Reconfiguring dependency: Latin America in the geopolitics of the energy transition and critical minerals

Reconfigurando a dependência: América Latina na geopolítica da transição energética e dos minerais críticos

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ABSTRACT

The energy transition is central to addressing the climate crisis, yet it also fosters new geopolitical and territorial tensions. As a major supplier of critical minerals for renewable technologies, Latin America occupies a strategic yet constrained position within the world economy. This study analyses the region through the lens of dependency theory, focusing on the interplay among three global poles: the United States and China — dominant manufacturers of *cleantech* — and Latin America, particularly Brazil, Chile, and Peru, as leading mineral exporters. Methodologically, the paper adopts an analytical and interpretive approach grounded in critical political economy, based on theoretical reflection and documentary analysis of academic and institutional sources. The study examines the economic and ecological implications of the transition, showing how structural inequalities persist despite decarbonisation. The findings indicate that the energy transition constitutes a reconfiguration — rather than a rupture — of historical dependency relations, thereby limiting Latin America's prospects for greater autonomy in the emerging geopolitical order.

Keywords: Energy transition. Latin America. Critical minerals. Dependency theory. World economy. Centre-periphery relations.

RESUMO

A transição energética é fundamental para enfrentar a crise climática, mas também fomenta novas tensões geopolíticas e territoriais. Como um dos principais fornecedores de minerais críticos para tecnologias renováveis, a América Latina ocupa uma posição estratégica, porém, limitada na economia mundial. Este estudo analisa a região sob a ótica da teoria da dependência, com foco na interação entre três polos globais: os Estados Unidos e a China — principais fabricantes de tecnologias limpas — e a América Latina, particularmente o Brasil, o Chile e o Peru, como grandes exportadores de minerais. Metodologicamente, o artigo adota uma abordagem analítica e interpretativa fundamentada na economia política crítica, baseada na reflexão teórica e na análise documental de fontes acadêmicas e institucionais. O estudo examina as implicações econômicas e ecológicas da transição, mostrando como as desigualdades estruturais persistem apesar da descarbonização. Os resultados indicam que

a transição energética constitui uma reconfiguração — e não uma ruptura — das relações históricas de dependência, limitando, assim, as perspectivas da América Latina para uma maior autonomia na ordem geopolítica emergente.

Palavras-chave: *Transição energética. América Latina. Minerais críticos. Teoria da Dependência. Economia mundial. Relações centro-periferia.*

1 INTRODUCTION

The global *energy transition* (ET) is often seen as a move toward sustainability (IPCC, 2022, 2023), yet it may reinforce existing geopolitical hierarchies and dependencies (Poque González, 2025). More than technical change, it signifies a reconfiguration of power over the resources and territories embedded in global clean technologies (cleantech) value chains. While portrayed as decarbonisation through renewables and electrification, the ET is intertwined with socio-technical, cultural, and political shifts (Avelino, 2017; Geels *et al.*, 2017; Kuzemko *et al.*, 2024). Indeed, global energy systems are shifting from fossil-fuel dependence to a complex, contested landscape in which access to technology, infrastructure, and policy decisions reshapes production, consumption, transportation, and energy use (Paltsev, 2016).

According to the International Energy Agency (IEA), national economies occupy at least three strategic positions within the unfolding ET and the linked cleantech value chains: the extraction and processing of critical minerals, the manufacturing of key technologies, and the deployment of these technologies in domestic energy systems. This seemingly functional division may mask power asymmetries. Generally, the extraction of critical minerals[1] is concentrated in peripheral and semi-peripheral regions of the world economy, while technological and industrial capacities remain rooted in the core (IEA, 2022; Poque González, 2025). Tracing the production chains of emerging cleantech thus reveals a reconfiguration of power relations, the rise of new geopolitical alignments, and the geography of conflicts shaping the current era (Hughes; Quitzow, 2018).

