Industry, Infrastructures, and Innovation for Strategic Transformation

Building Leverage for Green Industrial Transformation in Latin America and the Caribbean:

Procurement Clubs, Production Clubs, Investment Clubs, and Beyond

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Building Leverage for Green Industrial Transformation in Latin America and the Caribbean: Procurement Clubs, Production Clubs, Investment Clubs, and Beyond

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Abstract: Latin America and the Caribbean (LAC) countries have the resources and potential to lead a green industrial transformation. However, fragmentation and dependence on external markets weaken their position and potential. While industrialized countries have been successful in creating common markets, regionalized infrastructure systems, and coordinated production networks and production clubs, LAC has continued to operate a fragmented economy, in which countries compete in a race to the bottom to access global production networks led by incumbent global firms. Drawing from lessons in both industrialized and developing countries, we explore how LAC countries can build collective leverage by aligning their efforts through concrete mechanisms of cooperation and coordination such as shared energy and transport infrastructure, regional production and export clubs, joint procurement with green standards, long-term public procurement contracts aimed at developing local scientific and technological capacities, common buffer stocks, pooled investments, and joint R&D+i initiatives. These forms of regional collaboration can help LAC countries shift away from competition in a global race to the bottom and toward collective strategies that expand market power, reduce costs, capture more value from global value chains, foster industrial capabilities, build economic diversification and resilience, and accelerate an ecological transition. Collaborative strategies such as these can catalyze regional development and begin to counterbalance major asymmetries in both market power and policy ambition *vis-à-vis* industrialized economies.

Keywords: Green industrialization, regional integration, collaborative industrial strategies, production clubs, export clubs, procurement clubs, buffer stocks, investment clubs, market power.

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1. Introduction: Why Explore Collaborative Regional Green Industrial Strategies?

Regional integration and economic collaboration have long been seen as strategic but elusive priorities in Latin America and the Caribbean (LAC). The sentiment stems from the recognition that fragmentation has historically been a major bottleneck for economic transformation and prosperity. While industrialized economies have been successful in creating large common markets, regionalized infrastructure systems, and coordinated production networks and production clubs, developing countries, including those in LAC, have continued to operate largely in isolation, competing with one another in the global race to the bottom to access Global North markets and production networks controlled by increasingly concentrated oligopolies largely owned and controlled by actors in industrialized economies. Fragmentation among Global South countries has also undermined their collective bargaining power in debt negotiations and in the access to financing, leaving individual nations more vulnerable to predatory lending and trapped in cycles of debt that, among others, impede their industrial development.

In other words, these divergent patterns of economic integration have yielded deeply asymmetric market structures that are self-reinforcing: Integrated industrialized economies boast large markets and commensurate oligopsony power that they can easily leverage to extract favorable terms in trade negotiations with smaller, fragmented economies. This strengthens incumbent firms in industrialized countries, and reinforces their oligopoly power and influence over the shape of global value chains and production networks. Moreover, industrialized countries collaborate with one another to reinforce their collective productive capabilities through production clubs, procurement clubs, standards harmonization, and more.

What would it look like to pivot toward a similarly collaborative strategy for development in LAC?

Over the course of many waves of enthusiasm for regional integration, several strategies, projects, and proposals have stood out. In this discussion note, we explore some of the initiatives that could come to compose **a collaborative regional industrial strategy** today due to their potential to aggregate and leverage market power and catalyze regional economic integration, green industrialization, and region-wide

systemic productivity growth, while advancing broader ecological and socioeconomic development goals.

2. (Green) Regional Infrastructure: Energy, Transportation, Digital

Energy and transportation infrastructures are as essential to green transformation as they are to building region-wide systemic productivity. Due in part to its advantages in hydropower, LAC already has one of the cleanest energy matrices in the world, with about 33% of primary energy coming from renewables, compared to 13% globally.[2] An expansion of LAC's leadership in clean energy could be productively combined with expanded regional integration of its energy grid.

Parts of LAC are already interconnected, albeit in a patchwork fashion. The 1,800km Central American Electrical Interconnection System (SIEPAC)[3] links the power grids of six countries and has helped to integrate more renewable energy and cut costs by allowing countries with surpluses of cheap renewable power to export electricity to those facing shortages, thereby reducing the need for redundant backup capacity. The countries of the Andean Community of Nations (Colombia, Ecuador, Peru, and Bolivia) have advanced the Andean Electricity Market[4] and are in the process of integrating their grids.[5] There are also long-standing smaller initiatives, such as the bilateral Itaipu hydropower plant collaboration between Brazil and Paraguay. A shift from a patchwork of grids toward a region-wide system would allow more coherent long-term planning and strategic long-term management of prices (vs. passive price-taking on spot markets).

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[2] OECD, ECLAC and CAF (2022). *Latin American Economic Outlook 2022: Towards a Green and Just Transition*. Paris: OECD Publishing. Available at: https://www.oecd.org/en/publications/latin-american-economic-outlook-2022_3d5554fc-en.html

[3] Valenzuela, J.M. and Tesfaye, M. (2024) *Central America as a Blueprint for Regional Power Integration*. Energy for Growth Hub, December. Available at: https://energyforgrowth.org/article/central-america-as-a-blueprint-for-regional-power-integration/

[4] Abril Rivaben, "Colombia Supports Resolution to Enable Electricity Transactions Among Andean Community Countries," *The Net-Zero Circle*, May 23, 2024, Available at: https://www.netzerocircle.org/news/colombia-supports-resolution-to-enable-electricity-transactions-among-andean-community-countries#:~:text=Colombia%20Supports%20Resolution%20to%20Enable%20Electricity%20Transactions%20Among%20Andean%20Community%20Countries

[5] Lucien Chauvin, "Power integration crucial for Latin America," *Argus Media*, October 29, 2024, https://www.argusmedia.com/en/news-and-insights/latest-market-news/2623010-power-integration-crucial-for-latin-america

