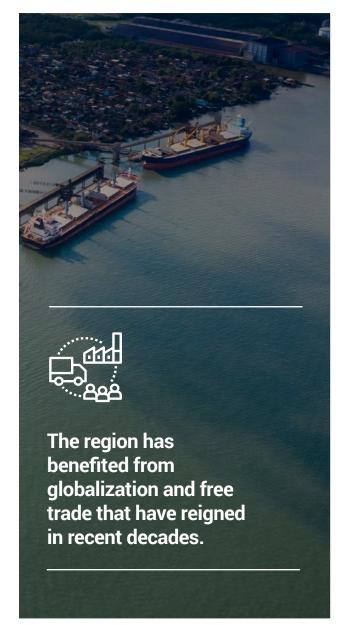
In this context, the promotion of free trade and global value chains leaves the scene, and the promotion of local value chains enters. It is a sea change with many implications. But even more disruptive is the growing trend towards the fragmentation of international standards and norms, including in finance, production systems, the digital economy, and services, with potentially profound impacts on markets.

And how does Latin America and the Caribbean (LAC) fit into this changing agenda? The region has benefited from globalization and free trade that have reigned in recent decades. After all, the general population began to consume technologies, electronics, textiles, and various industrial goods at affordable prices, with measurable benefits in terms of well-being and even poverty reduction. In order not to go too far, let's think about the popularization of cell phones in the region. Protectionism, subsidies, the weakening of the institutions of world trade and the fragmentation of standards do not serve, therefore, the interests of the region.

What to do? At this point, it seems unrealistic to expect free trade to reemerge in the foreseeable future, and it seems more reasonable to expect that we will live in an environment of more market intervention. In this context, the region must take measures to protect its interests, which could include the promotion of its industry. But what industrial policy should the region promote?

From the outset, it must be recognized that the region presents a diversity of situations. There are countries that industrialized and deindustrialized, like Brazil; there are others who started an industrialization that soon lost strength; and there are others that practically never entered a cycle of industrial development. Finally, there are countries that have made progress in the industrial sector, but within a very specific framework, such as participation in the trade agreement between the United States, Mexico, and Canada.

Unlike advanced countries, whose motivations for promoting industrial policies respond mainly to geopolitical issues, in LAC the motivations are based mainly on the social agenda and the need



to change the pattern of insertion in global trade.

In a context where industrial activity increasingly uses science, technology, innovation, talent and new business models, and where markets are increasingly concentrated, it seems unreasonable to expect conventional industrial policies to be effective. Therefore, it will be necessary to apply an industrial policy with a pragmatic approach, visualize alternatives and focus on adding value, using advanced technologies and increasing productivity and competitiveness in such a way that it brings the region closer to the global economy. That being said, what are the opportunities for the region?

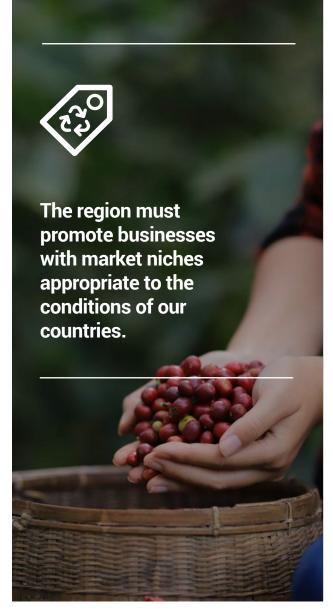
The region must promote businesses with market niches appropriate to the conditions of our countries. At least two lines of action could be considered. The first would be made up of companies in which the region already has a comparative advantage and already has the knowledge, talent, experience, regulation and appropriate institutions for those activities. Activities with these characteristics include agriculture, animal protein, mining, oil and gas, forestry, and biodiversity. Value addition would come from food processing and distribution, mineral processing and enrichment, the oil and gas industry, medicines, and cosmetics, among many others. It is, therefore, the diversification within value chains in which we already participate.

A second line of action is associated with powershoring, as we have discussed in this space, exploiting the region's unique capabilities to provide green, safe, cheap and abundant energy and the immense development potential of the carbon market. These are opportunities to attract industrial foreign direct investment, especially from countries that are under geopolitical pressures, costs and the environmental

compliance agenda, factors that have threatened the competitiveness and even the survival of several companies.

Both pathways are anchored in realistic foundations, are powerful and highly promising, can generate a lot of formal employment, add value to the existing industrial park, help boosting local and regional value chains, and can make a decisive contribution to modernizing the region's economy. For this, it will be necessary to implement, in coordination with the private sector, specific policies and measures that reduce the risk perception and promote predictability, identify and address the weak links in the value chains and focus on adequate and sustainable microeconomic incentives. Unlike other industrial policies, those ones are virtuous, since they are not necessarily conditioned by protectionism or subsidies, they generate results of global interest and share opportunities with foreign investors. In other words, they are policies that stand before the region and the world.











Over the last few decades, we have witnessed an intense ebb and flow of the geographic location of investments at a global level. In the wake of the liberal order that was established in the post-war period, there was a growing movement of transferring industrial plants to Asia around the 1980s to produce and export based on the low cost of labor available there. The fragmentation of production, or globalization, as we know it, was then born.

On this journey, China would accumulate critical industrial mass and business expertise and become the top destination for foreign direct investment and the "factory of the world". This would expand giving rise to a growing economic, trade and investment interdependence, whose benefits would be shared by many in the form of consumer goods at low prices. But the rapid increase in income combined with demographic changes would lead China to promote the relocation of its own industrial plants to countries in the Asian region with even cheaper labor, while redirecting the attention of its industrial parks to more sophisticated stages of value chains.

But the move of manufacturing plants towards Asia would not be painless. The economic stagnation of former industrial regions in the United States and Europe would give rise to growing polemics about the benefits of globalization, which would reverberate in political campaigns and even in Brexit. The supply crisis of medicines and other imported inputs from China and the collapse of logistics during the pandemic would provide even more ammunition for critics of globalization. It was in this environment, watered by the growing geopolitical dispute between the United States and China, that concepts such as nearshoring and reshoring would be forged, which preach the supposed virtues of bringing back home American industrial plants operating in Asia. It is unlikely, however, that those concepts will have the intended social effects.

and the main reason is that the commoditization of technologies encourages the automation of new plants.

The next step in this reversal of investment would come from the American and European policies of capital and export controls and from the generous programs of subsidies and protectionism to the industry, which would alter the global order of trade and the geography of investments. Unfortunately, globalization as we know it is coming to an end, and with it many of its benefits, such as middle and lower-class consumption.

The liberal principles that guided the destination of investments are losing space and geopolitics and interventions in markets are entering the scene. But capital is fungible and always sniffs out business. To mitigate the possible deleterious effects of "Made in China" protectionism, Chinese companies are moving plants to Mexico to gain access to the American and Canadian markets from there, benefiting from logistics and the USMCA trade agreement.