Thus, recent scholarship has revitalised interest in dependency theory as a valuable lens for analysing the geopolitical dimensions of the sustainable ET (Overland, 2021; Poque González, 2025). Far from being a relic of the past, dependency thinking offers renewed explanatory potential in understanding how structural asymmetries persist within the ET and within global sustainability agendas. As Reis and De Oliveira (2023) argue, revisiting these perspectives allows us to (re)connect the ET debate with the broader tradition of Latin American critical thought. In this sense, Dos Santos' (1985) classic definition of dependency — "as a condition in which the development of some nations remains subordinated to the expansion of others" — retains striking relevance for interpreting today's unequal geography of *sustainability*.

This essay argues that Latin America's role in the ET reflects a reconfiguration rather than a rupture of dependency relations, in which extractivist logics persist under a green guise. Meanwhile, core economies, driven by intensifying geopolitical rivalries, have become the principal demand centres for critical minerals essential to cleantech and advanced technologies. The analysis focuses on three key global poles: the United States (US) and the People's Republic of China (hereafter China), as dominant manufacturers and technological powerhouses, and Latin America (LA), with particular attention to Brazil, Chile, and Peru — as major exporters of critical minerals that underpin the transition. The remainder of this essay is structured as follows: a contextualisation section, a brief overview of the methodology, an analytical section that develops the core argument, and concluding remarks.

2 CONTEXTUALISATION

To situate this study within its broader intellectual landscape, two central dimensions are examined: the geopolitics shaping the global ET and the critical insights of Latin American dependency theory.

2.1 RESHAPING GEOPOLITICS IN THE ENERGY TRANSITION FRAME

Although geopolitics lacks a single definition, it often centres on the interplay among territory, resources, and power (Palacio, 2013; Tuathail; Toal, 1994). Blondeel *et al.* (2021) and Dodds (2014), for instance, examine how geography shapes global politics at the national and international levels, while Palle (2021) notes that power in geopolitics is a socio-political and economic construct shaped by historical and institutional forces.

During the 20th century, oil played a pivotal role in shaping analyses of global power dynamics. Thus, the geopolitics of energy has predominantly centred on oil and gas (Yergin, 2008). Concurrently, Bradshaw (2009) defines the geopolitics of global energy security as the impact of geographical factors, such as supply and demand distribution, on the influence strategies of state and non-state actors to secure reliable, affordable energy.

Today, driven by climate mitigation imperatives, the increasing prominence of renewables — along with electrification, and demand-side and storage devices — and their associated production chains has significantly disrupted the traditional energy geopolitics paradigm (Blondeel *et al.*, 2021, 2024; O'Sullivan; Overland; Sandalow, 2017). Blondeel *et al.* (2024) and Yang, Xia, and Qian (2023) underscore pivotal domains for energy geopolitics, encompassing renewable energy adoption, electrification, critical minerals, low-carbon technology and fuel trade, carbon dioxide removal, digitalisation, cybersecurity, security implications and conflict dynamics associated with the ET, shifts in geopolitical roles, and transformations in international relations.

The year 2024, the warmest in instrumental records, highlights the growing frequency and intensity of extreme climate events, which increasingly threaten ecosystems and human societies (Rohde, 2025). This underscores, alongside the urgency of decarbonisation, the interconnectedness of local and global challenges, with local impacts intricately tied to broader systemic issues (Pörtner *et al.*, 2023).

2.2 WORLD-SYSTEMS AND DEPENDENCY THEORIES—ADDRESSING CONTEMPORARY CHALLENGES

Dependency theory, which emerged during the 1960s and 1970s, constituted a foundational framework for critically analysing global economic inequalities (Franco; Graña; Rikap, 2024; Stein, 1979). Immanuel Wallerstein expanded on this with his world-systems theory, which argues that all nations participate in a capitalist world economy characterised by structural wealth disparities (Wallerstein, 1985). The theory classifies nations into core, semi-periphery, and periphery based on their economic roles (Petras, 1981; Prebisch, 2022). Ruvalcaba and Valencia (2016) found that no Latin American countries occupy core positions, and few occupy semi-peripheral positions, highlighting LA's position in the world economy.

