
Original Paper

Global Reconfigurations: Sustainability and APEC's Economic Future in the Face of Changes in BRICS

Cuauhtemoc Ramírez Zamora, PhD

Faculty of Economics, University of Colima, Mexico

Abstract

In a global context marked by the climate crisis and the reconfiguration of economies, the APEC and BRICS economic blocs emerge as key players in promoting sustainable and resilient development. This article examines the opportunities and challenges faced by these platforms in seeking economic equilibrium while integrating sustainability principles into their policies. It is argued that collaboration between APEC and BRICS can foster innovation and the creation of common standards that not only reinforce competitiveness among their members, but also facilitate the adoption of more sustainable practices. By considering the impact of these dynamics on the economic future, it is concluded that joint commitment to sustainability is fundamental for the prosperity of both regions in the 21st century.

Keywords: sustainability, innovation, development, competitiveness, APEC, BRICS

Introduction

In an increasingly interconnected and complex world, economic blocs are not only driven by commercial interests, but also reflect the changing political and environmental realities facing the planet. As the climate crisis demands urgent action and the global economy continues to reconfigure itself, new questions arise about the role of economic blocs in building sustainable development. This is the case of the Asia-Pacific Economic Cooperation Forum (APEC) and the BRICS¹ bloc, which are positioned at the centre of a very interesting strategic transformation.

APEC member countries, known for their economic dynamism and commitment to free trade in the Asia-Pacific region, are now facing the growing influence of BRICS (Brazil, Russia, India, China and South Africa). This group has managed to consolidate itself as a platform of emerging economies seeking a new balance in the global economic order. In this context, it becomes essential to analyze how APEC can respond to the changes driven by BRICS and vice versa, not only in terms of competition, but also opportunities to strengthen a joint vision towards a more sustainable global economy.

This article explores the current scenario in which both blocs operate and the challenges they face in the search for a resilient economy in the short, medium and long term. By considering the impact of sustainability policies on economic structures, the opportunities and tensions that arise in a global context that is increasingly oriented towards cooperation and integration in sociocultural, economic and environmental matters are presented.

Objectives

The objective of this article is to analyze the sustainable policies and strategies of APEC and BRICS, exploring how both blocs address energy transition, technological innovation, sustainable development, among other aspects of their economies. In addition, the challenges and opportunities of the interaction between sustainability and competitiveness issues are examined.

¹ BRICS is an intergovernmental organization that is made up of Brazil, Russia, India, China, and South Africa. The acronym is derived from the first letters of the countries' names.

Finally, areas of cooperation and adaptation are proposed in which APEC can strengthen itself in light of the advances made by BRICS, seeking to promote a resilient regional economy with the aim of promoting more equitable medium- and long-term development of the populations involved and inspiring others.

Methodology

The methodology of this article is based on three main steps. First, a bibliographic review of recent studies will be carried out to establish a theoretical framework on sustainability, innovation, development and competitiveness in both APEC and BRICS. This will allow us to understand the policies of each bloc and their approaches to address economic growth under a tripartite context of socioculture, economy and environment.

Then, a comparative analysis and case studies will be applied, selecting feasibility approaches in each bloc to illustrate their sustainability policies and their impact on the economy and the environment. Under this approach, it is intended to highlight both similarities and differences, providing a clear overview of each bloc.

Finally, it will be complemented with quantitative analysis of indicators such as economic public policies, sociocultural approach and use of renewable energies, as well as expert views to deepen perspectives. Based on these results, recommendations and areas of cooperation will be offered that can serve as a guide for both researchers and policy makers and readers interested in geopolitical issues.

Background

Authors such as Asif, Zia, Hashim, Bhatti, and Hasnain (2024) and Dong, Hu, Gao, Liu, Zhu, Pan et al. (2022) have explored the challenges faced by emerging economies, such as those in the BRICS and APEC blocs, in seeking a balance between economic growth and sustainability. These authors underline that technological innovation, and the use of renewable energy are key factors in mitigating environmental impact without sacrificing economic development. However, they also warn that economic growth can hinder sustainability objectives if not accompanied by sustainable development public policies and clear regulations.