The wandering of the geography of investments would not rest there either, as there are different forces on the table influencing its destiny, some of them even with switched signals, in a complex board full of interests and interventions. An example is the war in Ukraine, which, combined with the pandemic and geopolitical agendas, would lead the energy market to unprecedented instability and supply uncertainties. Prices, especially in Europe, would reach record levels, something unsustainable for many sectors and businesses. Certainly, considerable variations in electricity costs have implications for the competitiveness and even survival of companies, notably those most exposed to international trade, which is already leading to relocation.

The increasing implementation of environmental







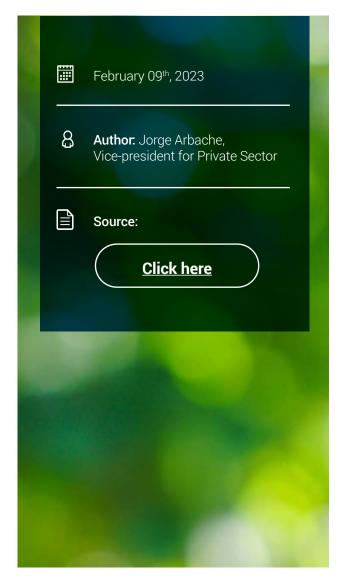
regulations is also influencing the geography of investment. Companies under pressure to decarbonize are already moving plants to regions that are abundant in green and secure energy, and with falling marginal prices, and that, whenever possible, are less exposed to intense geopolitical issues. It's all about powershoring. Extreme weather events, which are becoming more and more frequent, are also already influencing location strategies.

Resilience is, therefore, becoming a central element of the geography of investments, while efficiency and costs give way. However, cost elements, such as green energy, will continue to exert an important influence on decision-making, especially in energy-intensive sectors.

After all, there is no way to ignore, for example, that the costs of producing hydrogen from renewable electricity can be USD 3-4/kg in China and the United States and USD 5-7/kg in Japan and Europe, while in Brazil and other countries in the Latin America region they can be around USD 1/kg or less. Everything indicates that the deconcentration and diversification of the geographical location of the plants will become critical themes for corporate strategies for productive and market security, especially for companies with a global presence.

Preliminary figures indicate that Brazil and Mexico, countries facing varied challenges, attracted USD 91 billion and USD 37 billion, respectively, in foreign direct investment in 2022, high levels by historical standards. For 2023, the prospects are even better. This is evidence in favor of geographic diversification of production, which points to new avenues of opportunity for emerging economies.

It is likely that the geography of investments will remain volatile, but it is also likely that companies will look for ways to continue mitigating risks based on adaptable strategies. For Latin America and the Caribbean, which has so many solutions to offer investors, it is time to work on an agenda of enabling factors that make the region an even more attractive option for foreign direct investment.









Countries have committed to reducing emissions and becoming carbon neutral by 2050. This is an unprecedented task, as it requires extraordinary financial efforts and changes in a very short period of time. The challenge belongs to everyone, but the conditions to face it differ between countries. After all, countries that have not even passed basic stages of development now find themselves with enormous environmental demands. On the other hand are the advanced countries, that are better prepared and equipped for these challenges.

But climate change is an issue that cannot be resolved at the country level. After all, nature knows no borders, and the climate crisis is linked to crises with far-reaching social and geographic repercussions. In this way, the solutions must take into account the specificities and interests of all so that the appropriate incentives can be created. As we are running against the clock and resources are scarce, it is necessary to seek efficiency and consistency to maximize results. In this sense, it is essential to align policies and strategies and to promote inclusive and cost-effective policies that generate synergies to better deal with climate change.

Unfortunately, we have seen the introduction of policies that lead to less alignment and efficiencies, and at least part of the explanation has to do with the size of the business opportunities from decarbonization. In fact, the International Energy Agency predicts that annual energy investments of at least \$4 trillion will be needed to achieve carbon neutrality. Among these recent policies are the Inflation Reduction Act - IRA, from the United States, and the EU Green Deal, RePowerEU and the Carbon Border Adjustment Mechanism - CBAM, from Europe.

For example, through subsidies and tax incentives, the IRA aims, among other things, to make the United States a world leader in the area of goods and services for climate

change and producing energy at low prices. CBAM requires most carbon-intensive imports from the EU to incur carbon taxes comparable to those of companies in the bloc or pay the equivalent in a carbon-based fee.

Since these policies have a high potential to influence markets through interventionist measures, as well as the cost and capital structure of companies, they create a diversion of trade, investment and employment that, at the end of the day, can have major detrimental consequences for other countries, especially developing ones, thus delaying the transition to a low carbon economy.

Just to illustrate: according to some bank estimates, the current cost of green hydrogen in the US would be \$2.82/kg, but with the \$3/kg tax credit to be granted by the IRA, the kilogram would have a negative value of \$0.18/kg, a price that excludes the returns of hydrogen producers. The cost of the solar module could be reduced to \$0.05-0.10/W by 2025-2030 from the current unsubsidized cost of \$0.25-0.30/W. It is estimated that with the subsidies and incentives, the US production of solar and wind equipment will be the cheapest in the world and that at least 90% of the internal demand for this equipment will be supplied by the internal chain itself.

The IRA will be able to secure the United States a strategic leadership position in the emerging market for green hydrogen and derivative products, as it did in the global LNG market, but without taking into account non-cost considerations such as energy security, geopolitical issues, exposure to extreme natural risks, the search for international diversification in the location of industrial plants, among others, which may influence this leadership. The IRA is estimated to create more than 9 million jobs in the United States by 2030.

Unilateral measures such as these frustrate the



Countries have committed to reducing emissions and becoming carbon neutral by 2050. This is an unprecedented task, as it requires extraordinary financial efforts and changes in a very short period of time.





comparative advantages of developing regions with highly competitive conditions to produce green energy, generate sustainable technological solutions and naturebased solutions and that have the potential to make them natural participants in a comprehensive, resilient and socially inclusive process of coping with climate change. The energy matrix of several developing countries is already guite green, and in some cases practically green, such as many in Latin America, putting them ahead of other countries by up to three decades. In addition, several of these countries operate with decreasing marginal energy costs and have a large part of their installed renewable capital stock already depreciated. In this way, these countries can offer highly competitive green hydrogen without the need for incentives, protectionism and discrimination and promote powershoring and sustainable growth in favor of all.

Experts suggest that interventions such as the above would violate WTO rules and are likely to lead to challenges and litigation, which however may take years to materialize. In the meantime, new opportunistic behavior-style policies are likely to emerge to increase trade frictions and delay the transition. The IMF and the WTO made conciliatory recommendations on the subject, which, however, were not echoed as they were considered politically unrealistic. To avoid counterproductive trade frictions over climate policies, authorities should agree fiscal and regulatory guidelines for decarbonization policies.

The huge decarbonization market must be seen as an opportunity to align interests that lead us all, and at the lowest cost, to social and environmental sustainability.