In a world facing climate and socio-ecological crises, research shows that a nation's place in the global economy correlates with its energy use, CO_2 emissions, and economic output. Core nations have higher energy consumption, emissions, and gross domestic product (GDP) per capita than semi-peripheral and peripheral countries. This pattern persists as (mainly) core and semi-peripheral nations see rising per capita CO_2 emissions linked to economic growth. While semi-peripheral and peripheral countries have made economic progress, environmental issues remain (Greiner, 2019; Greiner; McGee, 2018; Lawrence, 2009).

2.2.1 THREE PHASES OF DEPENDENCY

Dos Santos (1970, 1985) identified three dependency phases: (1) colonial, (2) financial-industrial (by the late 19th century, capital dominated centres and expanded via investments in raw materials and agriculture), and (3) technological-industrial (early 20th century). He highlighted the role of foreign capital in shaping class structures and capital accumulation, thereby maintaining the subordinate status of dependent economies in the world economy.

According to Treacy (2022), core countries exercise significant control over markets, absorbing a portion of the surplus generated by peripheral countries as profits or interest payments. These dynamics effectively deprive peripheral countries of the autonomy to manage their resources. Dependency theory further elucidates the patterns of capital reproduction in peripheral nations, the interrelationship between capitalist development in core countries, and the underdevelopment experienced in peripheral contexts.

2.2.2 TECHNOLOGICAL DEPENDENCY

Franco *et al.* (2024) revisit dependency theory to analyse underdevelopment, focusing on foreign and domestic capital and technological dependency. They highlight the need to update the theory beyond the traditional centre–periphery model, noting that digital platforms have created a new structure in the digital economy, with the US and China as central hubs and other regions marginalised.

A contemporary view of dependency must account for neoliberal changes such as financialisation[2], debt crises, and the subordination of peripheral economies to the core. This underscores the interconnected roles of global trade, transnational corporations, and financial volatility in sustaining structural imbalances. Capital flow instability, driven by economic policies and risk assessments, often causes crises and exchange rate depreciations, as seen during the Covid-19 pandemic (Reis; De Oliveira, 2023; Treacy, 2022).

Core economies monopolise high-value production that needs advanced expertise and technological capabilities, leaving peripheral regions with labour-intensive or resource-extractive activities. This reveals ongoing structural disparities. Though dependency now includes technological, industrial, and financial aspects, the core–periphery imbalance persists. The global division of labour continues to deepen inequalities, with core countries producing high-tech products for re-export to peripheral countries (Treacy, 2022).

2.2.3 GREEN DEPENDENCY

As a continuation of technological dependency, the current ET context fosters a *green dependency*. Following the reflections of Middelanis, Fritz, and De Paula (2026), a green dependency denotes a structural situation in which peripheral nations engage in the global ET primarily as providers of renewable energy and critical minerals, while technological capabilities, value-added manufacturing, financial control, and standard-setting remain concentrated in core economies. As demand for advanced goods increases faster than for commodities, the prices of raw materials generally decline relative to those of manufactured products, thereby worsening the terms of trade and exacerbating development disparities. This dynamic perpetuates centre–periphery asymmetries in the pursuit of a worldwide decarbonised future.

3 METHODOLOGICAL PATH

This study adopts a critical, essay-based interpretive approach rather than a conventional empirical framework. It aims to examine how dependency relations are reconfigured in LA within the global ET. The analysis draws on documentary sources — including academic literature, policy reports, and institutional data — and integrates geopolitical, historical, and socio-environmental lenses.

The argument is developed around three interconnected axes (see Figure 1). First, it explores how shifting global and regional power dynamics reshape territorial relations through new material, infrastructural, and technological flows (Guerrero, 2021). Second, it analyses socio-environmental struggles in LA[3] territories, where conflicts over mining, sustainability and justice become most visible (Temper; Bene; Martinez-Alier, 2015). Third, drawing on Franco, Graña, and Rikap (2024), it considers redefining global hegemony by analysing the US–China rivalry and its implications for Latin America's autonomy.

