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БРИКС+ И ПУТЬ К СПРАВЕДЛИВОМУ УСТОЙЧИВОМУ РАЗВИТИЮ И ЭНЕРГЕТИЧЕСКОМУ ПЕРЕХОДУ

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BRICS+ AND THE PATH TO EQUITABLE SUSTAINABLE DEVELOPMENT AND ENERGY TRANSITION

Аннотация. Современные экологические проблемы представляют собой фундаментальный геополитический тупик XXI в., угрожающий дестабилизировать глобальную безопасность через взаимосвязанные социально-экономические потрясения. Доминирующий западоцентричный нарратив и текущее глобальное управление продвигают концепции «нулевого роста» или «деградации», игнорируя значительное неравенство уровней международного развития и серьезные проблемы, с которыми многие страны по-прежнему сталкиваются в обеспечении базовых условий жизни. В этом контексте Глобальный Юг сталкивается с тройным бременем: достижением устойчивого развития, противостоянием наиболее серьезным последствиям изменения климата и преодолением неравных (экологических) экономических обменов, продиктованных динамикой «центр—периферия». В данной статье утверждается, что существующая модель международного управления недостаточна для преодоления этих вызовов, и только через принятие многополярной демократической перспективы, отстаиваемой странами БРИКС+ и их партнерами, можно достичь более справедливого и сбалансированного подхода к устойчивому развитию и энергетическому переходу. В статье исследуется, как БРИКС+ может сыграть ключевую роль в формировании более справедливой глобальной структуры устойчивого развития и энергетического перехода, отходя от идей и политики, ориентированных на Запад. В выводах подчеркивается критическая необходимость сотрудничества и взаимодействия стран Глобального Юга в рамках БРИКС+, особенно в продвижении научно-технического нейтралитета при сохранении суверенитета и равенства в международной системе без навязывания условий членам и партнерам. Наконец, учитывая огромный технологический и энергетический потенциал стран БРИКС+, они способны стать ведущей силой в глобальном энергетическом управлении.

Ключевые слова: *БРИКС+, Глобальный Юг, устойчивое развитие, энергетический переход, многополярное управление, изменение климата, сотрудничество Юг—Юг.*

Abstract. The current environmental challenges present a fundamental geopolitical impasse for the 21st century, threatening to destabilize global security through interconnected socio-economic disruptions. The Western-centered dominant narrative and current global governance promote the concepts of “zero-growth” or “degrowth” without acknowledging the significant disparity in international development levels and the significant challenges many countries still face in accessing basic living conditions. In this context, the Global South faces a triple burden: achieving development on a sustainable path, contending with the most severe impacts of climate change, and navigating the unequal (ecological) economic exchanges dictated by center-periphery dynamics. This essay argues that the current international governance model is inadequate to overcome these challenges and that only through the adoption of a multipolar democratic perspective, championed by BRICS+ countries and their partners, can a more equitable and balanced approach to sustainable development and energy transition be achieved. The essay explores how BRICS+ can play a pivotal role in shaping a more just global framework for sustainable development and energy transition, one that departs from Western-centric ideas and policies. The conclusions emphasize the critical need for South-South cooperation and collaboration within the BRICS+ framework, particularly in promoting scientific and technological neutrality while upholding sovereignty and equality in the international system without imposing conditions on members and partners. Finally, given the vast technological and energy resource potential of BRICS+ countries, they are positioned to become a leading force in global energy governance.

Key words: *BRICS+, Global South, sustainable development, energy transition, multipolar governance, climate change, South—South cooperation.*

Climate change represents one of the greatest geopolitical challenges of this century and can become a gigantic destabilizing force on the globe, causing a series of interconnected environmental crises with societal implications, such as rising sea levels, droughts, and severe storms, that will, inevitably, increase mass migrations (intra and extra-regional), civil unrest, and food and drinking water supply crises. Predictably destabilizing the geopolitical landscape and significantly increasing the risks of regional resource conflicts [11].

The dominant discourses for mitigating climate impacts, especially from the Global North, have as their central idea the concept of "zero-growth" or "degrowth" or global parity of guilt [31] which starts from the Club of Rome in 1972[1]. These perspectives suggest that the solution to the environmental crisis lies in an immediate halt to economic growth and the direct abandonment of old forms of development and energy systems, which every country should adopt. However, these proposals often ignore the huge discrepancy in global development levels and disregard the fact that many countries still face significant challenges in accessing basic living conditions. Furthermore, climate change effects are already disproportionately affecting countries in the Global South, which are the least responsible for this crisis, where populations face greater vulnerability due to lower levels of development and limited access to essential resources, while the North is responsible for 92% of the CO_2 emissions and one of the major collaborators in plundering the South's natural resources [23].

