WHY THE BLUE AMAZON WILL BECOME BRAZIL'S ENERGY HEART IN THE 21ST CENTURY

Energy Sovereignty, Critical Minerals and the Maritime Reinvention of Brazilian Power

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EXECUTIVE SUMMARY

The center of gravity of Brazil's energy is shifting decisively toward the sea. The Blue Amazon — Brazil's maritime territory of approximately 5.7 million km² — is consolidating as a vital space for national sovereignty, encompassing offshore oil and gas, critical minerals from the seabed, offshore wind potential, strategic shipping routes, submarine cables, and core assets of the digital economy.

This article argues that the Blue Amazon is becoming the principal center of gravity for Brazil's energy, geoeconomic, and strategic future in the 21st century. It requires a profound transformation in how the country conceives its sovereignty, defense, and international partnerships — particularly a pragmatic strategic cooperation with France in the South Atlantic, centered on the shared Guyane Bleue – Amazonie Bleue space.

INTRODUCTION: THE BRAZILIAN STRATEGIC PARADOX

For decades, international debate on Brazil has focused almost exclusively on the Amazon rainforest. Deforestation, biodiversity, indigenous peoples, climate change, and environmental governance have become the primary lens through which international actors observe the country. In many diplomatic and media circles, Brazil has almost become synonymous with the terrestrial Amazon.

This centrality is understandable. The Amazon rainforest possesses undeniable environmental, climatic, and geopolitical relevance. But it has also created a kind of strategic blind spot.

By concentrating almost all national and international attention on the continental dimension of Brazilian territory, another frontier equally decisive for the country's future has been relegated to the background: Brazil's maritime space.

There is, however, a second Amazon.

Less visible. Less debated. But potentially even more decisive for national sovereignty in the coming decades.

The Blue Amazon.

Created by the Brazilian Navy in the early 2000s, the concept aims to draw attention to the strategic dimension of Brazil's maritime territory — composed of the territorial sea, the Exclusive Economic Zone (EEZ), and the extensions of the continental shelf recognized or claimed at the international level.

It is not merely a geographical metaphor. The expression reflects a profound geopolitical reality: Brazil can no longer be understood solely as a continental power; it must begin to recognize itself as an emerging maritime power.

This change in perception is more urgent than it appears. Approximately 95% of Brazil's foreign trade transits by sea. A large part of the national digital infrastructure depends on submarine cables. Nearly 95% of national oil and natural gas production is already offshore. Critical mineral resources lie in the deep zones of the South Atlantic. New energy frontiers are emerging on the Equatorial Margin. Offshore wind potential is growing rapidly.

In other words: Brazil already depends deeply on the sea, even if it does not yet think strategically as a maritime nation.

This paradox partly explains the national hesitations in the face of fundamental debates. The controversy over exploration of the Equatorial Margin, for example, is often treated as a simplified conflict between environmental preservation and economic development. Yet the question is substantially more complex.

What is at stake is not merely the authorization of an exploratory well.

The real strategic questions are deeper:

- What will Brazil's position be in the geopolitics of energy in the 21st century?
- How to guarantee strategic autonomy in the face of global competition for critical minerals?
- What role will the South Atlantic play in national economic security?
- Will Brazil be a protagonist or spectator in the race for offshore resources?

This article defends a central thesis:

The Blue Amazon is tending to become the principal center of gravity — energetic, geoeconomic, and strategic — of Brazil in the 21st century, requiring a profound transformation in how the country conceives its sovereignty, its defense, and its international partnerships.

I — THE BLUE AMAZON: THE INVISIBLE FRONTIER OF BRAZILIAN POWER

For most of republican history, Brazilian strategic geography has been conceived according to an essentially terrestrial logic. The national imaginary was built around concepts such as interiorization, territorial integration, occupation of frontiers, development of the Center-West, and protection of the continental Amazon. The Brazilian geopolitical project of the 20th century itself — strongly influenced by authors such as Golbery do Couto e Silva or Mário Travassos — possessed a strong continental orientation.

This vision, while historically understandable, has become progressively incomplete. 21st-century Brazil can no longer be analyzed solely through its land mass. Its projection of power is increasingly passing through the sea.

The Blue Amazon, a concept developed by the Brazilian Navy in 2004, precisely designates this enlarged maritime dimension of national sovereignty.

Its size is impressive. Currently, Brazil's maritime space covers approximately 5.7 million km² and could expand further as new continental shelf claims progress before the United Nations Commission on the Limits of the Continental Shelf (CLCS). In comparative terms, this is an area larger than the green Amazon and equivalent to about two-thirds of Brazil's continental territory.

It is therefore not a marginal space. It is a veritable strategic extension of the national territory.