On the other hand, as BRICS increases its global presence, many specialists already mentioned such as Asif, Jian-Qiau and Hashim (2024) suggest that APEC faces the challenge of strengthening its collaboration on sustainable and innovation policies in order not to be left behind in this changing landscape. This collaboration is essential, as each bloc brings unique perspectives to address global issues such as climate change, socio-cultural development and economic transition, especially through open trade and technology sharing.

Another interesting factor to analyze is that of the SMEs², since these represent in both blocks about 95% of the total number of companies and generate employment for 40-60% of the workforce of the economies that make up both APEC and BRICS (Ivanova, 2021), based on this, the declarations of a block of economic cooperation in favor of policies and actions to promote joint development are presented.

APEC's Operating Philosophy

The operational philosophy of the APEC economic bloc is based on the promotion of free trade and economic integration in the Asia-Pacific region. APEC pursues economic cooperation that strengthens sustainable and equitable growth among its members, prioritizing the development of an open market without tariffs or significant trade barriers. This approach is based on the principle of "open economies", in which member countries are encouraged to apply policies that promote a deepening of the circulation of goods, services, capital and knowledge, thus creating a favorable environment for international trade (Ramirez & Rangel 2018).

² SME is an acronym that stands for "Small and Medium Enterprise". It refers to a business that is characterized by having a small number of employees and a moderate turnover.

Furthermore, APEC adopts an inclusive development strategy, placing emphasis on innovation and environmental sustainability. This is reflected in its drive for energy transition, digitalization and clean technology training projects for its member economies. This approach not only seeks to optimize trade, but also to respond to global challenges such as climate change and economic inequality, promoting shared prosperity. The voluntary cooperation structure allows members to adapt their commitments according to their own internal policies, ensuring flexible collaboration that maintains the autonomy of each economy (World, GB 2021).

Since 2012, the economic bloc adopted the Green Initiative, which aims to create a favorable economic and political environment to facilitate the green growth of SMEs in the Asia Pacific region and identify cooperation actions based on voluntary reviews and exchange of political experiences among the economies of its members (APEC, 2012; Nakajima, 2012).

By 2017, APEC decided, through a general intervention of governments, to more aggressively support the aforementioned Green Initiative in SMEs, since, as explained in the previous paragraph, they perform a fundamental economic task in the APEC economic bloc. As a result, the following table is prepared based on the book *Economy and Society in APEC* (2023), which lists these voluntary factors proposed since 2017. However, it is important to emphasize that the components mentioned below are voluntary but not mandatory.

Table 1. Analysis of SMEs as one of APEC's main strengths

Topic	Description	References
Importance of SMEs as Employers	SMEs account for a large share of employment in many countries, and are responsible for generating a significant proportion of private sector jobs. Employed in multiple sectors, such as trade, services and manufacturing, they are crucial for economic development.	Cheok, A. y Singh, J. (2018).
Environmental Markets and Green SMEs	The existence of environmental markets favours SMEs that implement sustainable practices, providing them with new economic opportunities and enabling their participation in a growing market.	
Transition to Green Development	SMEs are essential in the process of transitioning towards more sustainable economies. Their flexibility and adaptability allow them to adopt green practices that promote sustainability and environmental responsibility.	Ivanova (2021).
Support from the National Government	Government support is crucial to facilitate the green transition. Public policies, tax incentives and training programs are examples of how the government can help SMEs adopt sustainable practices.	Ivanova (2020)
Benefits of Government Intervention	SMEs that receive government support are more likely to succeed in their transition to green practices. This includes access to financing, resources and technical advice.	
Growing Interest in Environmental Issues	With increasing environmental awareness and climate change, APEC members are pushing for the adoption of sustainable practices. SMEs can meet this interest by implementing new technologies and processes.	APEC Report, 2018.
Efficient Energy Management	Rising energy prices have highlighted the need for SMEs to manage their energy resources more efficiently, which can lead to significant savings and improved competitiveness.	APEC Energy Demand Report, 2010 et al Magazzino (2017)

Growing Number of Manufacturing SMEs	The increase in the number of SMEs in the manufacturing sector drives the need to adopt sustainable practices, given their significant environmental impact. The implementation of clean technologies can improve their operational efficiency.	APEC Manufacturing Report, 2019 et. al. Zottele, Santiago, Méndez & Sánchez (2019).
International Demand for Climate Actions	The international community expects effective action from APEC to address climate change. SMEs must align themselves with these expectations by adopting practices that support sustainability and mitigate the effects of climate change.	APEC Climate Change Action Plan, 2021, et. al Canton (2021).