In this context, most of the world faces the triple challenge of achieving acceptable levels of development (meeting basic human needs) along a sustainable path, while also grappling with the most severe consequences of climate change and being trapped in unequal (ecological) economic exchanges[2], exacerbated by limited access to technology and stifling protectionism from the Global North. We argue that this challenge cannot be surpassed by the current international governance model and can only be defeated through the integration of the multipolar democratic perspective that the BRICS+ countries

[1] We argue that the core ideas of the "Limits of Growth" report — zero growth and shared global responsibility — still shape mainstream academic discourse and political narratives in the Global North, as the next section will show.

[2] Unequal (ecological) economic exchanges refer to asymmetrical trade and investment relations in which the Global South disproportionately supplies natural resources, absorbs environmental degradation, and remains locked into extractivist roles, while the Global North retains control over green technologies, value-added production, and environmental benefits — thereby reproducing patterns of ecological dependency alongside economic subordination.

and partners champion and a more equitable, contextual, and balanced approach towards sustainable development goals (SDGs) and the energy transition.

In this sense, we will explore how BRICS+ can play a pivotal role in shaping a more equitable global worldview to sustainable development and energy transition differently from the Western-centered ideas and policies. Furthermore, more practically, we will examine how BRICS+ states are positioned within the global energy landscape, highlighting their energy mix, potential, and technological sectors. This analysis aims to demonstrate that not only can intra-bloc cooperation be advantageous, but it can also provide crucial support to the broader Global South.

In contrast to the most recent noteworthy scholarly works on BRICS' sustainable development and energy policies — such as Zhang's focus on performance metrics [41], Hasan's econometric analyses [21], Yousefi's environmental benchmarking and comparison to G7 [40], or Sakharov and Dorokhina's methodological assessment of the BRICS Sustainable Development Index [7] — which are often specific and emphasize empirical evaluations and quantitative assessments of the bloc's outcomes, this study adopts a critical perspective towards the Global North mainstream narrative, a normative approach towards the consolidation of an equal and democratic (Global South), and (geo)political lenses, considering the arbitrary attempts of Western countries to dominate the green economy market. Despite touching on the surface of national trajectories and global challenges, the contributions of Mozias and Shcherbakova [4], Kashuro and Stupen'kova [3], and Zhireser [2] do not engage with the deeper structural asymmetries addressed here. Sakharov's recent article [6] provides a valuable overview of environmental and climate initiatives within BRICS national frameworks, offering data but not delving into geopolitical constraints. While Grinin and Grinin [1] have a similar theoretical background, also adopting a world-system approach and exploring how recent geopolitical disruptions aggravate environmental degradation, their focus diverges from the present work's core concern with structural dependency and the green economy. Similarly, Pakina and Gorbanyov [5] adopt a normative approach as well, but one that is limited to the Russian context and falls short of a broader Global South analysis.

The article underscores the need for systemic interpretation to address the challenges faced by BRICS+ while examining the ideological and structural constraints that sustain dependency in the Global South. By considering themes such as unequal exchange dynamics, South—South cooperation, and the political reconfiguration required for BRICS to pioneer a genuinely sustainable and independent development pathway, this approach enriches the existing body of literature by shifting the focus from performance evaluations to normative perspectives, structural (geopolitical and geoeconomic) considerations, and transformative possibilities for both BRICS and the broader Global South. Furthermore, it is important to highlight that discussions on each individual country's sustainable goals and performance go beyond the scope of this work — such assessments have already been undertaken by Sakharov [6], as well as in analyses of the UN Sustainable Development Goals, thoroughly explored by Chernomorova [8]. This exclusion of UN role also reflects the intrinsic limitations — both in terms of coercive power and financial capacity — of the organization to confront the deeply rooted systemic inequalities of the global order and the monopolistic structure of the current world system. The UN framework, which would require a separate study, despite offering a more democratic vision than our Western counterparts, remains constrained by the broader limitations of the organization itself.