However, despite its scale, the Blue Amazon remains relatively absent from the Brazilian collective consciousness. A paradox emerges. While the country intensely discusses its roads, its hydroelectric dams, its agriculture, and deforestation, little public attention is given to the fact that the daily functioning of the national economy already depends deeply on the Atlantic.

> *Nearly 95% of Brazil's foreign trade circulates by maritime routes. More than 99% of international digital data flow depends on submarine cables. A large part of oil and gas production is offshore. Critical energy, financial, and telecommunications infrastructures are increasingly connected to the maritime environment.*
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> *In other words: the South Atlantic has become an invisible infrastructure of Brazilian sovereignty.*

II — BRAZIL'S OFFSHORE ENERGY SHIFT

The Sea as the New Center of Gravity of National Sovereignty

If the Blue Amazon constitutes the new invisible frontier of Brazilian power, its strategic importance finds its most concrete expression in energy.

A silent transformation is already underway. Brazil's energy center of gravity is progressively shifting from the continent to the ocean.

Although the national political imaginary remains strongly associated with large hydroelectric dams, agricultural fields, and terrestrial resources, the material reality of Brazil's energy system has become increasingly maritime.

This shift is not merely economic. It is geopolitical. And it can profoundly redefine Brazil's international position in the coming decades.

> *Because in the 21st century, energy does not only mean supply. Energy means: strategic autonomy; industrial capacity; diplomatic influence; national security; technological competitiveness.*

In this context, the Blue Amazon emerges as one of the largest energy assets on the planet that is still partially underestimated.

The Pré-Sal and the Consolidation of Offshore Energy Power

Few economic transformations have modified contemporary Brazil as much as the discovery of the pré-sal. When the first indications of large offshore reserves appeared, many international analysts expressed skepticism. The extreme depth, technological costs, and geological complexity led several observers to question its economic viability.

Reality proved otherwise. The combination of technological innovations, productivity gains, and operational expertise transformed Brazil into one of the world references in deepwater offshore exploration.

Today, approximately 95% of Brazilian oil and gas production is carried out at sea. This figure, often cited but rarely fully taken into account politically, has structural implications. It means that Brazil has ceased to be solely a terrestrial energy producer. In practice: the country has become a maritime energy power.

The Equatorial Margin: Brazil's New Energy Frontier

If the pré-sal consolidated Brazil as an offshore power, the Equatorial Margin could redefine the next stage of national energy history. Few regions today concentrate such economic potential and such simultaneous political controversy.

Extending from the coast of Amapá to Rio Grande do Norte, the Equatorial Margin comprises several sedimentary basins considered highly promising: Foz do Amazonas, Pará-Maranhão, Barreirinhas, Ceará, and Potiguar.

Its potential stems mainly from geological similarities with already highly productive regions of the African coast, notably in Guyana, Suriname, and the Gulf of Guinea. The recent exploratory successes on the Guyanese coast have become an emblematic case. In a few years, a small South American country was transformed into one of the world's fastest-growing economies thanks to offshore discoveries.

> *The Guyanese case offers Brazil a double lesson. On one hand: it shows the transformative potential of well-exploited maritime resources. On the other: it serves as a warning about the risks of absence of strategic planning, political capture of oil revenues, and excessive dependence on a single sector.*

III — CRITICAL MINERALS, THE GEOPOLITICS OF THE ABYSS AND BRAZIL'S MARITIME AWAKENING

If offshore oil represents the energy foundation of the Blue Amazon, the mineral resources of the seabed could constitute its most strategic long-term dimension.

The 21st century will not only be marked by the dispute over hydrocarbons. It will also be defined by international competition for critical minerals.

Rare earths, cobalt, nickel, manganese, copper, graphite, and tellurium have become indispensable elements for batteries, semiconductors, artificial intelligence, satellites, defense, wind turbines, naval systems, electric vehicles, and digital infrastructure.

> *Paradoxically: the global energy transition has inaugurated a new geopolitical race for mineral resources. In a certain sense, the world is progressively replacing the classic geopolitics of oil with a hybrid geopolitics: oil + strategic minerals + technology.*

In this scenario, the ocean floors have become a new frontier of power. And few countries possess a potential comparable to that of Brazil.

The Rio Grande Rise: A Submerged Treasure

Few Brazilians have heard of the Rio Grande Rise (ERG). Yet it could represent one of the most important geoeconomic assets of the national future.

Located between approximately 1,100 and 1,200 kilometers from the southeast Brazilian coast, the ERG consists of a vast submarine structure in the South Atlantic, often compared in area to Spain. Studies conducted by Brazilian institutions have identified significant indices of cobalt, nickel, manganese, rare earths, and tellurium — critical elements for high technologies.