In the transportation sector, LAC countries have also made progress toward cleaner and more sustainable mobility systems at the national level, while, at the regional level, proposals like the Pan-American Electric Mobility Corridor, in which electric vehicle (EV) charging stations would be interoperable along major highways, would enable cross-border EV travel and freight. These initiatives could feed into a broader overarching vision for regional infrastructure integration, like the Initiative for Regional Infrastructure in South America (IIRSA), which has declined in prominence, but it could be revived and reimagined to ensure that new highways and ports include climate resilience and environmental safeguards. IIRSA's portfolio was updated by the South American Planning Council (COSIPLAN) to include regional railway systems, beginning with sub-regional patches, as well as road and waterway projects. Some of these (electric railway systems) are especially well-suited to reduce ecological impacts by increasing access to clean mass transit and displacing more resource-inefficient and polluting alternatives[6], while others (roadways) can become arenas to experiment with clean concrete and other low-impact materials from heavy industry.

Regional fiber optic cable infrastructure has also been put forth, not only as means of integrating the region into the global digital economy, but also as a means of reducing technological dependence and the need for transportation of goods and its ecological footprint. Latin America currently depends on Miami network access points for high-speed digital connectivity, with approximately 90% of regional internet communications passing through the city[7] and direct intra-regional connections remaining more expensive than routes through Miami,[8] which poses a geopolitical vulnerability. Building regional data centers, access points, and fiber optic infrastructure would reduce that vulnerability and increase opportunities to 'trade recipes instead of cookies' as suggested by ecological economist Herman Daly[9], allowing countries to develop local industrial capabilities based on technological blueprints rather than transporting goods from abroad in cases where the latter is not only economically detrimental, but also ecologically inefficient.

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[6] Thea Riofrancos, Alissa Kendall, Kristi K. Dayemo, Matthew Haugen, Kira McDonald, Batul Hassan, and Margaret Slattery, "Achieving Zero Emissions with More Mobility and Less Mining," Climate and Community Project, January 2023, http://www.climateandcommunity.org/more-mobility-less-mining.

[7] Darío Brooks, "Cómo es la fortaleza en Miami que resguarda el 'poderoso cerebro' de internet para América Latina," *BBC News Mundo*, February 13, 2024. Available at: https://www.bbc.com/mundo/articles/ckrdy7yxdr2o.

[8] Gonzalo Arauz, "Rethinking the Digital Pathways of Latin America and the Caribbean," Sustainable Business Blog, IDB Invest, August 14, 2020. Available at: https://idbinvest.org/en/blog/development-impact/rethinking-digital-pathways-latin-america-and-caribbean

[9] Herman Daly, "Growthism: its ecological, economic and ethical limits," *Real-World Economics Review* 87 (2019): 9-22. Available at: https://www.paecon.net/PAEReview/issue87/Daly87.pdf

Furthermore, LAC can use the construction of infrastructure and its components to 'learn by doing' and develop new linkages and industrial capacity tied to infrastructure inputs. This strategy —using infrastructure investments as an anchor for industrial development— has often been used throughout history. For example, the US steel industry was catalyzed by the development of the railroad system[10] and more recently China has used its One Belt One Road initiative to support the development of its own manufacturing industries.[11]

3. (Green) Regional Production and Export Clubs

Production clubs —such as consortia and joint ventures to coordinate production— offer LAC countries an opportunity to join forces to create more competitive industries. These are commonly used in the Global North. European countries, for example, engage in coordinated production of Airbus planes, and the formation of the Airbus consortium itself arose from the need to compete with Boeing after a prolonged period of consolidation in the aerospace industry that threatened to culminate in a complete monopoly for Boeing in certain market segments.[12] More recently, the Biden administration in the US pursued a production club to make cutting-edge ice breakers[13] with Finland and Canada (Canada, Finland & United States, 2024) to dominate new trade routes opening up as the Arctic melts and access new mineral deposits under the melting ice (Singh, Alloway and Weisenthal, 2024).[14]

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[10] Charles R. Simcoe, *The History of Metals in America*, ed. Frances Richards (Materials Park, OH: ASM International, 2018), https://doi.org/10.31399/asm.tb.hma.9781627082877.

[11] Jianing Hou, Shih-Chih Chen, and De Xiao, "Measuring the Benefits of the 'One Belt, One Road' Initiative for Manufacturing Industries in China," *Sustainability* 10, no. 12 (2018): 4717, https://doi.org/10.3390/su10124717.

[12] Keith Hayward, "Airbus: Twenty Years of European Collaboration," *International Affairs (Royal Institute of International Affairs 1944-)* 64, no. 1 (1987): 12–13, https://doi.org/10.2307/2621491; Damien Neven and Paul Seabright, "European industrial policy: The Airbus case," *Economic Policy* 10, no. 21 (1995): 313-358, https://doi.org/10.2307/1344592.

[13] Government of Canada, Government of the Republic of Finland, and Government of the United States of America (2024) *Memorandum of Understanding Among the Government of Canada, the Government of the Republic of Finland, and the Government of the United States of America Regarding a Trilateral Framework for the Production of Arctic and Polar Icebreakers and other Capabilities*. Washington, DC, 13 November. Available at: https://www.dhs.gov/sites/default/files/2024-12/24_1113_scrc_signed-mou-icebreaker-pact-508.pdf

[14] Daleep Singh, Tracy Alloway and Joe Weisenthal, hosts, *Odd Lots*, podcast, produced by Bloomberg, "How the White House Thinks about Economic Security," August 14, 2024, Available at: https://www.bloomberg.com/news/audio/2024-08-14/odd-lots-how-the-us-thinks-about-economic-security-podcast;

LAC countries could likewise use production clubs to strengthen their industries and foster new productive capabilities —including in emerging industries like renewable energy technologies, electric buses and trains, battery recycling, and in much-needed sustainable production methods across established industries (e.g., steel, building materials, minerals prospecting, extraction, and processing).