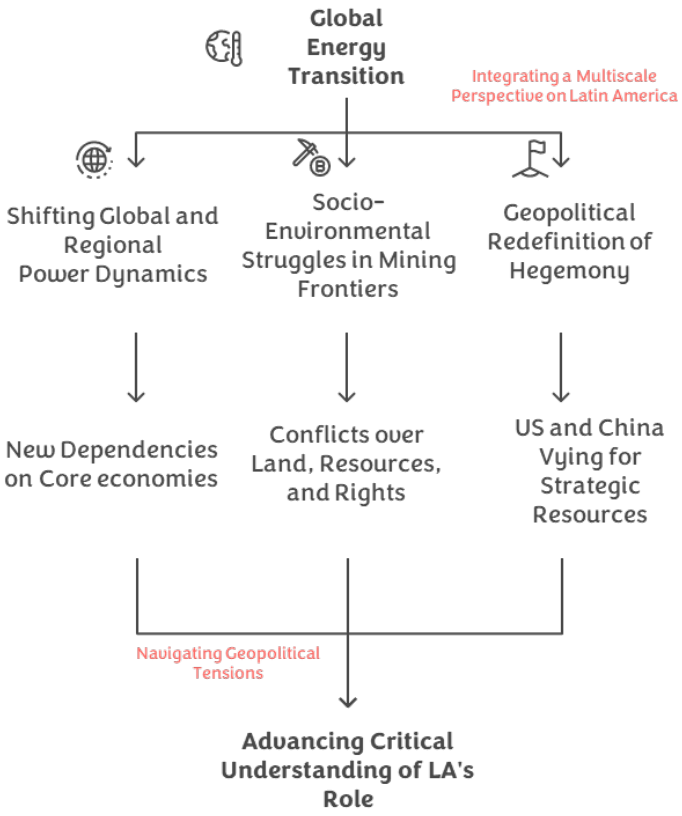

Figure 1 – Methodological path

Source: Author elaboration.

Given their central role in supplying critical minerals, Brazil, Chile, and Peru serve as illustrative cases for tracing historical dependencies, social disputes, and geopolitical entanglements. These examples serve analytical — not statistical — purposes, and are not intended to represent all of LA.

This tripartite structure adopts a multiscalar perspective, linking local socio-territorial processes with broader geopolitical shifts. Inspired by Müller's (2008) view that power operates through both space and discourse, the analysis considers how actors, nations, and corporations construct territorial imaginaries in energy and sustainability debates.

Finally, as an essay-based and interpretive study, this research does not use fieldwork or quantitative modelling. Its contribution lies not in empirical generalisation but in theoretical synthesis and a critical political economy reading of how the global ET reproduces and reshapes structural dependencies in LA.

4 RESULTS — DISCUSSING DEPENDENCY WITHIN THE ENERGY TRANSITION CONTEXT

Guided by the three axes established in the methodological path — shifting geopolitical and economic power, socio-environmental struggles, and the interplay between US and Chinese influence — this analysis examines both global trends and their local manifestations. By tracing the flows of critical minerals, technological capacities, and low-carbon energy infrastructures, the section illustrates how historical patterns of dependence persist or are transformed, revealing the complex interactions between core and peripheral economies in the emerging low-carbon era.

4.1 TRANSFORMATIONS IN LATIN AMERICA

Recent transformations in fossil extraction and liquefied natural gas (LNG) markets have reshaped global energy flows. However, despite these shifts, LA's structural position has remained centred on resource extraction rather than improvements in technological sovereignty. Climate change mitigation plans involve electrification and boosting renewables, shifting geopolitical power toward cleantech development and deployment. Under current IEA projections, the share of fossil fuels in the global energy mix could decline from around 80% to approximately 70% by 2030 (IEA, 2024a). As governments promote the ET, fossil fuel companies are diversifying into renewables, energy services, and electric devices (Guerrero, 2021).

Among Brazil, Chile, and Peru, only Brazil has supplied fossil fuels over the last few decades due to its reserves and production capacity, establishing itself as a key global energy player and developing partial energy sovereignty. Chile and Peru have focused on other resources, contributing minimally to the fossil fuel supply (Castillo *et al.*, 2023). The energy shifts of the ET have tended to homogenise these trajectories by repositioning all three primarily as suppliers of critical minerals within global value chains (Poque González, 2022).