In other words: minerals essential for the economy of the 21st century. Without them, it becomes extremely difficult to produce advanced batteries, radars, military systems, space technologies, offshore turbines, and sophisticated electronic equipment.

> *In this sense: critical minerals are the technological oil of the 21st century.*

The Risk of Strategic Hesitation

Brazil often presents a recurring historical pattern. It discovers strategic advantages before fully developing the institutions capable of exploiting them. This has been the case, to a certain extent, with industrialization, naval technology, semiconductors, defense, and innovation.

The Blue Amazon runs a similar risk. The country still faces important limitations: limited technological capacity in key domains of deep-sea mining (submarine robotics, deep extraction, autonomous oceanic vehicles, abyssal engineering); fragility of strategic financing; and a superficial public debate. A large part of the Brazilian population simply does not think of the country as a maritime power.

> *This produces a worrying paradox: one of the greatest strategic transformations in Brazilian history is occurring almost invisibly.*

IV — THE FORGOTTEN FACTOR: STRATEGIC FRANCE–BRAZIL COOPERATION IN THE SOUTH ATLANTIC

If the Blue Amazon is progressively redefining the geography of Brazilian sovereignty, an additional question arises: who can be Brazil's strategic partner in this maritime transformation?

The debate usually focuses almost exclusively on relations with traditional great powers — the United States, China, or to a lesser extent the European Union as a bloc. However, a often-neglected geopolitical opportunity remains relatively invisible in public debate: strategic Franco-Brazilian cooperation oriented by the South Atlantic.

At first glance, the hypothesis may seem counter-intuitive. For decades, the relationship between France and Brazil has oscillated between episodic diplomatic rapprochements, scientific cooperation, and episodes of tension — particularly on environmental issues. But this reading tends to ignore a fundamental geographical reality: France is also a South Atlantic power.

French Guiana: The Forgotten Geopolitical Link

Often reduced to the image of a distant overseas territory, French Guiana occupies an extraordinary strategic position. It constitutes at once: a land border with Brazil; an advanced European outpost in South America; a space platform (Kourou); an Amazonian space; and an Atlantic territory.

In a certain sense: French Guiana makes France partially Amazonian and partially South Atlantic. This singular condition profoundly modifies the possibilities of bilateral cooperation.

The two countries share convergent interests in several domains: maritime security, protection of critical offshore infrastructures, surveillance of illicit activities, security of energy routes, oceanographic research and maritime cartography, space and dual-use technologies, and blue economy and technological innovation.

A Partnership of Sovereignty — Not of Dependence

A mature strategic cooperation requires conceptual clarity. It cannot mean either dependence or automatic alignment. The international context demonstrates an evidence: sovereign countries cooperate better when they have clearly defined interests.

A France–Brazil partnership in the South Atlantic would only make sense if it is oriented by pragmatism and mutual benefits. This means recognizing differences. On certain subjects (trade, environment, agriculture, industrial policy), interests may diverge. But divergences do not cancel convergences. On the contrary.

> *The most solid strategic relations are often born precisely when actors learn to cooperate in a selective manner.*

CONCLUSION: BRAZIL'S MARITIME AWAKENING

The 21st century could represent a historical inflection for Brazil. For more than a century, the national geopolitical imaginary has focused primarily on the continental interior. The sea has often remained in the background — a space of passage, a peripheral zone, a distant frontier.

This logic no longer corresponds to reality. The Blue Amazon has progressively transformed into a central axis of national sovereignty. It simultaneously brings together energy, commerce, technology, communication, strategic minerals, defense, and international projection.

Brazil's energy future will depend increasingly on the offshore, the Equatorial Margin, the pré-sal, deep minerals, and emerging maritime energies.

> *But wealth is not enough. The real differentiator will reside in the capacity to transform resources into national power.*

This will require: a strategic vision and thinking beyond electoral cycles; scientific investment; mastery of critical oceanic technologies; institutional strengthening; coordination between defense, industry, science, and diplomacy; and national maritime awareness.

> *Recognizing that Brazil is no longer only a continental power, but also an oceanic power.*

> *Perhaps the great Brazilian question of the 21st century is not simply: 'how to protect the Amazon?' But also: 'how to strategically govern the Blue Amazon?'*

Because the true center of gravity of the country's energy is silently shifting toward the Atlantic.

> ***Brazil faces a historical choice. It can continue to treat its maritime dimension as a secondary extension of its national territory. Or it can finally recognize what its own geography already announces: the Brazilian energy 21st century will be maritime — or it will not be.***

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For sovereignty, geoeconomics, and strategic cooperation.