SERVICES AND THE MODERN INDUSTRIAL POLICY





Is the iPhone an industrial product or a service? The iPhone is made of aluminum, plastic, and other materials and is manufactured on a typical assembly line, so many would say it's an industrial product. But since most of the iPhone's value-add is services such as research and development, embedded software, branding, design, and distribution, many would argue that it is essentially a service. From the user's point of view, the iPhone without software is worthless, and the same goes for software without hardware. This apparent conceptual confusion reveals one of the characteristics of modern industrial activity: the intimate combination of industry and services in a mutually dependent relationship for the creation of value, and the difficulty in identifying the dividing line that separates both activities.

But it was not always like this. The economic history of countries such as England and the United States shows that, throughout the 19th century and the first half of the 20th century, most of the steps in the production of a certain good were concentrated in the factory itself, which helps to explain the then rapid increase in industry's share of GDP. But economic history also shows that the increase in the relevance of the industry would be accompanied by the introduction of new technologies and innovations and new operating models. The outsourcing of production stages would come into play and a large part of what until then was typical of industrial activity would gradually become decentralized services provided by third parties, giving rise to a growing complementarity and functional interaction between industry and services that would increase total added value, while the relative participation of manufacturing in GDP is reduced.

The current stage of industrial development in several advanced countries reflects that pattern: modest industry accompanied by a high density of R&D laboratories, universities committed to the industry, advanced

distribution services, brands, marketing, financial services, and many other specific services aimed at adding industrial value. In fact, in several segments, the contribution of this rich ecosystem of services can be much greater than the contribution of the production floor. The United States is an illustrative example. Although manufacturing represented only 12% of GDP in 2021, industrial activity, including that ecosystem, was at least 2.5 times higher, representing no less than 66% of total private investment in R&D. And this, in turn, was one of the main factors responsible for the recovery of the US economy in the post-financial crisis of 2008 and in the post-pandemic phase. Therefore, the industrial sector as a whole has a great influence on the fate of the US economy.

Late-industrializing countries, such as South Korea, are following the same pattern of industrial development. Although industry was participating with a high 26% of GDP in 2021, it is technologies, innovations and other services that increasingly determine the true influence of the industrial sector. As a result, Korean brands of technologically advanced products such as cars, chips and electronics are already competing globally and have even taken the lead in some segments. In China, manufacturing represents 27.5% of GDP, but the influence of the industrial sector is increasingly determined by technological development, brands, distribution networks and other services. The share of manufacturing in GDP in both countries is likely to decline in the coming years, but the influence of industrial activity at large is likely to increase.

This discussion seems pertinent in a context where industrial policy is returning, and with force, to public policy. Even developed countries that until recently were opposed to industrial policies now seek to increase local manufacturing production, even with interventionist and protectionist measures and generous subsidies. Consider the Inflation Reduction Act, the Chips and Science Act,



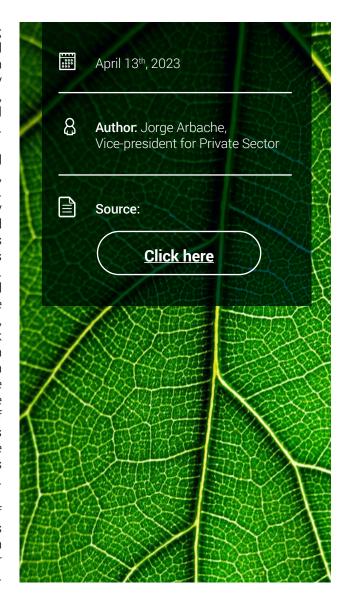




the Buy American Act, or the Reshoring, all from the US; or consider the Green Deal Investment Plan, the Critical Materials Plan, the Next Generation EU or the Made in Europe Partnership, all from the EU. These policies are likely to succeed in promoting increased industrial production, but it is the availability of a thriving and innovative industrial services ecosystem that will make the difference.

Emerging countries are also looking for a greater industrial role. India, Indonesia, Mexico, Vietnam, Brazil, Costa Rica, Honduras, Chile and many others are following this path. But can they compete with rich countries? The relatively modest financial capacity to provide fiscal support and the unavailability of a comparable industrial services ecosystem puts them at a disadvantage and condemns some countries to limit themselves to hosting maguilas. At this point, to compete and have a place in the global industry, it will be necessary to focus and concentrate efforts to develop technologies, innovations, logistics, brands and many other industrial services, as well as work on enabling factors that make possible the industrialization of the comparative and competitive advantages of each country. After all, that is where the best and most plausible opportunities for emerging countries lie. In the case of Latin America, for example, the industrialization of agriculture, livestock, fishing, mining, rare earths, forests and the bioeconomy should be considered, as well as the industrialization through renewable and green energies and biofuels, as advocated by the powershoring strategy.

To have a better chance of success, the industrial policy of emerging countries must be pragmatic, aim at objectives with an eagle eye and promote the development of an industrial ecosystem, which is a fundamental element for a solid, self-sustaining and competitive industrial sector.









Years ago, we published in this same space a text on the challenges and prospects for economic growth in Latin America and the Caribbean (LAC). Much has happened in the global economy since then, significantly altering many fundamental economic parameters and, thus, the growth that would be observed.

Unexpected changes include a devastating pandemic, a war in Europe, rising geopolitical tensions, the process of deglobalization, rising tariff and non-tariff trade barriers, and interventions in capital flows and mergers and acquisitions. Also, the economic growth rate at the global level would plummet and it is likely that we have entered a new pattern of growth, which is lower and with more poverty and inequality. But it didn't stop there. Volatility has become part of everyday life in the markets, in prices and in the lives of people and companies, the time horizon has shortened and the perception of uncertainty and risk has become widespread. Inflation would reach levels not seen for a long time and we would enter an environment of threat of stagflation. Performance and market monitoring indicators would lose power to guide decisions, which gives an idea of how the markets have become disorganized.

In an environment like this, investments with greater impact — normally those that require long-term capital and a more favorable cost of capital, such as infrastructure — withdraw and give way to speculative movements. For LAC, which was already experiencing growth below the world average, this environment would be especially harmful. The region desperately needs to catch up on growth and make up for lost time if it is to maintain social peace and political stability. After all, shared prosperity is a great ally of democracies.

But the biggest challenge for the region is not to grow in a punctually fast way, but to grow in a sustained way. Sustained growth refers to a growth pattern characterized by a persistent and low-volatile rate of growth. And it's no minor concern. Empirical evidence shows that the great leap of countries that are now advanced economies resulted from long periods of economic growth at moderate rates, but persistent in time, and not at high, but erratic rates, thus enabling a cumulative and permanent process of economic and social transformation. After all, sustained growth comes with a more predictable economic environment and less uncertainty, fundamental requirements for planning, saving, investing and allocating resources more efficiently.