There are precedents in LAC for regional production clubs —for example the 'Andean Multinationals' of Andean Community of Nations (CAN) of the 1960s and 1970s—.[15] In exchange for entering the Andean market, CAN required transnational corporations like Nestlé, Unilever, GM, and Ford to build regional production networks. These were specifically designed to distribute technological and productive capacity among member countries. The Andean Multinationals helped to build the regional industrial base, but were shattered by trade liberalization of the Washington Consensus period[16], and especially by the perforation of the common external tariff in the early 21st century.

Today, the strictures of the WTO's TRIMS agreement and WTO-plus trade agreements that augment TRIMS constraints make it difficult to extend similar regional preferences to reconstitute those networks.

Targeting of emerging industries—including 'green' industries— or security linked sectors may pose greater opportunities for industrialization than attempting to compete with powerful incumbents in mature industries. Yet, even in green industries where incumbent competitors are well established, LAC countries are exploring the potential for regional productive integration. For example, an initiative led by Brazil, with the support of the Economic Commission for Latin America and the Caribbean (ECLAC) is analyzing opportunities to build regional value chains in the electric bus industry.[17] The initiative is not entirely 'Latin American' in nature —the German cooperation agency GIZ is also supporting the effort, likely in part to defend Volkswagen's position in the region, where Volkswagen produces in Brazil and exports to LAC, but has increasingly been displaced by Chinese firms (for example in the Chilean market)—. However, by

[15] Board of the Cartagena Agreement, "General Overview of the Andean Group," communication prepared for ASEAN/Andean Fact Conference on Regional Industrial Co-operation, Lima, Peru, June 14-18, 1982. Available at: https://downloads.unido.org/ot/47/92/4792326/10001-15000_11513E.pdf

[16] Quintero, R. (1997). La integración andina: una historia de problemas. En J. Preciado Coronado & A. Rocha Valencia (Eds.), *América Latina: realidad, virtualidad y utopía de la integración* (pp. 295–337). Guadalajara, México: Universidad de Guadalajara; Centro de Estudios Mexicanos y Centroamericanos

[17] ECLAC, "ECLAC Strengthens its Cooperation with Brazil to Contribute to More Productive, Inclusive and Sustainable Development in the Country and Region," press release, November 21, 2024, Available at: https://www.cepal.org/en/pressreleases/eclac-strengthens-its-cooperation-brazil-contribute-more-productive-inclusive-and.

bringing more Latin American producers into its domestic EV bus value chain, Brazil could help realign the economic interests of Latin American countries with its own and recapture some of the regional market. Another option would be to expand productive investments in other types of mass transportation that is more environmentally friendly, faster, and potentially much more conducive to increasing systemic productivity: Rail transport.

Regardless of the sector, cooperative production networks can create shared value equitably while advancing a green transformation and preventing the race-to-the-bottom that emerges when countries instead compete to insert themselves into the value chains of transnational corporations. Emerging analytical tools can also help LAC countries better understand their current and potential productive capabilities and complementarities and make strategic decisions about collaborative industrial development strategies.[18]

A similar logic can be applied in the strategic raw materials and commodities industries. Countries that produce the same types of commodities for the global market can form export clubs (with different levels of commitment and cooperation) to pool market power. This enables cooperating parties to counterbalance the oligopsony power from raw materials and commodity purchasers and capture more value from global trade. This kind of cooperation would be especially impactful in the context of increased production of renewable energy technologies, consequent rising demand for an array of mineral inputs[19], and global North cooperation to increase its oligopsony power[20] (as we discuss in more detail below). For example, Argentina, Bolivia, and Chile —the 'lithium triangle'— are particularly well positioned to create a 'lithium club' to avoid undercutting one another, to increase their collective price-setting power, and to develop downstream industries with higher value added, such as mineral processing and battery production.[21]

[18] See the i3-T + RubidiumData Productive Capabilities Data Lab. for more information at: https://valuechains.ai/

[19] Thea Riofrancos, "The 'Critical Minerals' Rush Could End in a Resource War," *Financial Times*, March 12, 2025. Available at: https://www.ft.com/content/b3709429-a99b-4105-afa5-001d08a3fd80.

[20] See, for example, the EU-US Critical Minerals Agreement negotiations (2023), the European Critical Raw Materials Act (2023), US Japan Critical Minerals Agreement (2023), US-Ukraine Minerals Deal (2025).

[21] It is important to note that realizing the potential of a lithium export club faces significant governance challenges due to divergent regulatory frameworks across the three countries. Argentina features decentralized governance with strong provincial autonomy over lithium regulation, Bolivia operates through centralized state control via a public enterprise, while Chile uses a hybrid model of agreements between CORFO and private companies with the possibility of state-exploitation. With this consideration, export clubs should be conceived as multi-stakeholder spaces that adapt to the specific governance structures and realities of each country and commodity.

4. (Green) Regional Procurement Clubs and Standards

Public procurement is a powerful tool for industrial transformation[22]: Many countries across the globe, including in LAC spend at least 10% of their gross domestic product on public procurement of a diversity of products[23], from steel and cement to buses, food, textiles, and furniture. In LAC, many of these products are imported, expensive, and made using highly polluting and unsustainable methods. Regional procurement clubs —the pooling of public purchasing power among countries— can help tackle those challenges and more.

Procurement clubs allow governments to use demand aggregation to increase their market power and leverage it for strategic ends.[24] In public procurement, demand can be aggregated in two main ways. The first is intertemporal or 'vertical' aggregation, which pools demand over time through mechanisms such as Advance Market Commitments (AMCs)[25] and long-term contracts. Through this route, even a single government can increase the incentives it offers suppliers in exchange for favorable terms. The second is collaborative or 'horizontal' aggregation, through which several entities pool their purchasing power and use it toward a common goal. A single government can only aggregate its purchasing power over time, while several governments acting together can immediately increase their collective market power. Procurement clubs are a mechanism for this kind of horizontal aggregation, and can be combined with vertical aggregation to further expand and leverage collective market power.