Brazil, Chile, and Peru collectively hold significant global reserves of several essential critical minerals. This prominence is reminiscent of the region's historical importance during the fossil fuel era, when countries such as Venezuela, Mexico, and Brazil possessed considerable oil and gas reserves. Nevertheless, the paramount challenge persists: Latin America's strategic relevance rises during global tech shifts, but its integration remains concentrated in upstream extractive stages, while technological upgrading, processing, and high-value manufacturing remain external to the region.

Table 1 – Resources

Resource	*Brazil*	*Chile*	*Peru*
Oil reserves (Mbbl)	14,856	12	224
Gas reserves (Gm3)	407	8	262
Coal reserves (Mt)	6,596		7
Copper reserves (kt)		190,000	120,000
Lithium reserves (kt)	390	9,300	
Nickel reserves* (kt)	16,000		
Graphite reserves (kt)	74,000		
Rare earth elements reserves (kt)	21,000		

*Source: Data on fossil fuel reserves are drawn from Castillo et al. (2023), while information on critical mineral reserves is based on the Energy Institute (2024). * based on Wilson Center (2024).*

In fact, according to the IEA (2024b), a 2023 review of clean-technology manufacturing facilities worldwide found low levels of LA participation in global low-carbon device manufacturing. Brazil stands out in South America with its technological hubs. Quantitatively speaking, however, the efforts of these hubs remain smaller than those of the core global economies. At least wind turbines, electric vehicles, and storage components are produced in Brazil. Furthermore, Brazil has been globally recognised for its advancements in biofuel development and related technologies (Gimenez *et al.*, 2018).

According to existing policy frameworks, China's cleantech exports are projected to exceed $340 billion by 2035. This amount is approximately equivalent to the aggregate oil export revenues of Saudi Arabia and the United Arab Emirates in 2024. Furthermore, China is currently the most cost-effective location globally for cleantech manufacturing. On average, production costs associated with solar panels, wind turbines, and battery technologies are estimated to be 40% higher in the US, 45% higher in the European Union, and 25% higher in India (IEA, 2024b). Despite industrial hubs emerging in LA, such as in Brazil, their scale is insufficient to alter the global division of labour. This concentration of manufacturing reinforces LA's subordinate role in green value chains, limiting local industrial transformation.

Regarding renewables deployment, the cases of Brazil and Chile exemplify the broad implementation of solar and wind energy in the region (Table 2). Although not entirely absent, socio-environmental conflicts and emissions associated with solar and wind deployment are less significant than those associated with fossil fuels and conventional large hydroelectric projects (Poque González *et al.*, 2023). Conversely, Peru, a key producer of critical minerals, faces a paradox: it lags in renewables deployment (Poque González, 2022).

Table 2 – Renewables deployment

Resource	*Brazil*	*Chile*	*Peru*
Electrification (end-use energy shares)	19%	25%	22%
Renewable power capacity (shares)	84.65%	61.78%	41.38%
Solar power capacity (shares)	11.85%	23.97%	1.82%
Wind power capacity (shares)	11.51%	12.98%	3.42%

Source: Castillo et al. (2023).

Brazil, Chile, and Peru show uneven progress in the ET. Brazil and Chile have expanded renewables, but manufacturing and tech remain externally concentrated. Peru's limited deployment of renewable energy, despite its rich mineral resources, exemplifies the asymmetry between resource access and technological control. While increasing the supply of critical minerals boosts geopolitical visibility, it does not automatically translate into technological sovereignty, value-added industrialisation, or structural upgrading within global value chains. Taken together, these transformations suggest that the energy transition modifies the material basis of dependency — from fossil fuels to critical minerals — without fundamentally transforming the region's structural position within centre–periphery hierarchies. This asymmetry between mineral endowment and technological capability encapsulates the structural logic of green dependency.

4.2 POLITICAL AND SOCIO-ENVIRONMENTAL STRUGGLES

The mining sector frequently faces conflict due to its impacts on communities, economies, and the environment. These conflicts arise from asymmetrical power relations among states, corporations, and communities. Thus, extractive activities can worsen vulnerabilities and inequalities across gender, race, and class, especially in the periphery, while developing a 'green path' in core countries (Brown; Zhou; Sadan, 2024; Vansintjan; Kolinjivadi, 2024). These dynamics suggest that the ET redistributes

environmental and social costs geographically, concentrating extractive pressures in peripheral territories while enabling decarbonisation narratives in core economies.