In this very complex global context, where should we place our bets to promote sustained growth in LAC? Preferably, in activities that will occupy a privileged place in the world demand structure over the coming decades and that are anchored in sectors in which the region already has comparative and competitive advantages. And we should also bet on the huge growth potential of the domestic and regional markets.

As for the international part, the demands of sectors such as food, mining and climate change are included there. As an example, the International Energy Agency estimates that annual investments in the energy sector of at least US\$ 4 trillion will be necessary in order to reach carbon neutrality on the globe by 2050. The increase of the middle class in Asia will imply disproportionate increase in per capita consumption of grains, proteins, fruits and many other foods.

LAC occupies a prominent place in agricultural production and is already one of the largest exporters in the world. But the conditions for increasing sustainable production are unparalleled, which gives the region room for maneuver to be much more ambitious and aim to add value and export processed foods, which



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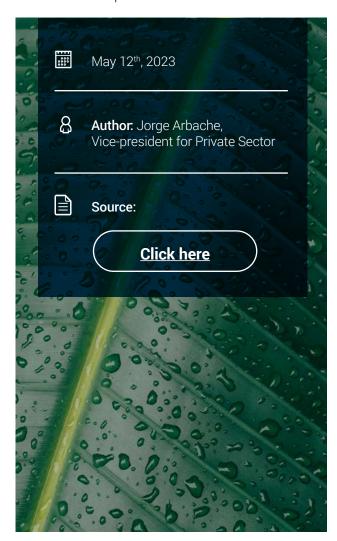
employ many more people, generate much more income and foster local and regional value chains. With regard to mining, the region is also very well endowed and the future passes through here. After all, in LAC much of the highest quality iron ore is found, essential for green steel, and many of the largest reserves of lithium, nickel and many other critical and even decisive ores for world economic growth, which also supports industrialization and export of added value.

And finally, LAC is in an enviable position to enjoy the many benefits of powershoring. The region is a gigantic energy powerhouse with a major role in clean and renewable energy and biofuels and is developing new technologies and new solutions to support the climate transition. The great capacity to produce green, safe, cheap and abundant energy, the distancing from geopolitical issues and the increase in global environmental compliance puts the region in a privileged position to receive energy-intensive foreign industrial plants that seek to protect their corporate interests, thus contributing to accelerate the transition and reduce the costs of decarbonisation in the countries of origin of those plants, such as European countries.

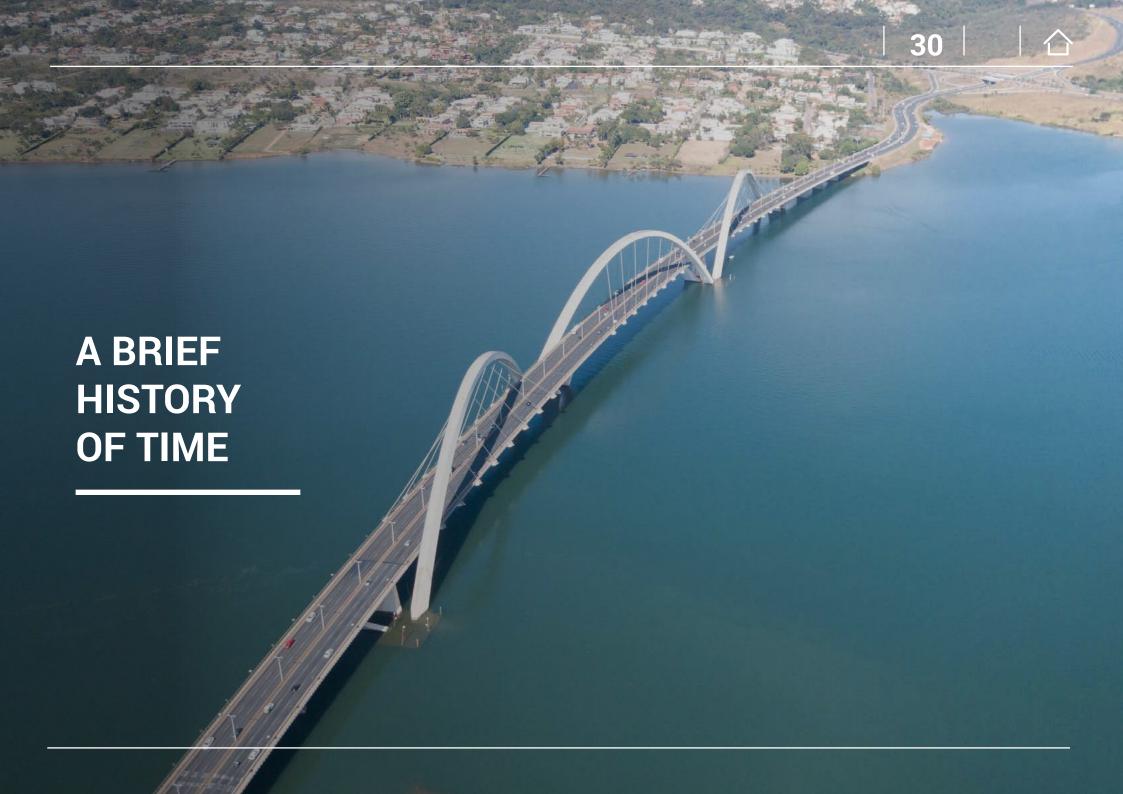
Despite the difficulties, there are reasons for optimism. From different indicators, the region has shown that it is resilient to crises and that it enjoys the confidence of investors. In fact, LAC is the world's largest net recipient of foreign direct investment, and that says a lot. Realizing the full growth potential requires an important public and private capacity to mobilize financial and non-financial resources and well-developed, articulated and well-implemented public policies.

LAC will be able to play a major role in the global arena and be a source of solutions and sustained and

sustainable growth that benefits its own population and the world population. For this, it will be necessary to know how to recognize, value and take advantage of the immense potential that we have in our hands.











The 1980s witnessed the beginning of changes that would forever alter the fortunes of the global economy. China at that time was entering an era of profound political and economic transformations and sought to attract foreign investment by taking advantage of the extraordinary amount of available and extremely cheap labor. It was also at that time that technological changes began to take off that would accelerate trade and investment, including digitization and the internet, logistical advances, such as the containerization of trade, integration of markets, adoption of standards and certifications, among many others.

American companies would soon realize the opportunity for efficiency gains and would promote offshoring, or the strategy of transferring industrial plants to China, a process that would expand and become more sophisticated, giving fulcrum to the formation of global value chains. This column is a very brief history of time, the time of globalization, as that set of changes would come to be known.

In fact, between 1990 and 2021, global exports accelerated and grew 6.5 times. The United States, Germany and Japan, then the three largest in the sector, saw their foreign sales increase 4.5, 5.1 and 2.8 times, respectively. But China's exports grew no less than 80 times. The country would become the biggest seller and would come to be known as the "factory of the world". But time passed, a lot happened and, since the middle of the last decade, the concentration of production in China began to be questioned and showed excessive exposure to external factors such as populism, geopolitics and the pandemic, which would lead to the disruption of contracts and problems in the supply of inputs and products. To reduce dependence on China, western governments have started to promote strategies such as reshoring and nearshoring, which aim to bring industrial plants

parked in that Asian country back home or close to home.