Source: Prepared by the authors based on APEC data.

Preliminary results

Economic sustainability in small and medium-sized enterprises (SMEs) has become a fundamental pillar for global economic development, especially in the context of a growing concern for the environment and sustainable development. SMEs, which represent a significant proportion of jobs in many economies in this bloc, are key players in the transition to a green economy. Their adaptability and flexibility allows them to implement sustainable practices, facilitated by government support and the existence of environmental markets with projections for related public policies. This support not only optimizes their resource management, but also promotes their competitiveness, which is crucial in an increasingly demanding economic environment that is aware of environmental impact.

Likewise, the recent 2024 Nobel Prize winners in Economics Daron Acemoglu, Simon Johnson and James A. Robinson show us that government intervention is proving to be an essential element in ensuring the success of economies, and that is where a transition towards sustainability is fundamental. Public policies, tax incentives and training programs can provide these companies with the knowledge and tools necessary to adopt new technologies and procedures that minimize their ecological footprint and maximize their development potential.

The growing interest in these issues, both locally and internationally, underlines the urgency for SMEs to implement strategies that not only improve their energy efficiency, but also respond to the expectations of the global community regarding climate action. In this sense, the transition towards green practices is not only an ethical imperative, but also an economic strategy that can guarantee the sustainability of these companies in uncertain times.

Finally, the increasing pressure on SMEs to adapt to a changing and competitive market highlights the need for efficient resource management, particularly in the manufacturing sector, where their environmental impact is notable. The implementation of sustainable solutions not only contributes to the reduction of operating costs and energy savings, but also opens up new business opportunities in emerging markets, aligning with global trends towards sustainability. In conclusion, fostering a culture of sustainability in SMEs is not only essential to mitigate the adverse effects of climate change, but is also crucial for the creation of a robust and resilient economic future, ensuring that these companies remain viable and competitive in the long term.

BRICS operational philosophy

The BRICS operating philosophy is based on economic and political cooperation that strengthens the position of emerging countries vis-à-vis developed economies. According to Kaur & Arora (2024), BRICS seeks to establish a multipolar order that allows its members to address their economic and social challenges autonomously, thereby fostering economic resilience. Unlike more free-trade-oriented blocs, BRICS values cooperation that does not depend on the elimination of trade barriers, but on strategic integration where each country maintains its economic sovereignty and protects its key productive sectors.

The BRICS constitute a comprehensive strategic association for international economic, commercial, financial and political cooperation and agreement, which emerges as an alternative to a very complex and uncertain international economic order. The group not only seeks the socio-economic development of its member countries and the promotion of fair and equitable development for all underdeveloped and emerging countries, but also contributes to world stability and peace.

Furthermore, BRICS prioritizes inclusive development and the reduction of internal inequalities as core principles. Mukherjee, Bhattacharya & Chowdhury (2022) argue that this orientation aims to create a more equitable global financial system that does not rely solely on Western institutions, promoting instead initiatives such as the New Development Bank (NDB). This approach allows BRICS to support infrastructure and sustainability projects in their own countries and in other developing economies, providing financial alternatives and reinforcing the independence of its members on the international stage. Among the main characteristics and strengths of BRICS that are considered to give it international leadership are the following:

- 1.-They are rising economies with social welfare in the process of expansion.
- 2.-All of them have carried out economic and/or political reforms in one way or another.
- 3.-They have significantly strengthened education, their scientific and technological capabilities, domestic consumption, income distribution and the spirit of national socioeconomic entrepreneurship.
- 4.-They all encourage foreign direct investment, equitable cooperation and belong to the so-called G20.
- 5.-Two of them are members of the UN Security Council (Russia and China).

Above all, the BRICS are a strategic group that seeks economic, commercial, financial and political coordination and cooperation on an international scale, in addition to directing their actions towards strengthening supranational institutions, multilateralism and world peace.