At the national level, wealthy countries regularly use both green procurement standards and local content requirements to foster and sustain domestic productive

[22] For a longer discussion on procurement policies and other industrial policy tools, see Isabel Estevez, Ha-Joon Chang, and Justus Schollmeyer, “Industrial Strategy: Methodological Approaches, Lessons, and Pitfalls,” i3T Working Discussion Paper, 2025.
[23] Author’s analysis based on OECD data, “Size of public procurement”, Government at a glance indicators, 2023 edition”.
[24] Isabel Estevez, Nicolás Grimblatt, Andrés Arauz, M. T. Kane, Santiago Vásquez, Gregor Semieniuk, Justus Schollmeyer, and Isabella M. Weber, "Buyers' Clubs as Industrial Policy: Demand Aggregation, Market Power, and Economic Transformation through Public Procurement," i3T Working Discussion Paper, April 2026
[25] Through Advance Market Commitments, governments or private purchasers commit to purchasing the products from companies that make socially desirable goods for a set period, quantity and/or price, thus lowering uncertainty and risk for producers and facilitating financing. Such mechanisms are especially important for nascent industries — and especially many green industries which have high upfront capital expenditures and low profitability.

capabilities —see for example, the Jones Act (1920)[26], Buy American Act (1933)[27], Buy America Act (1982)[28], and Build America/Buy America Act (2021)[29] and Buy Clean standards in the United States—. Similarly, LAC countries can adopt and coordinate local content and green requirements for public procurement and investment to catalyze industrialization while creating demand for products from their own 'green production clubs'. **Even at the national level, individual countries can catalyze regionalized productive development by adopting 'regional content standards'** that give preference to producers from the region when local products are not available. Local content and environmental standards in procurement clubs can also be combined with common labor standards to prevent a race to the bottom.[30]

By leveraging collective bargaining power through procurement clubs, LAC countries can also achieve dramatic price reductions for strategic goods and major fiscal savings without compromising quality, purely through enhanced negotiating capacity. In fact, pooled procurement is often used to create oligopsony power as a counterbalance to oligopoly power held by firms in highly concentrated industries like pharmaceuticals, a notoriously oligopolistic and predatory sector that has been a priority for countries seeking to lower the prices of essential medicines. For example, the OECS Pharmaceutical Procurement Service (PPS/OECS, formerly the Eastern Caribbean Drug Service), which provides pooled procurement services to nine ministries of health in the small island states of the Caribbean, cut unit costs for pharmaceuticals by over 50% during its first procurement cycle, and has sustained price reductions of around 20% while expanding its offering to more than a thousand products.[31] Similar experiences have emerged in other regions. The African Pooled Procurement Mechanism (APPM), led by the Africa Centres for Disease Control and Prevention, leverages the collective bargaining power of the 55

[26] 41 Stat. 988. "An Act To provide for the promotion and maintenance of the American merchant marine, to repeal certain emergency legislation, and provide for disposition, regulation, and use of property acquired thereunder, and for other purposes". Available at: https://www.govinfo.gov/app/details/STATUTE-41/STATUTE-41-Pg988

[27] 41 U.S.C. §§ 8301-8305. Available at: https://www.govinfo.gov/app/details/USCODE-2023-title41/USCODE-2023-title41-subtitleIV-chap83

[28] 49 U.S.C. § 5323(j). "An act to authorize funds for Federal-aid highways, highway safety programs, and transit programs, and for other purposes". Available at: https://www.govinfo.gov/app/details/USCODE-2023-title49/USCODE-2023-title49-subtitleIII-chap53-sec5323

[29] Pub. L. No. 117-58, §§ 70901-52. Available at: https://www.govinfo.gov/app/details/PLAW-117publ58

[30] Andrés Arauz and Isabel Estevez, "A Minimum Cooperation Consensus for a South American Fordist Pact," Tax Justice Network, June 2015 (Draft).

[31] Maggie Huff-Rousselle and Francis Burnett, "Cost containment through pharmaceutical procurement: a Caribbean case study," *International Journal of Health Planning and Management* 11, no. 2 (April-June 1996): 135-157, https://doi.org/10.1002/(SICI)1099-1751(199604)11:2<135::AID-HPM422>3.0.CO;2-1. Available at: https://pubmed.ncbi.nlm.nih.gov/10172681/
Santiago Vásquez and D. López, "Joint Procurement of Medicines in the Eastern Caribbean: A Model of Regional Cooperation (Insights from Francis Burnett)," i3T Expert Insights Series No. 3, 2026

member states of the African Union to secure fair prices and a stable supply of medicines, with the additional goal of creating jobs and strengthening local productive capabilities.[32]

Procurement clubs also allow countries to pool their individual market power to obtain better technology transfer concessions from extra-regional firms and to catalyze innovation among regional producers. Even when used unilaterally, demand aggregation tools like long-term contracts or 'Advance Market Commitments' (AMCs) are an attractive 'carrot' that can entice suppliers to innovate, localize production, and engage in technology transfer in exchange for demand scale and certainty. A similar demand aggregation effect can be achieved by pooling demand among LAC economies. Procurement clubs and coordinated AMCs could offer regional companies and consortia (production clubs) the demand security to build new productive capabilities and progressively increase the regionally-produced content of strategic goods and services over time. In addition to fostering technological development and diversification, this could ensure sufficient and equitable provision of essential goods —from medicines and medical equipment to food, construction materials, and technological components— while increasing the availability of quality work opportunities.

Procurement clubs need not be organized around geographic proximity, nor be limited to national states. They can be formed among like-minded municipalities, within a single country or across borders, that share a common interest such as lowering the prices of essential goods for their residents. In Argentina, for example, the Argentine Network of Municipalities against Climate Change (RAMCC) has aggregated demand across municipalities to purchase solar panels, electric vehicles, and other goods relevant to the energy transition.[33] This flexibility broadens the range of actors that can form procurement clubs in LAC beyond traditional intergovernmental agreements.