To achieve these goals, the research methodology adopts a structuralist perspective — grounded in dependency theory and critical political economy — to assess dominant narratives on international development and governance critically. It integrates empirical analysis of policy documents, political speeches, and scholarly literature with geospatial analysis, utilizing QGIS software to provide visual representations of energy potentials. Although primarily descriptive in nature, the research also ventures into prescriptive ground, offering a policy recommendation that emphasizes the need for an integrated, contextual, and cohesive vision of sustainable development that respects and embraces the diversity of the countries across the globe.

Global Climate Change and Sustainable Development

The growing threat of catastrophic climate change has undeniably permeated diplomatic and academic discussions, yet there exists a misleading consensus on how to address this global challenge, failing to address the realities in the ground in the Global South. The neo-Malthusian narratives advocating for the "end of growth" and the notion that "everyone must sacrifice" continue to dominate the debate, particularly within the Global North's academic circles and major international organizations [36]. The World Bank, for instance, often attributes global inequality to internal factors such as poor institutions, governance failures, and "problematic" policies, overlooking the deeper systemic issues of unequal exchanges [22]. Undoubtedly, several academics and activists who are proponents of degrowth [23] assert that the Global South should be treated differently, yet they frequently ignore the structural constraints imposed by the global economic system on peripheral nations. This disconnect is further evidenced by the limited engagement of local populations and movements in the Global South with these Northern concepts as they struggle to relate their immediate socioeconomic challenges to the demands imposed by developed countries [24].

Building on MacKay's perspective, we claim that the economic-environmental nexus must be examined and understood through a systemic lens, emphasizing how global inequalities shape divergent sociopolitical structures, priorities, and strategies within the Global South. Achieving genuine independence for peripheral nations is the only viable path to breaking the entrenched cycles of extraction, rent, debt, and international aid that perpetuate their dependency [29].

In the contemporary geoeconomic landscape, the challenge of "technological catch-up" for developing countries — including most BRICS+ founding members, apart from China — is even more intimidating than during the mid-20th century. The notorious Egyptian historian Samir Amin highlights three key structural barriers to development in the Global South. The first is the technological monopoly, which reinforces dominance through unequal exchange dynamics. The second is the financial hegemony of the North, exerted through global market mechanisms and institutions like the IMF and World Bank, which are dominated by Western powers and impose inflexible conditionalities. These institutions operate within a framework where major financial centers are concentrated in the West, and the American dollar serves as the default global currency. The third is monopolistic control over natural resources by multinational corporations, particularly in industries like mining and oil, which create profound ecological challenges [9]. As Amin observes, "the much-vaunted environmental concern of these countries is simply not to let others be equally irresponsible" [9, p. 5].

The monopolistic nature of the Fourth Industrial Revolution exacerbates these challenges, marked by the dominance of massive digital corporations and the concentration of technological and scientific advancements in the West, which are central to the decarbonization and energy transition. As Banga and Singh assert, "the United States and Western Europe occupy a central and privileged position in the current scientific ecosystem" [10, p. 32], dominating networks of scientific collaboration and exchange, while countries in the Global South are often relegated to secondary roles [12, 32].

In this scenario, where a limited number of global powers monopolize knowledge and advanced technology, perpetuating unequal exchange dynamics, the BRICS+ and its partners in the Global South face formidable development obstacles that cannot be overcome within the existing rules-based order. This reality underscores the urgency of fostering South—South cooperation and collaboration within BRICS+, prioritizing scientific and technological neutrality alongside mutual respect in partnerships. Such measures are crucial to attaining independent and sustainable development. As the world economy transitions to an information- and knowledge-driven basis, as Professor Rasigan Maharajh emphasizes, "building domestic productive capabilities will be largely determined by the improved performances of the individual national systems of innovation of the BRICS" [30, p. 101], which requires constant compromises considering investments and institution-building efforts domestically and intra-BRICS.