Table 2. Analysis of the main strengths of BRICS

Strengths	Description	References
1	They have numerous natural resources and important dynamics of industrial development and sectors with high value-added technologies.	Hernández & Céspedes (2020).
2	They produce a large quantity and diversity of food and their economies complement each other.	González, Vissetaca & González (2024).
3	Predominance of state-owned oil companies.	González, Vissetaca & González (2024).
4	The group's tendency to market its products in their respective national currencies.	González, Vissetaca & González (2024).
5	Tendency towards stable growth rates and continuous increase and expansion of its domestic markets.	González, Vissetaca & González (2024).
6	They practice consultation and cooperation, which respects the cultural identities of their members.	González, Vissetaca & González (2024).
7	The creation of the New Development Bank (NDB) is a decisive step towards abandoning the dollar and transforming the	Guzmán (2024)

	international financial architecture.	
8	Growing capacity to act alone as countries, and as a negotiating bloc at the international level (decisive role in South-South relations).	Chibriaev (2022)
9	They represent around 25% of the world's GDP, 30% of the world's territory, 18% of international trade, and 40% of the world's population.	(CGTN in Spanish, 2022-06-23)
10	After enlargement, the BRICS GDP could represent around 37% of the world GDP and 46% of the world population, according to Luiz Inácio Lula da Silva ³ .	(Méndez, 2024)

Fuente: Elaboración propia con base a los autores previamente mencionados.

Preliminary results

The BRICS' position on the global stage is defined by unique strategic characteristics and capabilities that give it an increasingly influential role. First, its abundant natural resources and industrial growth give it an advantage in high value-added sectors. The diversity and complementarity of its economies are also seen to drive a strong production base and significant food self-sufficiency.

The preponderance of state-owned oil companies reinforces energy self-sufficiency, while the tendency to trade in local currencies reduces their dependence on the dollar, promoting stability in their growth rates and expansion of domestic markets. In addition, BRICS is distinguished by its cooperation based on cultural respect and autonomy, which sets an axis based on inclusive and equitable development.

Another aspect that is considered very interesting within BRICS is the creation of the New Development Bank, which represents a step towards an alternative financial architecture, with a view to reducing dependence on the US financial system. This financial independence, added to its growing capacity for autonomous action and as a negotiating bloc, allows it to play a critical role in South-South cooperation, promoting a new voice in global development.

Finally, with 25% of the global GDP and a growing weight in global trade and population, the recent enlargement of BRICS could increase its economic representation to around 37% of global GDP and almost half of the global population. This makes BRICS an actor with the potential to redefine global economic relations, based on its vision of sovereign and collaborative development, thus promoting a more inclusive and equitable economy.

Discussion

Sustainability has become a priority for global economies, especially in economic blocs such as APEC and BRICS. According to Han, Hasnain, Bhatti, Yue & Akhter (2024), the transition towards renewable energies and technological innovation are essential tools for emerging blocs to mitigate their environmental impact. Since 2015, research such as Dong et al. (2022) suggests that the implementation of sustainable policies is indispensable not only to curb climate change, but also to create resilient and competitive economies in a constantly changing global context.

As a result, it is considered important to propose a review of sustainability policies and to assess examples such as APEC and BRICS that have adopted sustainable policies in different ways. APEC, which represents several of the most advanced economies in Asia-Pacific, in some of its countries promotes balanced growth and open trade as paths towards a low-carbon economy (Dou & Li, 2022). In contrast, BRICS, which brings together emerging economies with varied development needs, prioritizes accelerated growth, although some members such as China and Brazil have adopted renewable energy on a large scale (Arapova & Lissovnikov, 2021). These differences generate a debate on which approach could be more effective for long-term sustainability.

³ 35th and 39th President of the Federative Republic of Brazil

Another aspect that is considered fundamental is technological innovation, which is seen as a key element in achieving sustainable objectives. According to Qiao, Meng & Wu (2021), digitalization and advances in clean technologies in APEC countries, such as Japan and South Korea, have made it possible to reduce emissions without sacrificing growth. However, for BRICS, there are still challenges in implementing these technologies due to the dependence on traditional industrial sectors (Singh, Shrivastav & Mohapatra, 2022). This raises questions about the viability of developing countries keeping pace with advanced economies.

We agree with authors such as Rao, Talan, Abbas, Dev & Taghizadeh-Hesary (2023) who affirm that the conservation of natural resources is essential to guarantee sustainability and to maintain the diversity and environmental, social, and economic wealth of those involved.