Finally, coordinated standards could facilitate broad-based economic inclusion by coordinating preferences to integrate micro, small, and medium-sized enterprises (MSMEs) and grassroots production associations into regional value chains, allowing them to aggregate supply and collectively meet demand for goods and services of medium and low technological intensity.

5. Coordinated (Green) Standards and 'Quality Infrastructures'

[32] Africa Centres for Disease Control and Prevention, African Pooled Procurement Mechanism (APPM)
[33] Red Argentina de Municipios frente al Cambio Climático (RAMCC), "Más de 10 municipios argentinos licitarán vehículos eléctricos a través del Fideicomiso RAMCC," February 2, 2022.

Beyond the procurement market, LAC countries can coordinate many other kinds of local or regional content standards, as well as product and technology standards in the general market.
Standard setting, certification standards, accreditation[34] —and 'quality infrastructure' (QI)[35] policy more generally— serves as both a market integration tool and non-tariff protection mechanism for national and regional producers, as demonstrated by the European Union and the United States. There are also precedents in LAC: Virtually the entire region was successful in adopting the Brazilian digital terrestrial television standard over other extra-regional standards. This benefitted regional players and created a non-tariff market. Such an approach can be expanded into different sectors; it requires thorough coordination of the science and technology agencies together with the standard-setting agencies.

The same approach can be used to combine technological and productive development with environmental goals: For example, to support a regionalized EV industry, LAC economies could adopt common vehicle and fuel standards to create a common market for EVs and strengthen demand for regional products. Common standards reduce demand uncertainty and, coupled with sustainable public procurement, can guarantee early markets for compliant green technologies. Other opportunities for common environmental standards and regulatory action include food labeling to indicate the sustainability of agricultural production practices or health risks, technical regulations to require disclosure of toxic substances, and rules restricting imports of goods containing harmful substances (e.g. cadmium, lead, or other toxics in garments, utensils, materials, etc).

By working toward strong common environmental standards across industries LAC countries can accelerate green transformation across a range of sectors while fostering the regional development of new, greener industrial capabilities, as well as human health.

6. (Green) Regional Buffer Stocks

The procurement logic can also be extended to buffer stocks: The stockpiling and supply management of strategic products, which not only allows for smart macroeconomic management to stabilize prices[36] and ensure access to essential goods like food (enabling

[34] For a longer discussion on this, see Andrés Araúz and Larissa Coelho, "Technology Transfer for the Green Transition" (i3T, forthcoming).
[35] Following UNIDO, Quality infrastructure (QI) comprises several dimensions (Standards, Certification, Laboratories, Accreditation, Conformity assessment, Market Surveillance, Metrology and Policy). More information at https://hub.unido.org/qi4sd/about.
[36] Isabella M. Weber, Jayati Ghosh, and Sudeep Jain, "Building a Buffer against Food-Price Shocks," *Project Syndicate*, October 7, 2024. Available at: https://www.project-syndicate.org/commentary/g20-

food security and food sovereignty) but —with the right ecological and inclusive procurement standards— can also generate massive demand for sustainable products, stimulating a green transformation in the productive sphere (e.g., agro-ecological production at scale).[37] Buffer stocks are already used in LAC — for example, Brazil has used public procurement and buffer stocks since the Convention of Taubaté (1906) through which the state held coffee purchases from large landowners to regulate international prices[38]—. The collective use of buffer stocks presents even greater opportunities for price regulation.

The buffer stocks mechanism is also being actively explored in extractive sectors. In the EU, former president of the European Central Bank Mario Draghi has called on European countries to leverage their collective market power to "strengthen Europe's position at the procurement stage." His plan involves "aggregating demand for the joint purchasing of critical minerals (following the model used in South Korea and Japan) and coordinating the negotiation of joint purchases with producer countries." He argues this "would also help lower 'insurance costs' for Member States by managing future strategic stockpiles at the EU level, going beyond the soft request for national stockpiles."[39] In the US, Biden's former Director of the National Economic Council, Brian Deese made similar calls in 2024.[40] The European Union is also taking significant steps toward stockpiling in essential sectors: In July 2025, the European Commission unveiled the EU Stockpiling Strategy, "designed to secure essential goods — such as food, water, oil, fuel and medicines – in the event of a crisis. It is the first ever EU comprehensive approach to stockpiling."[41]

brazil-south-africa-must-help-protect-developing-countries-against-food-inflation-by-isabella-m-weber-et-al-2024-10.

[37] Isabella Weber, Merle Schulken, Lena Bassermann, Lena Luig, and Jan Urhahn, "Buffer Stocks Against Inflation: Public Food Stocks for Price Stabilisation and their Contribution to the Transformation of Food Systems," policy paper, Heinrich-Böll-Stiftung, Rosa Luxemburg Foundation, and TMG Research gGmbH, Berlin, June 2024. Available at: https://us.boell.org/sites/default/files/importedFiles/2024/06/25/policy-paper-buffer-stocks-against-inflation.pdf

[38] Walter Belik and Altivo R.A. de Almeida Cunha, "Food Security and the Formation of Agricultural Grain Stocks in Brazil," working paper, European Commission, Directorate-General for Development and Cooperation, 2019. Available at: https://europa.eu/capacity4dev/hunger-foodsecurity-nutrition/documents/foodreservebrazil

[39] Mario Draghi, "The Draghi Report: A Competitiveness Strategy for Europe (Part A)," European Commission, September 9, 2024. Available at: https://commission.europa.eu/topics/eu-competitiveness/draghi-report_en#paragraph_47059.

[40] Brian Deese, "The Case for a Clean Energy Marshall Plan," *Foreign Affairs*, August 20, 2024. Available at: https://www.foreignaffairs.com/united-states/case-clean-energy-marshall-plan-deese.