Moreover, the BRICS+ needs to continue to endorse a comprehensive concept of international development as an alternative to the dominant Western-centered ideas, which acknowledges the singularities of the Global South and their specific challenges while trying to balance the necessities imposed by environmental challenges but does not negate access to a minimum standard of living. Challenging the mainstream international development narrative, Ha-Joon Chang, in Kicking Away the Ladder, confronts the widespread belief that "good governance", liberal institutionalism, paired with economic liberalization are the keys to development [18]. He notes that these principles were not followed by today's developed countries during their early stages of development, technological advancement, and industrialization. On the contrary, interventionist policies and heterodox methods of technology acquisition were crucial to their initial progress Consequently, Chang argues that strict adherence to these "liberal rules" may not be suitable for developing nations and could perpetuate their dependence condition. Instead, he calls for greater flexibility, allowing these countries to implement strategies that are adapted to their specific conditions rather than merely copying the models promoted by the Global North and institutions like the IMF and World Bank [18]. These tenets perfectly align with the BRICS+ principles of multipolarity, which emphasize sovereignty and equality in the international system and should continue to be stressed. In the words of Dilma Rousseff, president of the New Development Bank, "we are a bank created by the countries of the Global South for the countries of the Global South, and... we cannot impose conditions on our members" [34].

Notably, the United States and European countries (France in particular) seem to erect artificial barriers — as environmental regulatory acts and intransigent positions in international trade negotiations — ostensibly to safeguard their agricultural sector, keep the technological monopoly, and enhance their position in trade negotiations. In 2012, the former South African president Jacob Zuma, concerned about the extreme vulnerabilities of the African continent to food and energy security due to climate change, criticized the stalled WTO trade negotiations due to the Western posture, which puts unfair and anti-development pressure on developing economies to further open their markets to industrial products and services without receiving equivalent concessions, particularly in the agricultural protectionism topic [42].

More recently, in 2024, the Russian president, Vladimir Putin, criticized Western monopolism, pointing out that its technology access negation to the Global Majority is a method to continue to control the world order, "which is why it resorts to discrimination, presenting it as so-called Euro-Atlantic solidarity, the protection of human rights, and the like. There are many other pretexts" [33].

Brazil faced problems with these artificial pretexts with the European Union, which was ongoing to capitalize on investments in green initiatives and infrastructure but was constantly blocked and forced to make unbearable concessions for the deal, which is now halted. While the negotiations were ongoing, Brazil was a victim of an international media campaign that systematically questioned the country's capacity to protect the Amazon rainforest by itself. This denunciation started during Bolsonaro's tenure but persists in the current government. In Lula da Silva's words, "the defense of environmental values, which we all share, cannot be an excuse for protectionism" [28].

In spite of the undeniable environmental problems that Brazil still faces, the Northern criticism is deceitful and self-interested. After all, Brazil has been championing for green alternatives for decades (i.e., ethanol, biodiesel, and recently green hydrogen) and possesses one of the cleanest and most balanced energy consumption mixes among the G20 countries, with significant participation from hydropower and sophisticated biofuels. Moreover, the Brasilia green agenda concept is more adequate for a more just world order, which champions inclusive sustainable development, recognizes the unique challenges faced by the Global South in addressing urgent issues such as poverty, hunger, and equitable access to technology, and highlights their impossibility to bear the major responsibilities caused by the developed world [28, 39]. In this sense, Mauro Vieira, Brazilian foreign minister, summarizes: "Developed countries have been putting increased pressure to focus international financing almost exclusively on climate and environmental issues. Fighting climate change is of the utmost importance, but we cannot ignore other urgent issues such as fighting inequality, hunger and poverty. It is imperative to maintain a balanced approach to sustainable development in its economic, social and environmental dimensions" [39].

These concerns of BRICS+ members on Global North's "unlawful unilateral coercive measures" — including illegal sanctions — were also expressed in Kazan, 2024, pointing out the disruptive effects on the world economy, simultaneously, undermining the sustainable development goals, and impacting the energy sector [17, p. 3].