One vision of sustainable development today is the integration of these dimensions with their different objectives and functions for human development (T̄bara, 2023). This approach highlights the interaction of the three subsystems (environmental, sociocultural, and economic), and how the degradation of any of these can negatively affect the entire system of progress or human well-being. The three dimensions or subsystems can be represented by three sets whose intersection constitutes the domain of sustainability.

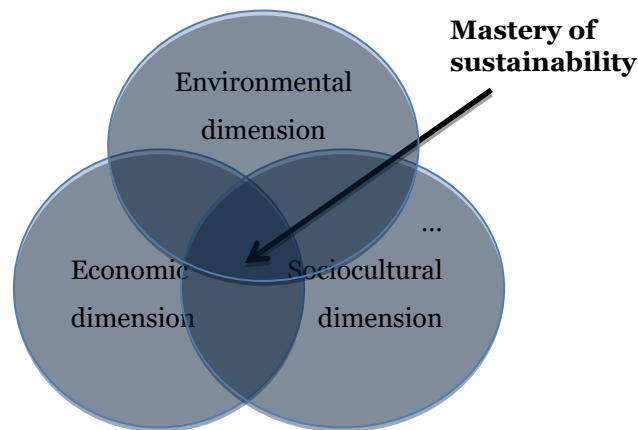


Figure 1. The Three Dimensions of Sustainable Development

Source: Strezov, Evans & Evans (2017).

Given the interaction of the three subsystems (environmental, sociocultural and economic), the degradation of one of them can negatively affect the entire progress or human well-being. These three dimensions are represented under sustainability domain sets, and the idea is to achieve balance in the three areas by helping to promote sustainable development with the three dimensions.

To understand the real impact of these multidimensional policies, it is crucial to examine data on energy use, carbon emissions, economic factors, among other aspects. Recent studies show that APEC has made significant progress in reducing its emissions through trade in clean technologies, while in BRICS, although renewable energy consumption has increased, global emissions continue to grow (Patel & Sharma, 2020). This suggests that, although both blocs are on the path to sustainability, their pace and results vary considerably.

In this case analysis and country comparisons, I consider it important to compare China, a member of BRICS, and Japan, from APEC, thus revealing divergent approaches to sustainability. On the one hand, China has invested in renewable energy, but continues to face significant challenges due to its dependence on coal (Dong, Hu, Gao, Liu, Zhu & Pan (2022). Japan, on the other hand, has made progress in the integration of clean technology and a circular economy, although its limited market requires external cooperation to maintain its competitiveness (Tanaka & Tanaka 2022). These cases illustrate how the different economic and environmental realities of each country affect their sustainable priorities and strategies, thus providing a narrative that allows for the construction of viable

public policy models depending on each country and its specific needs.

Some researchers such as Choi, Zhou & Ko (2023) argue that the BRICS’ rapid growth strategy may be detrimental to their long-term sustainable goals, as it ties up resources and generates dependence on fossil fuels. On the other hand, Raghavan and Singh (2023) argue that this strategy allows BRICS to strengthen their economic position, which is essential to address environmental problems in a structural manner. This debate raises a tension between accelerated economic growth and sustainability.

During the survey of different points of view of the consulted experts, it is agreed that cooperation between APEC and BRICS could facilitate the exchange of technologies and knowledge. Zhou, Sharif, Inglesi-Lotz, & Bashir (2024) suggest that greater collaboration would allow both blocs to overcome their limitations: APEC could benefit from BRICS resources, while the latter could adopt better sustainable practices. This collaboration would be essential to achieve inclusive and sustainable development in the global economy.

The following table 03 categorizes the three dimensions of sustainable development, which presents a comparison of positive and negative aspects in the search to generate an analytical debate that allows reaching relevant conclusions.

Table 3. Multidimensional comparative

Dimension	BRICS	APEC
Sociocultural	<p>Positive: Cultural diversity and large young population, which drives innovation and consumption.</p> <p>Negative: Social inequality and lack of cohesion in cultural and educational policies.</p>	<p>Positive: Focus on regional cooperation and coordinated cultural policies; high educational levels in some countries.</p> <p>Negative: Population ageing in several countries; challenges in cultural inclusion.</p>
Economic	<p>Positive: Rapid growth and large emerging markets; strong natural resource capacity.</p> <p>Negative: Dependence on traditional sectors and vulnerability to global economic crises.</p>	<p>Positive: Advanced and stable economy; high intraregional trade and commercial openness.</p> <p>Negative: Competition in trade and technology; mature economies limited in accelerated growth.</p>
Environmental	<p>Positive: Increasing investments in renewable energy and sustainable development projects.</p> <p>Negative: High carbon emissions and dependence on fossil fuels.</p>	<p>Positive: More developed sustainability policies and adoption of clean energy.</p> <p>Negative: Dependence on external supplies of energy and resources; challenges to maintaining low emissions in all countries.</p>
Own elaboration, 2024		