[41] European Commission, "EU Stockpiling and Medical Countermeasures Strategies to strengthen crisis readiness and health security," press release, Strasbourg, July 9, 2025. Available at: https://ec.europa.eu/commission/presscorner/detail/en/ip_25_1728

As major industrialized economies embrace collective action to exercise monopsony or oligopsony power, it has become increasingly important for geopolitically weaker countries to do the same. The LAC region is no exception.

7. (Green) Investment Clubs: Pooled Investments for Green Regional Industrialization

It is widely believed that, beyond political dysfunction, the primary obstacle to the realization of mutually beneficial regional integration projects such as the above is lack of investment resources. This assumption may be worth revisiting for a couple of reasons. First, based on publicly available information, LAC countries have not engaged in the technical feasibility or pre-feasibility studies that would be needed to assess the level of investment needed for many of the projects above. Second, assumptions about investment constraints are often based on assessments of national investment capacities, but the challenge of raising investment to build, for example, a competitive Brazilian EV bus industry is very different from the challenge of raising investment for a *Latin American* EV bus industry. The latter, to the extent that it succeeds in including content from a variety of Latin American countries, can open up regional markets and create demand security far more easily. It also allows greater opportunities to pool scarce national resources into 'regional investment clubs.'

Through such clubs LAC countries can increase their financing capabilities to make more ambitious, impactful investments across different domains of green transformation—including 'green production clubs' for sustainable food, renewable energy technologies and other essentials—. Investment clubs can serve as an institutional vehicle to leverage an array of institutions, tools, and resources to mobilize investment toward strategic priorities–for example, through coordination among the dozens of regional, national, and subnational development banks in the LAC region could enable joint financing of green industrialization projects–. Finally, such regional investment would also reduce dependence on external creditors. By jointly investing in areas like food sovereignty and renewable energy, LAC countries can reduce the import-driven deficits that often force them to borrow in foreign currency and continue feeding debt traps.

The link between debt and industrialization is rarely addressed in an integrated way, even though the two are mutually reinforcing. Sovereign debt crises are closely tied to the structural deficits of less developed countries in food, energy, and high value-added

manufacturing. These deficits generate chronic trade imbalances that depreciate local currencies, make imports more expensive, and force governments to borrow in foreign currency to stabilize a situation that the debt itself perpetuates.[42] The scale of the problem is considerable. According to UNCTAD, the external debt of the Global South reached US$11.7 trillion in 2024, and 3.4 billion people live in countries that spend more on debt service than on health or education.[43] Debt relief, however generous, will therefore fall short unless it is accompanied by a vision and concrete measures for productive transformation. By channeling resources toward the substitution of strategic imports and the development of productive capabilities, regional investment clubs address one of the structural causes of indebtedness in addition to its symptoms.

The fragmentation of Global South countries in debt negotiations mirrors the pattern that weakens their position in trade and production. Creditors have historically operated as a unified front, through the Paris Club, the London Club, and their control over the Bretton Woods institutions, while debtor countries have been forced to negotiate separately and under conditions of maximum vulnerability. In response to this asymmetry, there have been several efforts to build spaces for coordination among indebted countries of the South. The most emblematic was the Cartagena Consensus of the 1980s, which brought together eleven Latin American countries. The effort was weakened by the actions of creditor banks, following the recommendations of the US government, which feared the emergence of a debtors' cartel with joint bargaining capacity and greater geopolitical weight. A new coordination space is currently taking shape. On April 15, 2026, during the IMF and World Bank Spring Meetings in Washington, the Borrowers' Platform was officially launched, with UNCTAD acting as technical secretariat and a group of lead countries headed by Egypt and Pakistan. The Platform responds to the mandate of the Compromiso de Sevilla, adopted in July 2025 at the Fourth International Conference on Financing for Development, and is led by borrowing countries themselves.[44] Its current mandate focuses on the exchange of experiences and information, yet it has the potential to become the seed of a more ambitious initiative, namely a coalition of sovereign debtors with collective bargaining capacity.

[42] Chiriboga, A., & Kaboub, F. (2025). A coherent framework for sovereign debt and economic transformation: Towards Global South Debtors' Coalition (IEJ Sovereign Debt Working Paper Series No. 2). Institute for Economic Justice. Available at: https://iej.org.za/wp-content/uploads/2025/05/IEJ-G20-2-Sovereign-Debt-2025.pdf

[43] UNCTAD, "External Debt Sustainability and Development," 2025; UNCTAD, "Global public debt hit record $102 trillion in 2024, striking developing countries hardest," 2025

[44] Compromiso de Sevilla, Fourth International Conference on Financing for Development (FfD4), Seville, June 30–July 3, 2025; UNCTAD, Borrowers' Platform

Investment clubs and debtor coalitions are part of the same architecture of collective action. Initiatives of this kind are vulnerable to the pressures that have historically weakened or dismantled similar efforts, such as the Cartagena Consensus. Their continuity will depend on the political commitment of their participants and on the support of civil society and academia. Building a fairer economic architecture ultimately depends on solidarity and coordination among the countries of the South.

8. (Green) Regional R&D+i Clubs: Research, Development and Innovation

Regional collaboration in Research, Development and Innovation (R&D+i) represents one of the most strategic yet underutilized opportunities for Global South countries to accelerate their technological capabilities and green transformation. By pooling scientific expertise, sharing research infrastructure, and coordinating innovation priorities, LAC countries can overcome individual resource constraints and catch up more effectively with major technology powers.[45]

The Global North has shown successful experiences in R&D+i collaboration with transformative potential. EUREKA, established in 1985, facilitates access to funding and support from national and regional institutions for international R&D projects across different fields[46] and generating positive impact in both manufacturing and non-manufacturing firms.[47] In the Nordic region, organizations like Nordic Innovation and NordForsk foster cross-border cooperation by supporting joint projects, sharing costs and risks, and developing common standards, thereby enabling smaller economies to complement their capabilities and drive sustainable innovation.