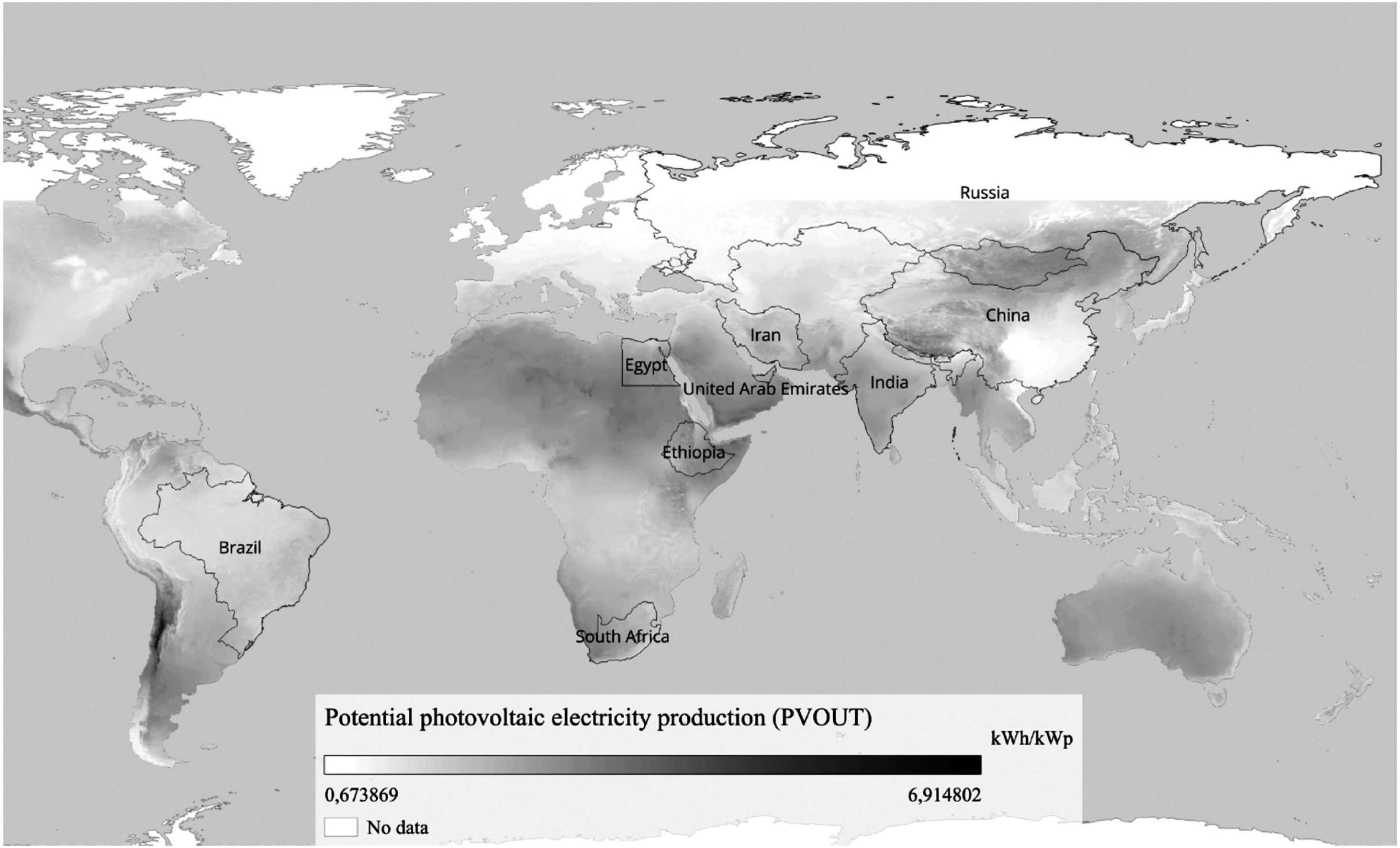
Energy Transition and BRICS

Regarding the intersection of development and energy transition, the BRICS+ distinguishes itself with a comprehensive approach to the new climate challenges and global inequality issues. The group commits to an ambitious goal of achieving a cleaner and more eco-friendly energy mix while prioritizing research, innovation in energy technology, and global energy security— ensuring availability at reasonable prices and maintaining a stable, predictable energy market. The XV BRICS Summit Johannesburg II Declaration [16] and the XVI BRICS Summit Kazan Declaration [17] highlight the crucial role of energy access in attaining Sustainable Development Goals (SDGs) and acknowledge the associated risks to energy security. It calls for enhanced cooperation among BRICS countries, which are major energy producers and consumers, to strike a balance between energy security, access, and transitions. The declaration also underscores the need for international collaboration on technological neutrality and the adoption of common standards for emissions assessment. Furthermore, it advocates for increased collaboration and investment in energy transition supply chains, emphasizing the importance of democratic participation in the global clean energy value chain. The group aims to tackle energy security challenges by incentivizing investments and efficiently utilizing all energy sources — renewables, biofuels, hydropower, fossil fuels, nuclear energy, and hydrogen — to ensure a just and stable transition to sustainable energy systems, acknowledging the risks of abrupt changes and the necessities of the Global South.