Based on the above table and on a personal note, I consider that the comparative analysis between BRICS and APEC reveals significant differences in their sociocultural, economic and environmental dimensions. In the sociocultural sphere, BRICS stands out for its diversity and young population, which can foster innovation, but faces challenges related to inequality and social cohesion. On the other

hand, APEC shows more structured cooperation, although it suffers from population ageing and the need for greater cultural inclusion. These factors influence how each bloc approaches its policies and priorities in sustainable development.

From an economic perspective, BRICS benefits from accelerated growth and robust emerging markets, but its reliance on traditional industries makes it vulnerable to global crises. APEC, as a bloc of more advanced economies, features stability and high trade, although it faces competition and constraints on growth. Environmentally, both blocs show a commitment to renewable energy; however, BRICS still struggles with high emissions, while APEC faces the challenge of maintaining low emissions despite its dependence on external supplies. This analysis indicates that both blocs must strengthen their cooperation policies to overcome their respective challenges and move towards more comprehensive sustainable development.

Conclusions and recommendations

The analysis of the APEC and BRICS economic blocs reveals a complex landscape in which the interconnection between trade, politics and the environment becomes essential for building a sustainable future. Both blocs, although representing distinct economic interests, have the opportunity to collaborate on critical issues such as climate change and sustainable development. As emerging economies continue to gain influence on the global stage, APEC faces the need to adapt and reconfigure its approach in order to not only preserve its relevance, but also to lead in the implementation of policies that promote sustainability. This collaboration could lead to the creation of common standards and regulations that benefit all members and promote responsible economic development.

In summary, the analysis of both blocs can be seen to reveal that while APEC has an advantage in terms of integrating sustainable practices, BRICS has great development potential by taking advantage of its natural resources and young population. Long-term sustainability will depend on a combination of innovation, effective policies and cooperation between the blocs. According to Lee, Zobov, Chernikov & Moseykin (2023), the sustainable development potential of APEC and BRICS is viable if they adapt and collaborate around common goals, establishing a new, more inclusive and resilient global economic paradigm.

Furthermore, it is crucial that both APEC and BRICS recognize the importance of integrating sustainability into their economic policies. Cooperation in areas such as green finance, sustainable trade and knowledge sharing can facilitate a transition towards more resilient economies. This is especially relevant in a context in which natural resources are being depleted and communities face unprecedented challenges. Collaboration on environmental initiatives would not only benefit the economies of the blocs, but would also contribute to the creation of a global framework that prioritizes social and environmental well-being, thus generating a more inclusive and equitable development model.

The importance of SMEs in the APEC and BRICS economic blocs is considered fundamental, based on their role as key drivers of innovation, employment and local economic development. These companies are not only a source of employment, but also drivers of economic growth and adaptability in an increasingly globalized environment. It is a priority to recognize their potential; both blocs have implemented public policies aimed at strengthening SMEs, providing them with access to financing, technology and training to improve their competitiveness both regionally and globally.

Given their direct impact on domestic economies and the creation of local value chains, the future economic potential of APEC and BRICS will largely depend on their ability to support the sustainable growth of these companies. Public policies that prioritize SMEs will not only enable a more resilient economy, but also a more balanced and equitable integration into international markets. Thus, strengthening SMEs is a crucial strategy to promote inclusive growth in both economic blocs.

Finally, the quest for a resilient global economy will require sustained and collaborative engagement by APEC and BRICS. Both blocs have the potential to lead the way toward more sustainable development, leveraging their resources and capabilities to address pressing economic and environmental issues. This journey toward sustainability is not only a responsibility, but also an opportunity to redefine economic

development in the 21st century, where interdependence and cooperation are key. By doing so, APEC and BRICS can not only strengthen their own economies, but also contribute to a more balanced and sustainable world for future generations.

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