There are also promising and successful experiences in the Global South. The ASEAN Technology Management Hub (ASEAN TMH) represents a mechanism to facilitate a regional technology and innovation ecosystem across Southeast Asia—funded through EU-ASEAN collaboration—contributing to provide a platform to refine and validate

[45] Comisión Económica para América Latina y el Caribe (CEPAL), "*Ciencia, tecnología e innovación: cooperación, integración y desafíos regionales*," LC/TS.2022/156, Santiago: CEPAL, 2022.
[46] F. Jovane, "Contribution of Eureka Projects to Innovation in Manufacturing Technology," in *Information Control Problems in Manufacturing Technology 1989: Selected Papers from the 6th IFAC/IFIP/IFORS/IMACS Symposium, Madrid, Spain, 26–29 September 1989*, IFAC Symposia Series (1990): 9-20, https://doi.org/10.1016/B978-0-08-037023-1.50008-X.
[47] Cristina Bayona-Sáez and Teresa García-Marco, "Assessing the effectiveness of the Eureka Program," *Research Policy* 39, no. 10 (December 2010): 1375-1386, https://doi.org/10.1016/j.respol.2010.07.007.

intricate features and functionalities for maximizing catalytic impact on research, innovation, and technology transfer.[48]

Some experiences also include LAC countries. The India-Brazil-South Africa (IBSA) Science & Technology cooperation offered particularly relevant lessons. The IBSA Trilateral STI Cooperation MOU (2010) identified key areas for collaboration including health, alternate and renewable energy, indigenous knowledge systems, oceanography, biotechnology, nanotechnology, and ICT. Following its announcement in 2022, the BRICS Vaccine R&D Center could prove to be a landmark for scientific and technological cooperation, ensuring vaccine self-sufficiency in the Global South.[49]

Latin America has the potential and networks to develop regional capabilities and promote collaborative R&D+i. Specific sectoral initiatives show the potential for deeper integration. Brazil's agricultural research corporation, Embrapa, has developed extensive partnerships with agricultural research institutes across Latin America and the world[50], sharing germplasm, research methodologies, and technological innovations adapted to tropical and subtropical conditions.[51]

Cross-border innovation ecosystems are already emerging at the subnational level. For example, on the border of Peru and Chile, the Tacna-Arica initiative represents a pioneering effort in transborder productive ecosystems. The University of Tarapacá (UTA) and the National University Jorge Basadre Grohmann (UNJBG) have been working since 2019 on the 'Tacna-Arica and Parinacota Transborder Productive Ecosystem' project, which seeks to create synergies and alliances that reinforce the integration process of the Tacna-Arica and Parinacota macro-region. The project has expanded to include INIA Chile and INIA Peru, forming the driving nucleus for a research

[48] Trinh Thi Hoa and Tran Thi Thao, "Scientific and Technological Collaboration Between the ASEAN and the EU in the Current Context," in Economic and Political Aspects of EU-Asian Relations. VEF 2023, ed. T.L. Nguyen, A.T. Nguyen, E. Ślęzak-Belowska, and M. Salamaga (Singapore: Springer, 2024), https://doi.org/10.1007/978-981-99-8945-4_26.

[49] Ana Paula Blower, "Fiocruz coordinates priority initiatives within the BRICS," Fiocruz News Agency, July 21, 2025. Available at: https://fiocruz.br/en/news/2025/07/fiocruz-coordinates-priority-initiatives-within-brics

[50] Eliseu Alves, "EMBRAPA: Institutional Building and Technological Innovations Required for Cerrado Agriculture," in *Development for Sustainable Agriculture*, ed. Akio Hosono, Carlos Magno Campos da Rocha, and Yutaka Hongo (London: Palgrave Macmillan, 2016), https://doi.org/10.1057/9781137431356_7.

[51] Petula Ponciano Nascimento and Ana Célia Castro, "Embrapa e a cooperação científica internacional: do emparelhamento (catching-up) com a revolução verde à liderança tecnológica na agricultura tropical," Embrapa Solos, 2020, http://dx.doi.org/10.51861/ded.dmv.2.007.

project on 'Biodiversity, productive diversification and short commercialization circuits with indigenous peoples and family agriculture'.[52]

Sub-regional initiatives also contribute to this ecosystem. Efforts such as the 'Comisión para el Desarrollo Científico y Tecnológico' (CTCAP) of the Central American Integration System (SICA) has identified priorities for the coming years to overcome existing collaboration barriers and is preparing a Central American policy for open and inclusive science, technology, and innovation (STI).

In the 2010s, five countries in South America started preparatory work for the Fondo de Conocimiento, a R&D+i club within the Bank of the South. It emulated the European Horizon 2020 initiative. It was articulated to the Bank's mission of region-wide projects and intended to fund projects where universities or research centers from three distinct countries came together to present feasibility studies of the broader Bank of the South regional portfolio.[53] The Bank of the South intended to become the financing arm of the UNASUR sectoral councils, including the South American Council for Science and Technology (COSUCTI).

Learning from national experiences such as the R&D clause in Brazil's oil sector,[54] LAC countries can develop R&D infrastructure, networks and capabilities, especially around strategic resources (like lithium), renewable energy and agricultural production. Building on these foundations and prior initiatives like the Knowledge Fund of the Bank of the South, LAC countries could establish a comprehensive framework of regional R&D+i clubs organized around strategic priority areas, working on the development of shared research infrastructure, joint R&D projects, common standards development, technology transfer networks, and the discussion of new intellectual property laws. Coordinating R&D+i clubs with production and procurement clubs can also foster

[52] Marcela Aedo et al., "Ecosistema productivo transfronterizo Tacna-Arica y Parinacota: caracterización del territorio, las instituciones y la plataforma integrada de proyectos de innovación agropecuaria," *Documentos de Proyectos* LC/TS.2022/199, Santiago: CEPAL, 2023.