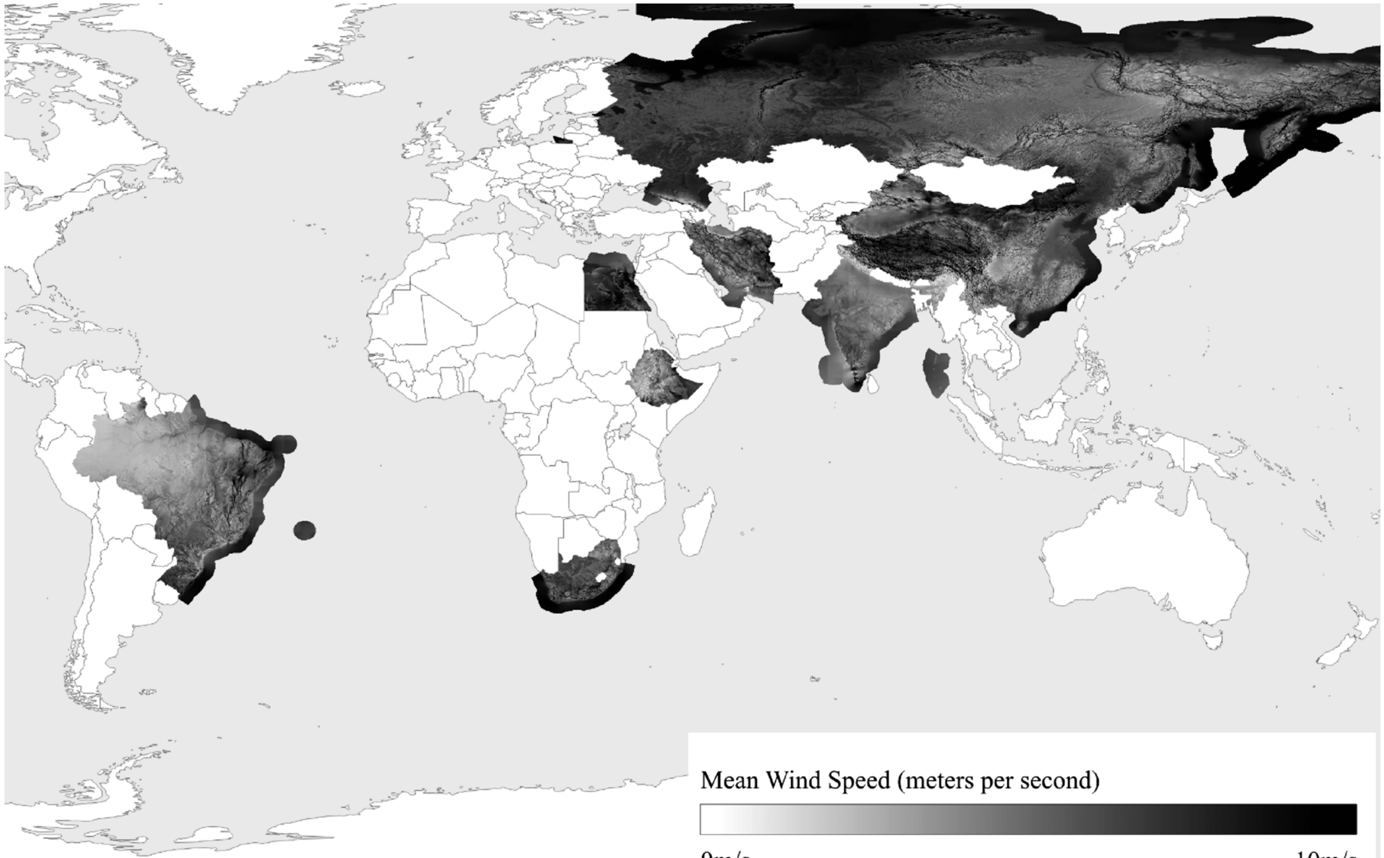
Furthermore, considering the varied energy systems, abundant resources, and vast technological initiatives of the BRICS+ countries, the members collectively hold a highly diversified and complementary portfolio. If successfully integrated into intra-bloc supply chains, this portfolio could position BRICS+ as the leading force in global energy governance. The founding BRIC members are particularly well-equipped to spearhead this process, supporting other members — especially Egypt, South Africa, and Ethiopia, which continue to face supply and grid challenges — by investing directly and fostering technological and scientific cooperation. Nonetheless, as highlighted in Maps 1, 2, and 3, all BRICS+ countries show promising potential for developing their wind and/or solar energy sectors and highlight the great possession of critical rare earth elements that are fundamental to the fourth industrial revolution; this development could significantly bolster energy security for the most vulnerable members while simultaneously reducing emissions in the more established economies.