But many analysts and corporate strategists point out that this new strategy repeats the previous error of concentration. In addition, they point out that current times require a strategy adapted to new circumstances and conditions, including the increase in the cost of energy, the increase in the intensity and frequency of extreme natural events, the growing hardening of environmental compliance and the growing concerns about issues geopolitical events, such as the war in Europe and tensions between the United States and China.

As a consequence, the view has emerged that it is necessary to promote geographic diversification, and not the concentration of industrial plants and production chains, in such a way as to guarantee resilience and protect, in this way, the interests of businesses and consumers. Efficiency is gaining new contours. If, before, labor costs were the most critical factor for the geography of plants, now, it is energy that is gaining prominence in the competitiveness agenda of companies. After all, environmental compliance, energy costs and the changing profile of consumption are coming into play, influencing investments and the location of production. Green, safe, cheap and abundant energy is increasingly at the center of production location decisions.

Some analysts claim that globalization as we know it would have come to an end and that trade and the flow of capital and investment should even decrease. The hypothesis seems exaggerated, as it does not consider the interests of companies and markets. What we will probably see is a new stage of globalization, which will combine elements of resilience with the modern efficiency agenda, albeit with some political-regional contours and, perhaps, with a less ample scope. Powershoring is the most visible expression of this "neo-globalization", since





it is a strategy for locating industrial plants based on resilience and efficiency associated with green energy.

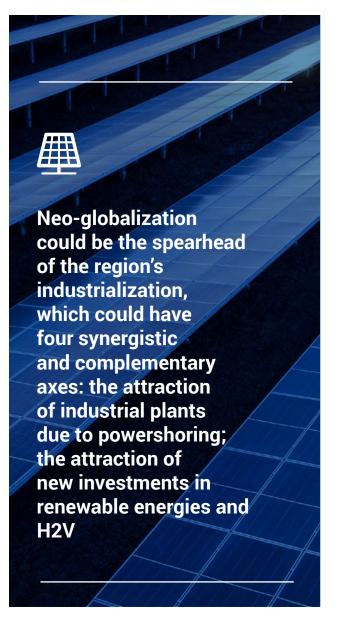
Due to its unique condition to produce clean and renewable energy, to already have a relatively clean energy matrix by world standards, to be developing ambitious project portfolios in the area, to already have ambitious plans and projects for the production of green hydrogen (H2V), leading the biofuels agenda and developing new business models and new technologies for the energy sector, the Latin American and Caribbean (LAC) region is emerging as one of the great potential participants in neo-globalization. In addition, LAC has a privileged geographic location, is far from geopolitical issues and has rulers who are increasingly aware of the strategic relevance of the environmental agenda for economic and social development.

Neo-globalization could be the spearhead of the region's industrialization, which could have four synergistic and complementary axes: the attraction of industrial plants due to powershoring; the attraction of new investments in renewable energies and H2V; host the formation of a global hub for the production of equipment, services and maintenance of renewable energy and H2V; and attracting investments aimed at the biofuels and new technologies agenda. Therefore, it is an industrialization process in which clean energy, green investments, comparative advantages, environmental compliance, foreign capital, exports, technology and innovation would play a decisive role, while combining the respect and protection of the environment with the development agenda.

Investments within the scope of neo-globalization could "drag" and give traction to businesses in many industrial and service sectors, financial and non-financial, and could be decisive for the generation of jobs and

income and for regional development. To reap all these potential benefits, the region's governments will need to understand the opportunity at hand, prepare adequate strategies, define priorities, work closely with the private sector and set in motion an executive agenda that will enable the incorporation of benefits as quickly as possible from what could be the greatest and most potent source of transformation for the region's economies.







WHO WILL LEAD GREEN MANUFACTURING?





As the world considers more sustainable forms of economic growth, countries and companies are positioning themselves for the emerging green economy from different perspectives. One is manufacturing. To fulfill the net-zero commitment in 2050, it will be necessary to implement the most profound and rapid change of economic structure in history to convert steel production to green steel, plastic production to green plastic and so on. It is estimated that annual investments of at least US\$ 3.3 trillion will be required until 2050 to promote that conversion. To green manufacturing, several enabling factors must be in place, the most crucial being the availability of green, safe, cheap and abundant energy for use in production chains.

Green manufacturing is in line with increasingly stringent environmental regulations and sustainability goals set by various governments and international organizations. By meeting these requirements, manufacturers ensure regulatory compliance and gain easier access to markets, expanding new business opportunities.

Manufacturers who invest in sustainable technologies have access to state-of-the-art equipment, advanced control systems and process optimization tools, resulting in greater operational efficiency, reduced waste and increased productivity. The use of clean energy also reduces energy costs in a context where renewable energy is already cheaper than fossil energy. And all this becomes a competitive advantage.

But sustainable manufacturing goes beyond compliance and operational efficiency – the technologies to adopt enable companies to be environmentally responsible, economically resilient and socially aware. Sustainable production also enhances the company's brand reputation and stakeholder engagement. In the end, all this leads to the occupation of new market spaces.

There would be the main reason for the fierce global race for leadership in green manufacturing, with the use of a kind of "anything goes", as represented by legislation recently approved by the United States and Europe, which promote an unprecedented set of subsidies, discrimination and protectionism in favor of green manufacturing.

The shift towards green manufacturing presents an opportunity for many countries to establish themselves as leaders in sustainable practices and technologies. Among these, China stands out as a strong competitor due to its already established and proven capabilities in manufacturing and ambitious renewable energy targets. But China faces challenges, including the need to still carry out a broad conversion of the electricity matrix and having to face complex geopolitical issues that impact trade and market access.

The United States and Europe pursue highly ambitious industrial policies to establish themselves in green manufacturing. But, in line with China, both still have to face a long and costly journey to green the electrical matrix, are exposed to geopolitical issues and start from a disadvantageous situation in terms of size and integration of the industrial park, since manufacturing no longer occupies an important space in the respective economies.

Latin America and the Caribbean (LAC) could also contest a share of green manufacturing and the main reason is the huge availability of green energy. In fact, several countries in the region already have mostly green electricity grids and are expected to green them even more in the next few years. This condition gives the region a great advantage in terms of investment time and cost and allows it to provide value chains with the possibility of







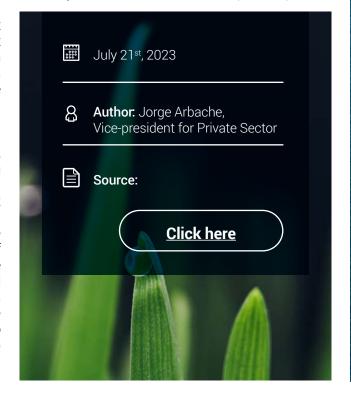
low-emission production, a unique competitive advantage. This is what powershoring is all about.