[53] Pedro Buonomo (2018). "The Bank of the South as a Mechanism for Financing and Regional Integration:
Activities in the Operational Phase." in Diana Barrowclough and Ricardo Gottschalk, Solidarity and the South: New directions in long-term development finance. UNCTAD. https://unctad.org/system/files/official-document/gdsmdp2017d2_en.pdf ; and
Andres Arauz (2018). "The Bank of the South: Its transformative role and the five sovereignties". in Diana Barrowclough and Ricardo Gottschalk, Solidarity and the South: New directions in long-term development finance. UNCTAD. https://unctad.org/system/files/official-document/gdsmdp2017d2_en.pdf

[54] Lorenzo Mancini and María José Paz, "Oil sector and technological development: Effects of the mandatory research and development (R&D) investment clause on oil companies in Brazil," Resources Policy 58 (October 2018): 131-143, https://doi.org/10.1016/j.resourpol.2018.04.006.

collaboration and the translation of research and development into productive and economic impacts.

9. Conclusions

Building on historical and contemporary, regional and global experiences, this discussion note has explored a range of possibilities for advancing regionally collaborative strategies for industrialization and green transformation in LAC.

1. **Green regional infrastructure:** Expanding and integrating green infrastructure in energy, transportation, and digital systems offers LAC an opportunity to strengthen systemic productivity while advancing ecological goals. The region already benefits from a relatively clean energy mix and partial interconnections, but moving from fragmented initiatives to a coherent regional grid would reduce costs, increase resilience, and enable strategic planning. Similar opportunities exist in transport, where regional EV corridors and rail systems could underpin cleaner mass mobility, and in digital networks, where shared fiber optic and data infrastructure could lessen external dependence and spur local innovation. By treating infrastructure development not only as a means of connectivity but also as an anchor for industrial capabilities development —much as the US did with railroads or China with Belt and Road— LAC can simultaneously drive integration, green transition, and long-term industrialization.

2. **(Green) production clubs and export clubs** can be used to coordinate the creation of productive capabilities in strategic green industries and supply chains (for example, in solar supply chains, electric buses, or trains). Production clubs are common in the global North (for example, European economies engage in coordinated production for Airbus planes). By creating cooperative production networks for strategic technologies, Latin American countries can create shared value while advancing a green transition. This can help prevent the race-to-the-bottom that emerges when countries instead compete to insert themselves into the value chains of transnational corporations. This kind of cooperation would be especially impactful in the context of increased production of renewable energy technologies and the consequent rising demand for mineral inputs. A similar logic can be applied in the commodities industries. Countries that produce the same types of commodities for the global market, can form export clubs to pool market power, to counterbalance the oligopsony power from commodity purchasers and capture more value from global trade.

3. **(Green) procurement clubs and buffer stocks**. Most countries spend at least 10% of their GDP on public procurement of diverse products, from steel and cement to buses, food, and furniture. Currently, many of these products are produced using highly-polluting and unsustainable methods. By aggregating purchasing power and setting common procurement standards for ecological production of goods that are commonly purchased by governments, Latin American countries can accelerate green transformation across a range of essential sectors and improve human wellbeing. The same logic can be extended to buffer stocks for essentials, which also enable price stabilization and access to critical necessities during crises (much like the European Union is currently pursuing). Procurement clubs can also be formed among municipalities and other subnational actors, as the experience of Argentina's RAMCC shows.

4. **Coordinated local content and product standards for green industrialization**. Industrialized economies regularly use local content requirements to foster and sustain domestic productive capabilities (see for example, Buy American, Buy America/Build America, and Jones Act requirements in the United States). Similarly, by using and coordinating local content requirements for public procurement and investment, Latin American countries can catalyze industrialization while creating demand for products from their own 'green production clubs.'

5. **Coordinated (green) standards and quality infrastructures (QI).** Beyond the procurement market, LAC countries can coordinate many other kinds of local or regional content standards, as well as product and technology standards in the general market. For example, to support a regionalized EV industry, they could adopt common vehicles and fuel standards to help create a common market for EVs and strengthen demand for regional products. Standard setting, certification standards, accreditation[55] —and 'quality infrastructure' (QI)[56] policy more generally— serves as both a market integration tool and non-tariff protection mechanism for national and regional producers, as demonstrated by the European Union and the United States.

[55] For a longer discussion on this, see Andrés Araúz and Larissa Coelho, "Technology Transfer for the Green Transition," i3T Discussion Note, forthcoming..

[56] Following UNIDO, Quality infrastructure (QI) comprises several dimensions (Standards, Certification, Laboratories, Accreditation, Conformity assessment, Market Surveillance, Metrology and Policy). More information at https://hub.unido.org/qi4sd/about.

6. **Pooled investments for green transformation** or ‘investment clubs’ that pool funds to make investments in coordinated green production networks can address the financial and fiscal constraints which are widely held to be the key bottleneck for major green and sustainable investments. By pooling scarce resources (for example, through coordination among the dozens of LAC development banks) LAC countries can increase their financing capabilities and make more ambitious and impactful investments in green transformation — including in green regional infrastructure and ‘green production clubs’ for sustainable food, renewable energy technologies and other essentials—. By reducing the import-driven deficits in food, energy, and manufacturing that feed sovereign indebtedness, investment clubs can also address one of the structural drivers of debt, and could be articulated with emerging debtor coalitions such as the Borrowers' Platform.

7. **Regional R&D+i clubs for green innovation capabilities.** Latin American countries can leverage collaborative R&D+i to overcome individual constraints, develop capabilities and accelerate green technological capabilities. Building on current and past experiences, LAC can establish comprehensive R&D+i clubs organized around strategic priority areas and coordinate shared research infrastructure, joint projects, technology transfer networks, and common standards development. By linking R&D+i clubs with collaborative production and pooled procurement initiatives, LAC can ensure that scientific advances translate directly into productive capabilities and economic impact, creating a virtuous cycle where regional innovation drives green industrialization and vice versa.

Further exploring and beginning to implement these kinds of collaborative strategies can catalyze regional industrial development in LAC and begin to counterbalance major asymmetries *vis-à-vis* industrialized economies in terms of technological capabilities, market power, and policy ambition.