Considering the potential of BRICS+ to become the leading force in global energy governance, it is worth mentioning their current possibilities and how they can be central to an equitable, sustainable development and energy transition. First, it's important to acknowledge the ongoing critical role of fossil fuels in energy security. Despite being major contributors to CO_2 emissions, fossil fuels continue to account for the majority of global primary energy consumption [13] and provide a stable energy source, particularly for developing countries. BRICS+ members, excluding Ethiopia, are among the world's top producers of fossil fuels—coal, oil, and natural gas. Their approach to these resources should prioritize cleaner usage and a strategic transition from coal to natural gas. In this context, Russia, as the world's largest exporter of natural gas with an expanding network of pipelines across Asia and a growing liquefied natural gas (LNG) sector, could play a pivotal role in reducing intra-bloc carbon emissions. Additionally, Brazil's Petrobras, along with China's national champions, have highly sophisticated oil and gas industries, both onshore and offshore, which could assist other BRICS+ members and partners in exploring and developing gas basins. Moreover, in the Russian case, the prospects for the development and production of "blue" hydrogen and ammonia, with a significant smaller carbon footprint, are particularly promising, the principal companies involved are Novatek and Severstal [19].

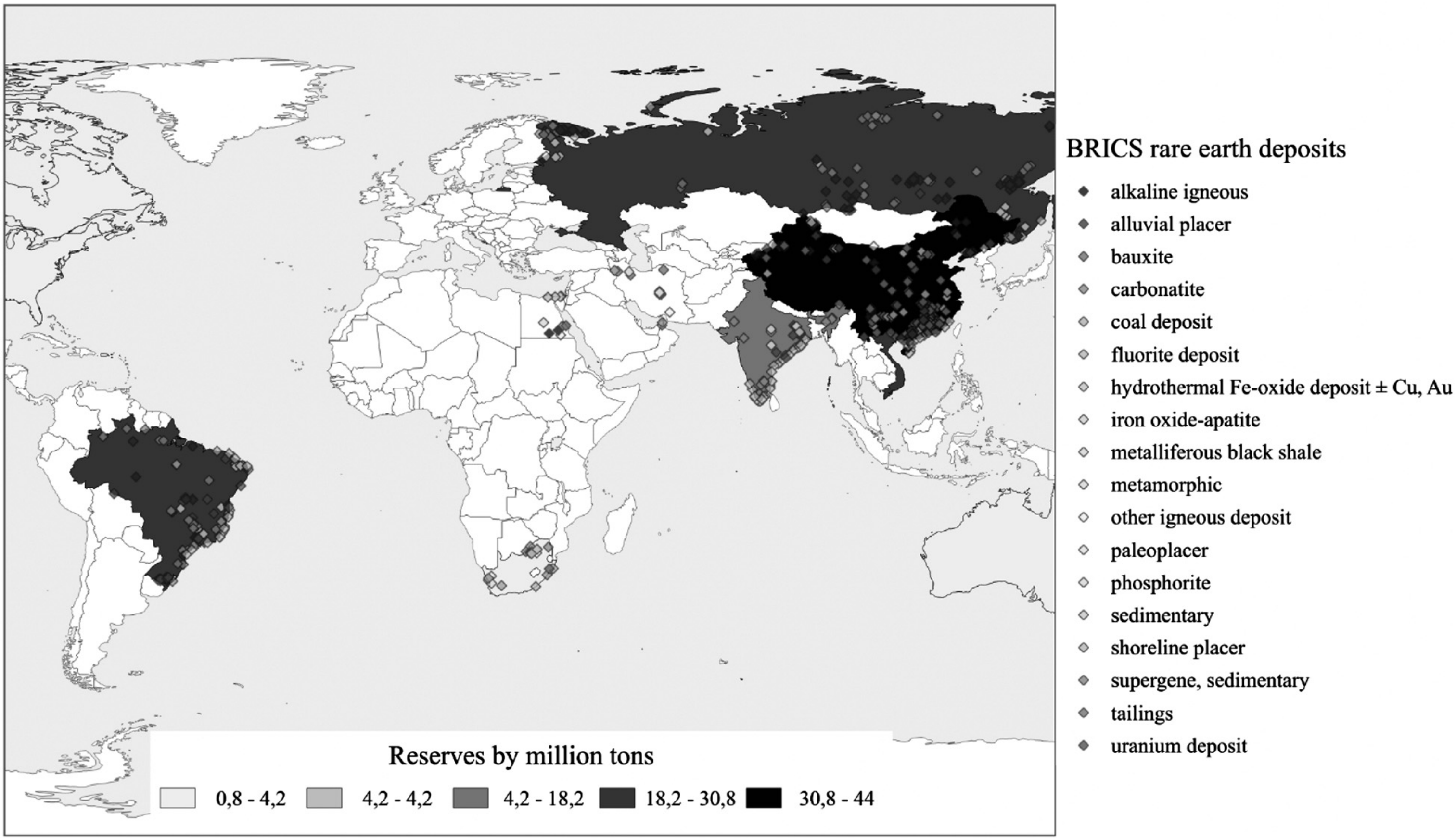
Secondly, nuclear energy should be a key focus in the BRICS+ energy strategy, championed as a green energy source despite opposition from the Global North. As the IAEA report highlights, nuclear power has saved 1.5—2 billion metric tons of greenhouse gas (GHG) emissions annually since 1990, amounting to about 60 billion metric tons since 1970 [25]. Developing nuclear energy is crucial not only for generating clean energy but also for the reliability and stability provided by nuclear plants, which offer a dependable baseload electricity supply and mitigate the challenges of grid intermittency. Rosatom, along with other key BRICS+ players, can significantly contribute by constructing nuclear plants, supporting research and development (R&D), and fostering partnerships. This includes training professionals like nuclear technicians and engineers as well as facilitating researcher exchanges, representing a substan-