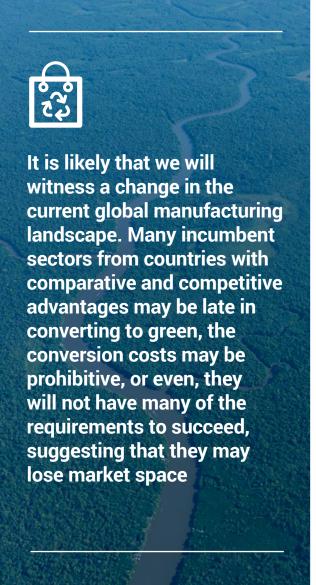
In addition, the region is protected from complex geopolitical issues, has a privileged location and should be part of the new global geography of investments, which seeks to diversify the location of industrial plants based on resilience.

But the benefits that the region offers go far beyond. Several countries have plenty of water, huge reserves of critical minerals such as lithium, nickel, copper, rare earths and high-grade iron ore, and a particularly rich biodiversity that can play a distinctive role for sustainable manufacturing and the carbon market. They also have vast forests and agricultural land that offer ample opportunities for the supply of important industrial raw materials. The region is also engaging in commitments to environmental preservation, which is key to attracting investors and consumers who prioritize responsible production. All this positions the region as a reliable supplier of sustainable manufactured products.

Leading sustainable manufacturing requires, however, a comprehensive and proactive approach, including establishing a strong commitment to sustainability; identify funding sources; focus on green product development; ensure the expansion of clean energy; implement energy efficiency measures; promote the carbon market; optimize efficiency in the use of resources; foster a culture of innovation; collaborate and involve stakeholders; invest in training and professional education with the knowledge and skills needed for the green economy; and communicate sustainable initiatives. It will also be important to consistently demonstrate environmental leadership and take a leading role in a sustainable future.

It is likely that we will witness a change in the current global manufacturing landscape. Many incumbent sectors from countries with comparative and competitive advantages may be late in converting to green, the conversion costs may be prohibitive, or even, they will not have many of the requirements to succeed, suggesting that they may lose market space. All of this contributes to LAC's ambition to participate in the green economy through the front door, and not just as a supplier of green commodities, which will allow it to transform its economy and solve its greatest wounds, which are poverty and inequality. However, this will require a lot of ambition, determination, objectivity and the ability to coordinate, execute and implement policies.









The most relevant economic activity in the coming decades will be the low-carbon economy. Indeed, we will have to reinvent—on a green foundation—virtually every single thing we produce and consume and how we consume it. This transformation stems from necessity rather than choice, but we are too far behind schedule and running against the clock to avoid an environmental catastrophe. Ultimately, we will need to find the tools to accelerate the transition to this new creation of green products and services, which will require different production conditions. This will require a great deal of green energy, plenty of water, and a lot of minerals from the low-carbon economy.

Latin America and the Caribbean (LAC) is best positioned to assist the planet in this mission, as several countries already boast quite green energy matrices, have the twelve largest water reserves, and many of the largest mineral reserves of the new economy, including lithium, nickel, copper, graphite, rare earths, and high-content iron minerals. The region also offers other globally relevant conditions, including the largest tropical forest, the two most important biomes on the planet, the richest biodiversity, and tremendous potential to leverage the large global markets for carbon credits and the bioeconomy.

But the region's appeal does not stop there. LAC has a young population, a fair amount of new investments in renewable energy, an immense—and growing—role in the global food supply, a rich ecosystem of entrepreneurial capital, and potential to meet the growing needs of businesses for a greener production. Not being involved in wars and other geopolitical issues, and boasting good trade relations with the United States, Europe, and Asia, companies operating in Latin America and the Caribbean (LAC) are not exposed to the same types of interventions, controls, bans, discrimination, and

protectionism, which have given rise to uncertainties and instabilities for corporations in other regions.

LAC is also repositioning itself on economic policy issues. Consider, for instance, inflation and monetary policy, which is regarded today as a prudent benchmark and no longer a policy mistake. Independent central banks and decisive actions are exposed to inflation, and even with changes in political direction in elections, new leaders have retained sensible economic policies.

Thus, it would be no exaggeration to claim that the LAC economy is now relatively better positioned in the global economy; not by chance, many of its currencies have strengthened. It is true that the improved situation in some countries in the region is due—in part—to factors beyond the reach of local governments, such as the war in Ukraine and the lifting of post-pandemic restrictions in China, which will boost the demand for food and minerals. But the region's unique green supply structure, coupled with changes in demand structure as a result of environmental commitments, new regulations, changes in consumer preferences, greater corporate responsibility, and new technologies and business models, are paving a positive development path that will likely raise the relative prices of several commodities in the region and drive GDP growth over the next few decades, with potentially profound impacts on trade terms and balance of payments.

These characteristics place LAC in a privileged position to participate in the global economy through the new Global Value Chains (GVCs), driven solely by resilience and sustainability, and not merely focused on efficiency. Powershoring and other comparative and competitive advantages will place the region at a core position in the new GVCs, especially in energy-intensive sectors, water, bioeconomy, critical minerals, grains, and proteins.



Businesses and markets in the region are also appealing for investors. Although many corporations follow lower leverage policies than their counterparts, they have relatively more prudent balances, boast lower historical default rates, and have tremendous national and regional growth potential, risk rating agencies often unfairly limit their risk ratings. But this has attracted more and more investors, who consider the countries of the region as especially appealing sites for M&A strategies.

While many conditions are favorable for LAC, success is by no means guaranteed. Translating all this immense potential into concrete results will require embracing sustainable and sustained growth as pillars of economic policy, implementing sound, consistent policies, establishing and strengthening institutional and regulatory frameworks, improving legal predictability, training human capital, investing in R&D, scaling up investment in infrastructure and digital technologies, and finding secure and cheap sources of long-term financing.

Some economies in LAC should grow in the coming years more than experts have expected. Brasil, the largest regional economy, is implementing major economic reforms that should provide even greater support for the nation's and the region's growth. Capital markets and the stock exchange have reflected these results and have improved the risk rating and the cost of capital.

Last year, Brazil received USD 92 billion in Foreign Direct Investment (FDI), becoming thus the fifth largest investment destination in the world; Mexico performed positively, despite the fact that global FDI inflows will be lower compared to 2021. In fact, CEOs and global fund managers look at LAC with growing optimism and expect FDI to reach new highs over the next few years. The oil and gas sector can play a pivotal role in the transition, setting up our environmental

frameworks and commitments, and financing the previous agenda. Ultimately, the region cannot afford to forego this enormous internal source of financing

Seemingly, LAC is in a particularly good position to overcome its historical challenges—poverty and inequality—while helping the planet address many of its major challenges and deliver strong results for investors. Thus, it seems inevitable to think that the success of LAC will be the success of us all.