Brazil, Chile, and Peru have taken different paths recently. From 2019 to 2022, Brazil's far-right government weakened environmental policies and deregulated the economy (Galbiati *et al.*, 2022; Scantimburgo, 2018)a partir do governo de Jair Bolsonaro. Visando identificar tendências e rupturas, o presente trabalho explora quatro eixos da atual governança ambiental brasileira, tomando quatro Objetivos do Desenvolvimento Sustentável (ODS. The 2019 Chilean uprising, the largest since 1990, arose from grievances against neoliberal policies and Pinochet's dictatorship's Constitution. Rooted in over a decade of collective action, it demanded social and ecological reforms, leading to a constitutional referendum (Suárez Delucchi; Rivera Ugarte, 2024). Peru's democracy faces a severe crisis marked by political instability, power fragmentation, and declining trust (Barrenechea; Vergara, 2023). Weak or contested institutional frameworks may amplify socio-environmental tensions by limiting state capacity to mediate between global mineral demand and local territorial rights.

Regarding socio-environmental conflicts associated with mining activities, the three nations display significant contested relationships, some of which can be traced to dynamics originating in the colonial era, as Acuña (2015) explored in the context of Peru. According to the Global Atlas of Environmental Justice (EjAtlas)[4] (Temper; Bene; Martinez-Alier, 2015), the ET redistributes socio-environmental conflicts and alters territorial disputes, depending on the actors, interests, and power structures involved. As demand for critical minerals rises and fossil fuels decline, the ET reshapes conflicts. In this sense, the transition does not eliminate extractivist tensions but reorganises them around new strategic resources.

Brazil (mainly in the Atlantic Forest and the Amazon) and Peru (mainly in the Peruvian Amazon), as fossil fuel producers, have faced conflicts over the extraction and transport of crude oil and natural gas. Chile's conflicts are mainly linked to the coal industry (Temper; Bene; Martinez-Alier, 2015). However, disputes over critical minerals like copper, lithium, nickel, graphite, and rare earths are rising. Copper is especially contested in the Chilean desert and Andean LA countries. In northern Chile, water conflicts are crucial to socio-environmental issues related to copper and lithium, often pitting locals against companies and governments (Poque González, 2022). These disputes reflect the territorial concentration of ecological risk in mineral-rich regions, where local communities confront environmental degradation in exchange for limited participation in the value-added segments of the cleantech industry.

Lithium largely drives socio-environmental conflicts in the 'lithium triangle' — northern Chile, Argentina, and southern Bolivia — where private multinational interests often clash with local, including Indigenous, communities. Moreover, the lithium triangle has become a geopolitical hotspot for China and the US (Fornillo; Lampis, 2023). This competition over lithium further embeds local territories in global power struggles, intensifying the drive for extraction without necessarily enhancing domestic industrial capacity. Rare-earth element and nickel mining are causing conflicts in Brazil, especially in the Amazon and the Southeast (Agusdinata; Liu, 2023).

From a dependency perspective, these socio-environmental conflicts reveal a redistribution of ecological burdens without a redistribution of structural power. While technological rents and manufacturing gains remain concentrated in core economies, peripheral territories absorb environmental degradation, water stress, and social disruption. The ET thus territorialises green dependency: decarbonisation in the centre relies on intensified extractivism in the periphery. Rather than overcoming centre–periphery hierarchies, the transition rearticulates them through new mineral frontiers.

4.3 THE US HEGEMON AND THE CHINESE EMERGENCE

Historically, the US has taken a paternalistic approach toward LA and its resources. It is now trying to counter China's influence. In 2022-2023, General Laura J. Richardson, the former leader of US Southern Command, called LA the United States' backyard[5]. This term, used in US foreign policy, signals a sphere of influence. Her remarks highlight LA's strategic importance for critical minerals, renewable energy, and security (Atlantic Council, 2023; Concordia, 2022; Oipol; Oijust Official Channel, 2022). However, these paternalistic views have faced criticism in LA, reflecting a history of interventionism and power imbalances, which are now intensified by Chinese expansion and Russian presence (Paz, 2012).