Map 1. BRICS+ photovoltaic energy potential
Source: created by the author with data from SOLARGIS [37]



Map 2. BRICS+ Wind energy potential
Source: created by the author with data from Global Wind Atlas [20]



Map 3. Global rare earth element occurrence database (BRICS+ focused)
Source: created by the author with data from US Geological Survey [38]

tial opportunity for the group. Given the technological advancements and improved geological assessments of recent decades, the benefits of nuclear energy now outweigh the risks traditionally associated with it.

Lastly, in the case of renewables, China is one of the world's leaders in photovoltaic and wind energy technology and production, accounting for 40% of the entire world's renewable energy expansion during the five-year period 2019—2024 [26]. Beijing engagement and facilitation in intra-bloc arrangements can significantly improve the BRICS+ energy outlook. Moreover, on alternative fuels, Brazil is a global leader in second-generation biofuels [15], and together with India [27] and South Africa [35], it is becoming highly interested in the developments of green hydrogen [14]. The increasing techno-scientific cooperation can provide good fruits for the near future.

Conclusion

This essay underscores the necessity for a new approach to global climate action that fully acknowledges the interconnected challenges of climate change and global inequalities. It positions BRICS+ as the most promising international organization to advocate for the Global South's interests, fostering a more equitable global perspective on sustainable development and energy transition. The essay critiques the current dominant narratives and institutions engaged in climate action for neglecting the unique needs of the Global South and often imposing artificial barriers on peripheral countries. BRICS+ and its partners face significant development challenges that cannot be overcome within the existing rules-based order, highlighting the crucial need for South—South cooperation.

We argue that a multipolar democratic perspective, as championed by BRICS+, is essential for achieving a more balanced and equitable approach to sustainable development goals (SDGs) and energy transition. The essay concludes that international development strategies should allow greater flexibility, enabling countries to tailor their approaches without being constrained by external mechanisms like the European principle of conditionality and IMF demands. These principles align with the BRICS+ values of sovereignty and equality in the international system. Furthermore, BRICS+ stands out for its comprehensive approach to climate challenges and global inequality, with a commitment to achieving a cleaner energy mix while prioritizing research, innovation, and global energy security. Given their diverse energy systems and technological initiatives, BRICS+ members are well-positioned to become a leading force in global energy governance, especially if they successfully integrate their complementary strengths into intra-bloc supply chains.

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