The green and fair transition advocated by the UN combines environmental sustainability with social justice, adhering to the principle of leaving no one behind. The concept acknowledges that both components are interconnected and must be addressed to craft a more sustainable future for all. While mitigation and adaptation are essential strategies against climate change challenges, they don't always cater adequately to the needs of vulnerable groups and can even exacerbate existing inequalities.

Many developing countries grapple with the triple challenge of lagging behind in SDG targets, recovering from the effects of Covid-19, and addressing climate change. Estimates suggest a financing need between \$4 trillion and \$6 trillion annually until 2050 to confront these challenges, a seemingly insurmountable task. Developed countries pledged yearly contributions of \$100 billion until 2025 to support the climate change agenda of developing nations, but not only was this commitment not met, but the funds would also have been a drop in the ocean compared to actual needs.

Addressing the green and fair transition requires exploring financing alternatives, tailoring the approach to each country's reality, and seeking innovative pathways. Beyond mitigation and adaptation, a more thorough exploration is needed into productive transformation, capitalizing on new business opportunities associated with climate change, leveraging each country's unique advantages so that the strategy becomes self-sustaining. It's about seeing the glass as half full.

Productive transformation can be vital for protecting the impoverished, encompassing the creation of green jobs, diversifying income sources, fostering less climate-vulnerable economic activities, promoting new opportunities for SMEs, granting access to new technologies and managerial practices, and reducing growth volatility—which harms the poorest the most. A productive transformation infused with climate resilience and sustainability can markedly enhance the poor's ability to withstand climate change impacts.

So, what does productive transformation look like in Latin America and the Caribbean (ALC)? Ideally, it lies in activities that will command a prominent position in the global demand structure, where relative prices will inevitably rise over the coming decades, and where the region already possesses comparative and competitive advantages.

This category would encompass sectors needing, directly or indirectly, large amounts of water, renewable energy, and critical minerals for the transition—which are abundant elements in many countries of the region. This includes sectors related to food, as the region is already a major agricultural producer with unparalleled sustainable farming conditions; sectors connected to the largest tropical forest and several vital biomes; those tied to vast biodiversity and bioeconomy potential; and sectors leading in biofuels and novel climate transition technologies and solutions.

The region's most significant opportunity might lie in powershoring, a strategy to attract investments in energy-intensive industrial plants looking to decarbonize, reduce costs, and achieve energy security. This pertains to sectors like steel, cement, mechanics, chemicals, glass, ceramics, paper, fertilizers, and more, forming business clusters with vast implications for regional employment, income, and SMEs. Given its advantages, the ALC is exceptionally suited for investments under the powershoring banner, reducing transition timeframes and costs for countries with non-green energy matrices.

Powershoring's most substantial contribution to the green



Latin America and the Caribbean (LAC) is best positioned to assist the planet in this mission, as several countries already boast quite green energy matrices, have the twelve largest water reserves, and many of the largest mineral reserves of the new economy, including lithium, nickel, copper, graphite, rare earths, and high-content iron minerals.

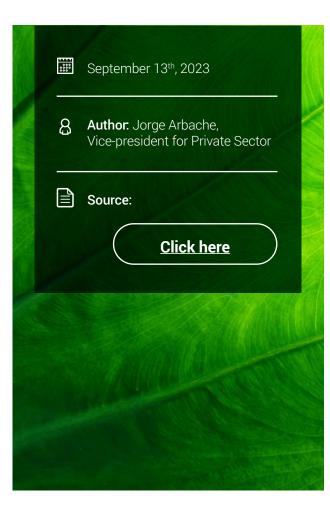




and fair transition relates to its social impacts in urban areas, home to the majority of the region's population and the hotbed for severe issues like poverty, hunger, inequality, violence, informality, and low productivity. Powershoring's potential is vast and transformative. Consider Brazil: estimates indicate that powershoring could augment green manufacturing exports by up to \$395 billion between 2024-2032, with corresponding direct and indirect investments potentially reaching \$351 billion during the same period. While these figures are significant, their potential impacts on domestic and regional value chains and the type and nature of the region's integration into the global economy are even more consequential.

Despite its competitive edge in powershoring, the ALC faces challenges, chiefly unprecedented interventions by developed countries in renewable energy markets, green energy equipment, and green manufactured products. Imposing protectionist standards, discriminatory practices, and massive subsidies jeopardizes market functionality and the green and fair transition in developing nations.

The unique conditions in ALC instill confidence and provide room for a bolder, more ambitious stance, allowing the region to influence discussions, engage in the global economy on its terms, and present itself as a source of solutions for decarbonization and poverty reduction.











Thousands of years ago, fertile land, water and other natural resources determined the most profound transformation of humanity by offering conditions for settlements and the development of agriculture. A lot of water would pass under the bridge and, around 300 years ago, another profound transformation would begin, this one anchored in knowledge, technology, innovation, organization of production and institutions. In a simplified way, we went from the Neolithic Revolution to the Industrial Revolution and, more recently, to the Digital Revolution. With this, the economic influence of geography would, little by little, give way to ideas, ingenious solutions and efficiency.

This very brief framework helps us understand why countries with relatively few natural resources were able to become rich, while others, rich in resources, remained poor. The high development and fluidity of global commodity markets have guaranteed an order that, in the end, allows countries with scarce natural resources to access, without major inconvenience, the food, energy and minerals they need.

But this order may be coming to an end. Centuries of predatory extractivism have altered geography by destroying forests, wasting water resources, contaminating soils, degrading land, polluting air and water, promoting massive emissions of greenhouse gases and contributing to the warming of the planet. All of this is leading to an increase in the incidence of increasingly extreme weather events and bringing disruption, unpredictability and uncertainty to markets. The increase in volatility and risks underlying those changes are already affecting asset values, the economic and financial viability of projects and even affecting the insurance market.

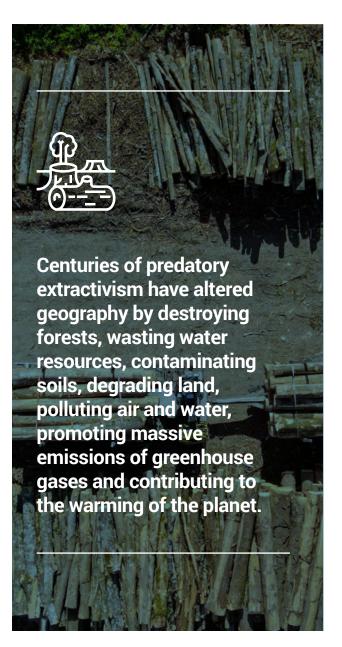
On the other hand, we are witnessing an accelerated

process of deglobalization caused by political factors, with autonomous movements of discrimination, protectionism, capital and investment controls and spectacular packages of subsidies and interventions that add to the challenges of the functioning of markets. These economic self-sufficiency strategies seem to be based on the assumption that natural resource markets will continue to function normally, as if they were an arena separate from other markets, which may be a mistaken assessment.