Recent political shifts in the US signal an increasingly uncertain and competitive foreign policy posture toward LA[6]. Meanwhile, the US faces challenges from China's rise as a global economic and technological leader, complicating America's post-WWII dominance (Petry, 2024; Wallerstein, 2003). Drawing on Wallerstein's world-systems theory, Xing and Bernal-Meza (2022) have identified how rising hegemonic powers dominate in three areas: production, trade, and finance. China has emerged as the largest manufacturer and trader globally, and as a major international creditor, with its financial influence growing. Although the dollar remains dominant in global finance, the Chinese yuan (RMB) is expected to become the third-most-held reserve currency within 10 years.

Thus, the intensification of US–China competition does not transform LA into an autonomous actor; rather, it reinforces the region's role as a strategic terrain within broader hegemonic struggles. Control over critical minerals and cleantech supply chains becomes a central dimension of contemporary world-system restructuring.

China's influence in LA expands beyond trade, spanning the virtual and physical realms. The Belt and Road Initiative (BRI) aims to link Eurasia, Africa, and LA through trade, infrastructure, and digital networks, challenging the dominance of the US, EU, and Japan. As global rivalry intensifies over markets and green tech, countries with key raw materials, such as Brazil, Chile, and Peru, become hotspots, attracting global competition, including from the US (Kalantzakos, 2020).

The US's historical influence on LA has often materialised through political and military disruptions (McPherson, 2019). Conversely, emergent Chinese dependence is characterised by infrastructure deployment, technology, and investment (Kalantzakos, 2020)featuring artificial intelligence (AI. Despite China's rising influence, it has not yet become a hegemonic power, as relations with the US and EU remain significant (Jenkins, 2012).

US military and diplomatic initiatives in the region reflect efforts to secure strategic influence over mineral-rich territories amid intensifying rivalry with China (Embajada de los Estados Unidos en Argentina, 2024).

Chinese interests in LA are mainly expressed through economic ties, such as the BRI, launched in 2013 by Xi Jinping and seen as a soft power strategy (Nedopil, 2022; Voon; Xu, 2020)I study why and how China uses green overseas finance in its Belt and Road Initiative (BRI. Important South and Central American and Caribbean countries have joined or engaged with the BRI (Nedopil, 2023). However, Dussel Peters (2019) notes that LA-China relations are driven by a core-periphery dynamic rather than South-South or win-win strategies. Thus, while China challenges US dominance in production, trade, and finance, its engagement with LA largely reproduces core–periphery trade patterns, with raw material exports exchanged for manufactured goods. The emerging relationship thus reflects a reconfiguration of dependency rather than its transcendence.

The trade between LA and the core is unequal: the vast majority of LA exports to China consist of raw materials, while China exports manufactured goods at varying technological levels. The trade mainly revolves around certain key products: 70% of Latin America's exports to China are soybeans,

crude oil, and copper, mostly from Brazil, Chile, Peru, Mexico, and Ecuador. This reflects the pattern in South American countries of mainly exporting minerals and primary commodities (Quiliconi; Vergara, 2025). Thus, from a dependency perspective, the US–China rivalry over strategic minerals reshapes LA's structural position but does not transform it. The ET is embedded in hegemonic contestation, with peripheral territories supplying the material base of core industrial expansion. Far from enabling emancipation, this dynamic risks reinforcing reprimarisation and subordinate integration into the global division of labour.

5 FINAL WORDS

LA has experienced successive waves of development strategies; most recently, the progressive governments of the 2000s sought to challenge structural dependency. Yet these projects relied heavily on commodity exports and often overlooked socio-environmental and territorial conflicts, reinforcing neo-extractivist dynamics. Earlier industrialisation efforts in the mid-20th century similarly failed to secure autonomy, constrained by authoritarian turns and the subsequent consolidation of neoliberal reforms that deepened structural dependence (Hedstrom, 2019; Otero, 2021; Svampa, 2019; Treacy, 2022).

