The Promise of Brazil's Green Economy

By L. Felipe Monteiro, INSEAD

Brazil’s green economy has immense potential - but can it be realised?

In his 1941 non-fiction work *Brazil: Land of the Future*, Austrian author Stefan Zweig waxes lyrical about the South American country’s lush and fertile landscapes, astute city planning and melting pot of cultures living in harmony. These, he believes, could help Brazil become a leader on the global stage.

“Brazil’s importance for the coming generations cannot be assessed even by the most daring calculations,” Zweig writes in the introduction. “Wherever in our troubled times we find hope for a new future... it is our duty to point out this country and these possibilities.”

His view was echoed by former United States President Barack Obama in 2011 during a two-day visit of the country. “For so long, you were called a country of the future... that day has finally come,” Obama said in a speech. “The people of Brazil should know that the future has arrived, and it is time to seize it.”
Fast forward to today, and the nation is set to host two major events that could play a pivotal role in shaping the fight against climate change: the G20 summit in November later this year and COP30 in 2025. Couple this with its robust green economy, and Brazil is in a unique position to spearhead global climate action and become a world leader in driving decarbonisation – if it can fully realise its vast potential.

**A focus on renewable energy**

According to a 2022 McKinsey report, Brazil’s green economy could reach a total market share of over US$125 billion by 2040. This would be underpinned by renewable power, bio-based energy and materials and carbon markets.

Brazil’s rich natural resources and abundant land provide a special advantage for generating renewable energy. While an extractivist mindset – the removal of natural resources for export – was the norm during the colonial era, the country has gradually shifted to a more circular approach that prioritises renewable energy.

The Brazilian energy matrix, for instance, has long been one of the most renewable in the world, powered by a massive network of hydroelectric facilities. In 2023, the country generated nearly 93 percent of its electricity from clean energy sources, the highest among major economies.

The solar and wind power sectors are also growing steadily. Brazil’s solar-generated electricity increased by over 75 percent year-on-year in the first nine months of 2023, while wind energy installation reached 22 gigawatts of capacity in July 2022, enough to power more than 28 million homes monthly. Recognising the potential, big energy companies including Italy’s Enel and Spain’s Iberdrola – as well as multiple corporations from China – have flooded into the market.

Green hydrogen is a comparatively underdeveloped sector that holds enormous promise, as identified in Boston Consulting Group’s Brazil Climate Report 2023 that outlined Brazil’s potential for generating low-carbon hydrogen. While the country has been heralded as one of the most attractive locations to produce green hydrogen, realising the vision of becoming a world leader will require an estimated US$2 billion in investment. The country’s current production technology also remains relatively immature. Further government regulation, policy guidance and...
investment will all be important for Brazil to continue developing its green hydrogen market.

**Bio-based energy solutions**

Another hallmark of Brazil’s green economy is its production of biofuels. While other countries have looked to electric vehicles (EVs) as a way to help curb greenhouse gas emissions, the majority of cars in Brazil are **flexible-fuel** models that run on ethanol, petrol or a mix of both. Launched in 2003, these affordable vehicles were devised to reduce Brazil’s dependence on oil imports by leveraging sugarcane, a readily available and plentiful natural resource.

Although flexible-fuel vehicles weren’t created with decarbonisation in mind, Brazil’s technology can be deployed in locations in which setting up the necessary infrastructure for a full EV transition may be too complex or simply not feasible. To facilitate this and encourage flexible-fuel vehicle owners to fill up their tanks exclusively with ethanol rather than petrol, the former needs to be made more cost-effective.

Thankfully, new technologies are set to increase sugarcane productivity in Brazil by **over 30 percent** by 2040, which will go a long way towards reducing ethanol prices. Further developments, including gene editing, new planting techniques and finding fresh use cases, will surely take place in Brazil, given its status as a global technological centre for the product.

Brazil is also well positioned to be a major player in generating sustainable aviation fuel from biomass. The International Air Transport Association has committed to achieve net-zero emissions by 2050, and global demand for sustainable aviation fuel is set to skyrocket in the coming years at a rate that outstrips current supply.

A combination of increased investment, technological breakthroughs and efficient export production could allow Brazil to realise its potential in this area. Indeed, it was just announced that Mubadala Capital, an arm of Abu Dhabi’s sovereign wealth fund, is planning to **invest** about US$13.5 billion in Brazil over the next decade to produce sustainable aviation fuel (alongside renewable diesel).

Another possibility for bio-based energy solutions lies in biomethane. However, as McKinsey **noted**, this potential remains largely untapped. If
Brazil plays its cards right and incentivises development, it could create an industry worth over US$15 billion in total market value by 2040.

Finally, given its vast land, Brazil is in a strong position to take advantage of carbon markets and become a world leader on this front. This can be achieved through the reforestation of land previously used for pasture. Amid the government’s plans to launch a new regulated carbon market, creating a system with high integrity – and that safeguards the interests of its Indigenous peoples – will be crucial.

**Looking to the future**

Although certain aspects of Brazil’s green economy have yet to be fully realised, the nation’s long history of generating renewable power and bio-based fuels puts it in a prime position to capitalise on opportunities. This would be a natural next step for the country and is in sync with what Brazil has already been honing – albeit in different versions – for decades. It would also provide a stronger foundation that Brazil can build on compared to other nations that may still be in the nascent stages of their green journeys.

Furthermore, given the tense geopolitical situation and political upheaval in other emerging economies, many investors today view Brazil as a relatively safe market to invest in. And with the G20 and COP30 summits coming up, all eyes will be on the country, making this a special moment that Brazil can seize to further grow its green economy and lead the drive towards a net-zero world.

Another upcoming event, which will focus on Brazil’s green economy, is the Brazil Climate Summit Europe in Paris on 27 May 2024. The conference will bring together business leaders and investors who are actively involved in shaping the climate agenda, allowing them to explore Brazil’s potential as an international hub of low-carbon solutions while fostering partnerships between European and Brazilian sustainability business ecosystems.

Panels will tackle topics such as investing in renewables in Brazil, how biofuels can unlock low-carbon transportation and the impact of global policy frameworks on sustainability initiatives in Brazil. Attendees will consist of around 100 Brazilian and European leaders. Speakers will include Izabella Teixeira, Brazil’s former Minister of Environment, Laurence Tubiana, President and CEO of the European Climate Foundation, and Ricardo Neiva Tavares, Ambassador of Brazil to France.
INSEAD is proud to be an official partner of the event, where Walter Schalka, CEO of Suzano, and I will launch a case study about the Brazilian paper and pulp company. Katell Le Goulven, founding Executive Director of INSEAD’s [Hoffmann Institute](https://knowledge.insead.edu/responsibility/promise-brazils-green-economy), will moderate a panel on nature-based solutions in Brazil, and INSEAD Dean Francisco Veloso will deliver the conference’s opening remarks.

“Business schools have a critical role to play in shaping a more sustainable future for the planet, and it is important for us at INSEAD to support initiatives such as the Brazil Climate Summit Europe that help drive the sustainable agenda,” Veloso said. “I am thrilled to deliver the opening address and look forward to connecting with attendees to discuss how partnerships between Europe and Brazil can propel these solutions forward.”

Brazil’s green economy has immense promise that, if actualised, could enable the nation to become a global leader in charting a greener path for the planet. A successful multi-stakeholder approach that unites governments, investors and policymakers will be essential for Brazil to realise this potential – and finally become a country of the future.

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