Everything indicates that the planet's warming will continue to increase and, at this point, it is difficult to believe that we will be able to contain it within safe limits. The euphoria of recent years with environmental commitments and targets is losing steam. In fact, the large predominance of commercial interests over the interests of the planet, the scarcity of funds to finance decarbonization, the procrastination of regulatory measures necessary to guarantee compliance with environmental commitments and goals, the still growing consumption of oil and the revocation of commitments by private investment funds and large companies with ESG principles indicate fragmented and uncoordinated actions in the old style of free-rider behavior and signal that we are quite far from the agenda of common interest.

Due to these major changes, geography is likely to return to the center of the economic agenda, which will have important and profound social, political and even geopolitical implications. After all, water, food or minerals are not produced in the laboratory and everything that depends too much on natural resources will experience a significant increase in relative prices over the coming years and decades.

With unique geographic conditions, Latin America and Caribbean (LAC) has enormous comparative







and scalable competitive advantages associated with natural resources that can greatly contribute to global agendas. The region has vast areas for expanding agricultural production and enjoys large water resources, which enables it to increase food production for the world's table. Furthermore, the region has several countries with already green or very green electrical matrices, which enables it, like no other, to powershoring, or to receive energy-intensive plants and industrial chains that need to decarbonize their operations. This strategy, on the one hand, accelerates the time of decarbonization at a global level and, on the other, reduces its costs, while allowing a rapid increase in the supply of green manufactured goods.

LAC also has large reserves of many of the most important minerals needed for the climate transition, including lithium, copper, cobalt, nickel, niobium, rare earths, graphite and high-grade iron ore, which also enables it to develop industrial value chains for sustainability. The region's rich forests and biomes, unparalleled biodiversity and bioeconomy also mean that the region can make a fundamental contribution to decarbonizing and balancing the climate and providing sophisticated biological solutions to new and old problems. And the region also leads many of the most modern biofuel solutions. All of this suggests that the fight against decarbonization will necessarily involve LAC.

But for the region to serve the planet, markets and the price system will need to work. The growing tariff and non-tariff barriers and protection measures, especially for industry, do nothing in a context in which, more than ever, a more efficient and rational use of natural resources will be necessary in order to reduce transition costs and the impacts of climate change. This will be especially important for the most vulnerable groups. In this sense, it will be necessary to eliminate artificial

disturbances to geography and comparative and competitive advantages and review obstacles that distort prices and the allocation of resources in favor of more efficient and beneficial industrial and non-industrial energy projects. This agenda offers gigantic business opportunities that combine profitability, climate challenges and SDGs. LAC has plenty of reasons to double down on sustainability policies and investments, become a reference for the green and fair transition and be an important provider of solutions in the interest of everyone.











There will soon be another COP which, once again, will deal with compliance with the Paris Agreement to limit the increase in the planet's average temperature to 1.5C. These efforts are more than necessary, after all, despite the fact that the planet's average temperature is rising faster than predicted and there is unequivocal evidence of a link between climate change and an increase in the intensity of extreme weather events, so far we haven't seen the sense of urgency that the situation requires.

What we do see is great and growing attention to the business opportunities associated with climate change and policies that target local interests, when the issue transcends borders and requires cooperation and coordinated, collective action. For example, over 85% of new green energy projects are concentrated in a few developed countries and in China, as if it were possible to save oneself alone, while developing countries face significant difficulties in accessing financing and technologies for adaptation and mitigation.

Although the efforts of advanced countries and China to move forward with the energy transition are important, after all, they are the biggest emitters of greenhouse gases, it will still take several decades for their electricity matrices to be carbon-neutral. The concern grows even more when we witness delays and relaxations in the environmental targets and policies of several advanced countries and when we also witness a growing popular wave of opposition to decarbonization policies. This issue is becoming so complex and divisive that it is already part of electoral campaigns and is even leading companies to review green investment plans in those economies.

To preserve the planet, it will be necessary to use a wider arsenal of instruments, one of which is international trade. In fact, the economic interconnection between countries offers unique opportunities for decarbonization.

Consider powershoring. Latin America and the Caribbean (LAC) has the greenest electricity matrix in the world and several countries already have practically green or very green matrices, the result of comparative environmental advantages, major previous investment efforts in renewable energies and the development of technologies and value chains for biofuels and other sustainable technologies. All this puts the region in a privileged position in terms of time-to-market and attractive cost structures for producing green manufactures. In addition, politicians and the general population support sustainability policies.

Think of green steel and sustainable aviation fuel (SAF). LAC countries have high-quality iron ore, ample water resources and renewable energy to produce green hydrogen (H2V), elements required for the production of clean steel, a critical input for greening many production chains around the world. Countries in the region also already have the biomass and other conditions needed to produce SAF in a very competitive way.

By embracing energy-intensive industrial chains and accelerating the supply of green manufactured goods to the world, powershoring reduces the costs and timescales of decarbonization, helps to tackle resistance to environmental policies in advanced countries and serves corporate interests in competitiveness, compliance and decarbonization. Therefore, powershoring promotes efficiency while serving everyone's interests.

But there are other channels through which international trade can accelerate decarbonization. Trade encourages the spread of cleaner and more innovative technologies, facilitates access to renewable energy technologies, promotes energy efficiency through the exchange of knowledge and innovative products, and stimulates greener supply chains. International trade also rewards, via the market, countries that seek to lead investments







and technologies in sustainable practices, stimulating a global race for new solutions. The global market for carbon credits and environmental services also encourages decarbonization and conservation. And international trade can act as a platform for collaboration and partnerships.

Despite the obvious benefits of trade for decarbonization, there are challenges. Protectionist policies, discrimination and subsidies in the green area implemented by advanced countries are already causing profound distortions in pricing systems and in the allocation of resources and investments, alienating mainly developing countries.

Likewise, policies that lead to the virtual paralysis of the dispute settlement system and other institutional frameworks within the WTO also limit the contribution of trade to decarbonization. Another major challenge is the unilateral imposition by advanced countries of rules. standards, certifications and other mechanisms and nontariff barriers that neutralize comparative and competitive environmental advantages, especially for LAC countries. The lack of impartial and balanced international arbitration to determine and monitor standards, norms and non-tariff barriers in the green area weighs heavily on converting the decarbonization agenda into an inclusive and collectively empowering agenda. Another challenge is the huge inequality in access to sustainable technologies and to financing and guarantees to make green investments viable in developing countries. Finally, it is essential that there is coherence and balance between environmental, trade and economic and social development policies so that decarbonization takes into account the immense differences and needs between countries.

Trade is perhaps the agenda with the most holistic approach to promoting decarbonization. After all, trade speeds up the time and reduces the costs of the transition and also combines the climate agenda

with agendas of national interest, green and just transition and corporate interests. It is therefore no exaggeration to consider trade to be one of the most powerful catalysts in the fight against climate change and against resistance to sustainability policies.