The projected 55% increase in critical mineral revenues by 2030 (IEA, 2024a) offers a new opportunity. The central question is whether this moment can enable structural upgrading or merely reproduce extractivist integration within global value chains. China's rise in low-carbon technologies challenges US dominance but does not dissolve centre–periphery hierarchies; rather, LA risks becoming an intensified arena of geopolitical contention.

Contrary to Wallerstein's earlier expectation, a neofascist resurgence was in fact possible7. In 2025, the US government returned to nationalist, xenophobic, populist, and anti-intellectual rhetoric, glorifying violence and militarism. These themes echo in LA, where territorial disputes over strategic zones, minerals, or fossil fuels may occur. Despite the need to reduce fossil fuel use for climate reasons, some governments are ignoring the crisis and pursuing more fossil fuel exploitation.

While this document was being revised, the US executed a direct military operation against Venezuela, encompassing strikes on Caracas and the detention of President Nicolás Maduro. This incident was publicly characterised as a law enforcement action; however, it had explicit strategic implications for regional energy geopolitics. Positioned at the confluence of fossil fuel supply, great-power rivalry, and hemispheric influence, this event clearly exemplifies the ongoing deployment of US hard power in LA amidst escalating competition with external actors (Poque González, 2026).

The ET reconfigures LA's geopolitical landscape and territorial disputes, connecting local conflicts to international hegemonic contestation. Dependency theory must therefore integrate ecological and socio-territorial aspects, acknowledging that material and energy flows persistently mirror core–periphery disparities. Progressing beyond extractivism necessitates not only decarbonisation but also a structural transformation rooted in value-added production, innovation, equity, and environmental and energy justice.

NOTES

1 | Victor, Roche, and Saraiva (2024) list six critical minerals: copper, lithium, graphite, nickel, cobalt, and rare-earth elements. The key difference between fossil-fuel and mineral-based economies is vulnerability. Fossil fuel systems require a constant supply, while renewables can operate after initial setup, even if critical mineral supplies are disrupted. Such disruptions mainly slow the ET rather than affecting energy security (Irena, 2023).

2 | Financialisation refers to the increasing dominance of financial markets, instruments, and institutions in profit generation, with the focus shifting from traditional production and trade to the mobilisation, trading, and speculative activities of loanable capital. The influence of this process also extends to reshaping non-financial sectors and social dynamics (Reis; De Oliveira, 2023; Varoufakis, 2016).

3 | Latin America plays a pivotal role in global critical minerals production, accounting, for example, for 47% of the world's silver output and 44% of copper production. Mineral reserves position the region as a prospective global actor — for instance, 61% of global lithium reserves are in Latin America (Siroit, 2024). On the other hand, global manufacturing capacity for low-carbon energy technologies — encompassing solar PV, wind, batteries, electrolysers, and heat pumps — is highly concentrated in four countries and the European Union (EU), accounting for 80%-90% of production, with China at the vanguard (IEA, 2023).

4 | The EjAtlas is an open online platform that provides comprehensive information on socio-environmental conflicts worldwide, specifically in relation to various commodity activities (Temper; Bene; Martinez-Alier, 2015).

5 | The concept was rooted in the Monroe Doctrine and the Roosevelt Corollary (Muno; Brand, 2014).

6 | Following President Trump's inauguration on 20 January 2025, the White House announced that the US Ambassador to the United Nations must promptly submit a formal written notification of the United States' withdrawal from the Paris Agreement, as well as from the UN Framework Convention on Climate Change (The White House, 2025). Within its first week in office, the Trump administration demonstrated several hostilities toward Latin American countries, including Panama, through matters related to the Panama Canal, and Brazil and Colombia concerning the repatriation of migrants (Maihold, 2025).

7 | In his work, *After Liberalism*, Wallerstein argues that the resurgence of neofascism is unlikely in the 21st century (Wallerstein, 2003).

STATEMENT ON THE USE OF ARTIFICIAL INTELLIGENCE

The authors used Grammarly and ChatGPT exclusively for linguistic editing and stylistic enhancement. All scientific content, analysis, and intellectual contributions were developed and verified by the authors, who assume full responsibility for the manuscript's accuracy and integrity.

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